



Module (Course Syllabus) Catalogue 2023-2024

College/ Institute	Erbil/Technical Engineering College	
Department	Highway Engineering Department	
Module Name	Engineering Surveying -1	
Module Code	ENS301	
Semester	16 Weeks	
Credits	7 ECTS	
Module type	Prerequisite <input type="checkbox"/>	Core <input type="checkbox"/> / Assist. <input type="checkbox"/>
Weekly hours	hours/week	
Weekly hours (Theory)	2 hr/week Class	
Weekly hours (Practical)	3 hr /week Field	
Lecturer (Theory)	Razhan Sherwan M.Saleem	
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Lecturer (Practical)	Halmat Brhan	
E-Mail & Mobile NO.		

Course Book

<p>Course Description</p>	<p>Engineering Surveying is an important disciplinary field that serves construction projects. The knowledge and skills that you will learn in this module will enable you to be able to work as an engineering surveyor, providing levelling and ground information for construction projects. You will also learn to determine the figure and dimensions of an area on the ground, and representing the terrain in the form of plans and maps.</p>
<p>Course objectives</p>	<ol style="list-style-type: none"> 1. Getting an experience of various methods for measuring distance, angle, and position on the earth surface. 2. Be familiar and get an experience with various methods of conducting surveying. 3. Practice and conduct field measurements. 4. Set out conducted data. 5. Practice on some survey instruments in the field. 6. Analyse field data by using different mathematical methods.
<p>Student's obligation</p>	<ol style="list-style-type: none"> 1. Class starts on time. NO entry after 15 minutes late. 2. Writing a report every week after practical lecture and submit it next week. 3. Quiz is expectable every week. 4. All student must bring all necessary tools for the lecture.
<p>Required Learning Materials</p>	<ol style="list-style-type: none"> 1. All lectures by PowerPoint. 2. Notes and questions are explained on white board. 3. Videos will be played during the lectures. 4. Direct questions to Students.
<p>Assessment scheme</p>	<ul style="list-style-type: none"> ➤ Two exams will be held. Midterm and Final Exam. . ➤ Report marks account for practical part. ➤ Practical Exam. ➤ Quiz and activities in class. ➤ Assignment
<p>Specific learning outcome:</p>	<ul style="list-style-type: none"> ➤ Students Learn how to use survey instruments (Level). ➤ You will learn conduct data on the earth survey ➤ Calculate area, Volume, ➤ Draw Profile view, Cross section and topographic.
<p>Course References:</p>	<ul style="list-style-type: none"> ➤ Plan and Geodetic Surveying by late David Clark ➤ Surveying By Frances H. Moffit

	<ul style="list-style-type: none"> ➤ Surveying And Leveling by T.P. Kanetkar ➤ Engineering Surveying (6th Edition) by Schofield W. & Breach M. ➤ Surveying Principles and Application (6th Edition) by Barry F. Kavanagh 	
Course topics (Theory)	Week	Learning Outcome
Basic Principles of Engineering Surveying.	1	Learning basics of surveying
Distance Measurement and Chain Surveying	2	How to measure a distance between two points
Level and Leveling, Test and Adjustment of the level	3	Introduce level device
Benchmark Leveling.	4	Benchmarks and its benefits in surveying
Compute elevation using (H.I and Rise &fall) method	5	Compute elevation by level device
Levelling Corrections-Fly Levelling	6	How correct computed elevation.
Cross-Section and Profile	7	Draw profile and cross section of ground elevation.
Contour maps and Contouring	8	Draw countour line and make contour map.
Area Measurement and Calculation	9	Compute area in different ways
Volume Calculation	10	Compute area in different ways
Course topics (Practical)	Week	Learning Outcome
Distance Measurement	2	Measure distance in different ways
Erecting and Dropping Perpendiculars and Obstacles	3	Establish of Right angles
Level device (setting up & reading staff)	4	Using Level device
Two-Peg Test in leveling and Measuring Horizontal distance	5	Checking level device
Bench Marks and Compute Elevations using Height of instrument (HI) and Rise and fall Method	6	Using reference elevation
Levelling Corrections and Establishing Benchmarks (Fly Levelling)	7	Correct and compute elevations.

Contour Maps	8	Compute and create Contour lines
Profile and cross sections	9	Draw profile and cross section
Area and Volume calculation	10	Calculate area and volume in different ways.

Questions Example Design:

Theory:

Exam papers usually contain 4 or 5 questions on question about %25 is about theoretical lectures the rest are computational questions.

Practical:

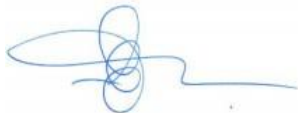
Exam will be done in the field to practice instrument surveys.

An exam will also be done in class to exam about conducting data.

Extra notes:

External Evaluator

As an Assistant lecturer at Highway Department, I have revised the course-book regarding the subject of Engineering Survey-1. I found that the course-book has described well enough the aim and objectives of the subject. Moreover, it covers all the required syllabus and contents of the course and describes satisfactorily the aspects related to the course.



Ali Jamal Nouri

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