0

Department of Civil Engineering	
Surveying I (61222)	
Total Credits	**2**
major compulsory	
Prerequisites	P1 : Methods of Statistics I (21231) OR Statistical Methods &Probabilities for Engineers (21230) OR Architectural Drawing I (62113)

Course Contents

Introduction, theory of errors, Distance measurement, Leveling, Theodolite and its applications, Electronic distance measurement, Coordinate geometry and traverse surveying.

	Intended Learning Outcomes (ILO's)	Student Outcomes (SO's)	Contribution
1	Familiar with the meaning of surveying, and its importance and association with civil engineering. Students will also learn other related issues such as scale, units of measurement, etc., as well as the different types of surveying errors and the importan	A	25 %
2	Able to use basic surveying tools such as tapes for measuring horizontal distances and preparing a surveying plan for a small area.	B	10 %
3	Able to perform all types of measurements in both the horizontal and vertical directions using levels, theodolites and total stations, and prepare a full surveying plan.	B	50 %
4	Able to deal with surveying in terms of coordinates in a computer environment.	B	15 %

Textbook and/ or Refrences

Textbook: Surveying for Engineers by: Dr. Najeh S. Tamim, 2nd edition, 2006. References: 1) Elementary Surveying: An Introduction to Geomatics by: Chrles D. Ghilani &Paul R. Wolf, 12th edition, 2008. 2) Surveying with Construction Applications by: Barry F. Kavanagh, 6th edition, 2007.

Assessment Criteria	Percent (%)
First Exam	25 %
Second Exam	25 %
Final Exam	50 %

Course Plan

Week	Topic
1	Course outline + Introduction
2	Introduction + Errors in surveying
3	Errors in surveying
4	Chain surveying
5	Chain surveying
6	Leveling
7	Leveling
7	1st Midterm
8	Leveling
9	Leveling
10	Leveling + Angles, directions and angle measuring equipment
11	Angles, directions and angle measuring equipment
12	Electronic Distance Measurement (EDM)

12	2nd Midterm
13	Electronic Distance Measurement (EDM)
14	Coordinate geometry and traverse surveying
15	Coordinate geometry and traverse surveying
15	Coordinate geometry and traverse surveying