

# EGR 131 - ELEMENTARY SURVEYING

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## Learning How to Learn:

- Develop a surveyor's point of view by reflecting course concepts through journaling.

## Course Description

This course is designed to satisfy the elementary surveying requirement for a student entering engineering. In this course students will learn the theory involved in plane and geometric surveying including both linear and angular measurement, differential leveling, trigonometric leveling, traverse computations, electronic distant measurements, GPS mapping, topographical mapping and the design of horizontal and vertical curves as related to construction surveys. Students are expected to perform lab experiments in which they demonstrate their knowledge of the concepts learned in lecture, incorporating the basic skill learned in lecture to field settings. Care, adjustment, and use of basic surveying instruments: leveling, taping, horizontal angle measurements, traverse surveys, use of EDM's, GPS usage, topographic mapping, and layout of horizontal curves. Computer software will be used throughout the semester. Group 2 course.

## Credit Hours

5

## Contact Hours

5

## Lecture Hours

2

## Required Prerequisites

MTH 122

## Corequisites

EGR 131L

## Recommended Prerequisites or Skills Competencies

ENG 111

## General Education Outcomes supported by this course

Critical Thinking - Direct

## Course Learning Outcomes

### Knowledge:

- Explain the theory involved in plane and geometric surveying.

### Application:

- Apply plane and geometric theory to develop designs in field and construction surveying.

### Integration:

- Apply problem solving methods to unique engineering survey scenarios to solve complex problems.

### Human Dimension:

- Develop team work skills.

### Caring - Civic Learning:

- Collaborate with individuals external to the course to develop applied learning techniques.