جامعة الشرقية
A' SHARQIYAH UNIVERSITY

Course Descriptor
CVEN310-Surveying

ACADEMIC YEAR	2019-20	**SEMESTER**	Fall-2019-2020
Course Code	CVEN-310	**Course Title**	Surveying
Credit hours	3	**Level of study**	Undergraduate
College / Centre	Engineering	**Department**	Civil Engineering
Pre-requisites	Nil	**Co-requisites**	Nil

1. COURSE OUTLINE

Basic measurement procedures and use of surveying instruments. Principles and practice in measuring distance, elevation, and angels. Determination of areas and volumes. Setting out of construction works and introduction to GPS and GIS. The course includes intensive field work.

2. AIMS

The students should be able to understand basic measurement procedures and be able to familiar in using different types of surveying equipment including tape, compass, level, theodolite, total station and latest electronic equipment used in modern surveying.

3. LEARNING OUTCOMES, TEACHING, LEARNING and ASSESSMENT METHODS (Indicative)

Learning Outcomes (Definitive)	Teaching and Learning methods (Indicative)	Assessment (Indicative)
1. Gain the ability to use modern survey equipment to measure angles and distances.	Lectures, presentation, and practice	*Assignment and exams,*
2. Demonstrate the principles and operation of the Global Positioning System	Lectures, presentation and practice	*Assignment and, exams,*
3. Gain the ability to measure differences in elevation, draw and utilize contour plots, and calculate volumes for earthwork.	Lectures, presentation and practice	*Assignment and, exams,*
4. Improve ability to function as a member of a survey party in completing the assigned field work.	Lectures, presentation and practice	*Assignment and, exams,*

4. ASSESSMENT WEIGHTING

Assessment	Percentage of final mark (%)
Assignments/ Presentation	20%
Mid-term Examination	2x20 = 40%
Final Examination	40%
TOTAL	**100%**

5. ACHIEVING A PASS

Students will achieve **3** credit hours for this course by passing **ALL** of the course assessments *[alternatively, list the compulsory pass assessments*]* and achieving a **minimum overall score of 50%**

NB *Ensure that ALL learning outcomes are taken into account

6. COURSE CONTENT (Indicative)

WEEK	LECTURE TOPIC	TIME (HOURS)
1	Introduction of Basic survey	3
2	Introduction of Basic survey	3
3	Levelling	3
4	Levelling	3
5	Distance Measurements	3
6	Midterm I Distance Measurements	3
7	Angles and Directions	3
8	Theodolite and total station survey	3
9	Theodolite and total station survey	3
10	Traverse Survey	3
11	Traverse Survey	3
12	Curves in Engineering	3
13	Midterm II Topographic and hydrographic Surveying and Mapping	3
14	Topographic and hydrographic Surveying and Mapping	3
15	Final Revision Question and Answers	3
	TOTAL HOURS	45
1 - 15	Plus **RECOMMENDED INDEPENDENT STUDY HOURS**	90
	TOTAL COURSE HOURS	**135**

7. RECOMMENDED READING

Core text/s:

Surveying, Principles and Applications, 9th Edition, Barry Kavanagh, Tom Mastin. International Edition Pearson.

Library + online resources:

1. NPTEL website for Civil Engineering Students.
2. ICE virtual Library (www.ice.org.uk)