



MEHRAN UNIVERSITY OF ENGINEERING AND TECHNOLOGY JAMSHORO

Department of Civil Engineering



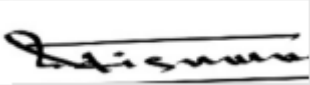
LESSON PLAN

COURSE TITLE: Surveying		COURSE CODE: CET104	CREDIT HOURS: 02	MINIMUM CONTACT HOURS: 32
COURSE INSTRUCTOR: Prof. Dr. Khalifa Qasim Laghari				
Batch: 24B.E. Tech. (Civil)	Semester: 2nd	Semester Starting Date: 06-01-2025	Semester Suspension Date: 24-04-2024	
COURSE LEARNING OUTCOMES: Upon successful completion of the course, the student will be able to:				
CLO No.	Description	Taxonomy level	Associated PLO	
1	Explain different survey techniques for measurements for horizontal and vertical planes.	C2	1	
2	Solve problems using surveying techniques.	C3	2	
LESSON CONTENTS AND ASSOCIATED CLO(s)				
Contents	CLO No.	Marks Assigned	Delivery Methods	Assessment Methods (Marks)
<ul style="list-style-type: none"> • Introduction Introduction to Surveying and types, Classification of surveys, Surveying Techniques, Measurements, and their Units. • Computation of Areas and Volume Computation of areas by using mid-ordinate rules, average ordinate rule, trapezoidal and Simpson rule, Computation of areas by co-ordinates. • Theodolite Traversing Adjustment of transit theodolite, traversing with theodolite, Traverse computations, Closing error and its adjustment, Computation of Omitted measurements. • Tachometric Surveying System of tachometry, Principles and field procedures of Levelling Introduction to Levelling, Benchmark and reference points, Line of collimation and line of sight, Back sight and foresight readings, Reduced levels and height of instrument. • Levelling Procedures Setting up the instrument, taking readings on staff (staff readings), Booking field notes, Calculating reduced levels. 	1	32	<ul style="list-style-type: none"> • Class Lecture • Discussion 	Class test (04) Quiz (03) Mid semester Exam (15) Final Exam (10)

<ul style="list-style-type: none"> • Types of Levelling Differential levelling (using a level instrument), Trigonometric levelling (using angles and distances), Profile levelling (for road or railway alignment), • Errors and Corrections Sources of errors in levelling, Error detection and elimination, Applying corrections (e.g., curvature and refraction corrections). • Contours and Contour Maps Understanding contour lines, Drawing contour maps from levelling data, Interpreting contour maps for terrain features. <p>No. of lectures required: 24</p>				
<ul style="list-style-type: none"> • Applications: Construction site levelling, Topographic mapping, Floodplain analysis, Land development. • Highway Curves Introduction to curves, Types of curves, Simple circular curves, Compound curves, reverse curves, transition curves, vertical curves, Computation and setting out of curves by different methods. • Hydrographic Surveying Hydrographic Surveying and its applications, Sounding and instruments used in soundings, Shore line survey and location of soundings. <p>No. of lectures required: 8</p>	2	18	<ul style="list-style-type: none"> • Class Lecture • Discussion 	Assignment (08) Final semester exam (10)

ASSESSMENT DETAILS

S. No.	Assessment Activities	Marks	Activities		CLO(s) to be assessed
1	Class Test/Quiz/Assignment	15	Class Test/Quiz	1+1	1
			Assignment	1	2
2	Mid Semester Exam	15	1		1
3	Final Semester Exam	20	1		1,2

Prepared by: Prof. Dr. Khalifa Qasim Laghari  Signature: Dated: 18-12-2024	Reviewed by: Curriculum Review Committee  Signature: Dated: 20-12-2024	Approved by: Chairman, CED  Signature: Dated: 20-12-2024
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