

**Course Name:** Surveying Basics SE 211 ( for Surveying and Civil Eng.)

**Prerequisite :** Math 107

**Instructor:** Prof. Ismat El Hassan

**Course Objectives:**

The objectives of this course is to give the student the basics of the ground survey measurement techniques

**Course Contents:**

- Introduction: Definitions and Concepts.
- Principles of survey observations: types of survey measurements, and types of errors
- Distance measurement using Tape
- Distance measurement using Optical Instruments (ODM)
- Distance measurement using Electromagnetic Instruments (EDM)
- Leveling
- Angle Measurement using Optical and Electronic Theodolites
- Planimetric area determination

**Field and lab Tasks:**

- Training on distance measurement using tapes, ODM and EDM techniques.
- Training on horizontal and vertical angle measurements using theodolites.
- Training on leveling operations
- Measurement of planimetric areas using planimeter.

**Tutorials:** See Tutorials link

**Outcome Assessment:**

Lab, Field work, Reports:	20 marks
Tutorial problems:	10
Midterm Exam:	20
Final Exam:	50
Total	100