Module (Course Syllabus) Catalogue

2022-2023

College/ Institute	Erbil/Technical Engineering College	
Department	Highway Engineering Department	
Module Name	Engineering Survey-II	
Module Code	ENS301	
Semester	16 Weeks	
Credits	7 ECTS	
Module type	Prerequisite Core Assist.	
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)	Razhan Sherwan M.Saleem	
E-Mail & Mobile NO.		

Course Book

Course Description	Engineering Survey 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 ground information for construction projects. You will also learn about angle measurements and using total station instrument.			
Course objectives	1. Area and Volume calculation 2. Getting an experience of angle measurements 3. Be familiar and get an experience with various methods of conducting surveying by Total station instrument. 4. Practice and conduct field measurements. 5. Set out conducted data. 6. Set out horizontal and vertical curves.			
Student's obligation	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.			
Required Learning Materials	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.			
Evaluation	Task	Weight (Mark)	Due Week	Relevant Learning Outcome
	Homework	5%		
	Class Activity	2%		
	Project	10%		
	Seminar/Report			
	Quiz	8%		
	Lab. Reports & Activities	10%		
	Mid Term Exam (Theory)	10%		

	Mid Term Exam (Practical)	15%		
	Final Exam (Theory)	20%		
	Final Exam (Practical)	20%		
	Total	100%		
	➢ Students Learn how to use survey instruments (Total station). ➢ You will learn conduct data on the earth survey ➢ How to design horizontal alignment ➢ How to set out designed curve(horizontal& Vertical), ➢ How to use directions and coordinates			
	➢ Plan and Geodetic Surveying by late David Clark ➢ Surveying By Frances H. Moffit ➢ 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**
Area Calculation	1	Learning basics of surveying
Volume calculation	2	
Basic Principles of angle measurement	3	
Theodolite and angle Measurement	4	How to measure a angle by theodolite
Traversing	5	
Total Station	6	Basic Principles on total station.
Components of Total Station & Types of total station	7	Different type of total station
Applications of Total station	8	The use of total station
Coordinates	9	The principles of local and global coordinates
Horizontal curves	10	How to set out circular curve

Vertical Curves	11	Setting out vertical curve by level instrument.
Course topics (Practical)	**Week**	**Learning Outcome**
Area and Volume calculations	1	
Theodolite	2	Angle Measurement
Total station	3	The parts and components of total station
Set Up total station	4	Levelling and centering of total station
Applications of total station	5	Measure distance, angle area and height by total station
Coordinate measurement by Total station	6	Measuring coordinates by total station
Data Collection by Total Station	7-8	Collect Survey points by Total Station
Setting out By Total Station	9-10	Set out designed data by total station

Questions Example Design:

Theory:

Exam papers usually contain 4 or 5 questions on question about %40 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.

External Evaluator

As an Assistant lecturer at Highway Department, I have revised the course-book regarding the subject of Engineering Surveying-2. 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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