



MEHRAN UNIVERSITY OF ENGINEERING AND TECHNOLOGY JAMSHORO


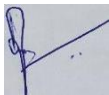

Department of Civil Engineering

LESSON PLAN

COURSE TITLE: Mechanics of Solids-I		COURSE CODE: CE212	CREDIT HOURS: 02	MINIMUM CONTACT HOURS: 32
COURSE INSTRUCTOR: Dr. Muhammad Rehan Hakro (A+B+D) / Engr. Ali Raza Lashari (C)				
Batch: 22CE	Semester: 3 rd	Semester Starting Date: 20-11-2023	Semester Suspension Date: 29-03-2024	
COURSE LEARNING OUTCOMES:				
CLO No.	Description	Taxonomy level	Associated PLO	
1	SOLVE problems related to simple stress and strain in materials subjected to axial forces.	C3	1	
2	ANALYZE simple beams subjected to simple bending loads and explain torsion and energy theory.	C4	2	
LESSON CONTENTS AND ASSOCIATED CLO(s)				
Contents	CLO No.	Marks Assigned	Delivery Methods	Assessment Methods (Marks)
<ul style="list-style-type: none"> • SIMPLE STRESS AND STRAIN: - Stress, strain and Hooks Law - Deformation of a body due to self-weight and force acting on it - Principle of superposition - Deformation in the bars of different sections - Stresses in determinate and indeterminate structures - Thermal stress in simple and composite bars - Elastic Constants and their relations ➤ No. of lectures: 16 	1	25	<ul style="list-style-type: none"> • Class Lecture • Discussion 	<ul style="list-style-type: none"> • Class Test (05) • Assignment (05) • Mid semester Exam (15)
<ul style="list-style-type: none"> • STRESSES IN BEAMS: - Centre of gravity / Centroid of plane figures (Symmetrical and Unsymmetrical sections) - Second moment of area/Moment of inertia of different composite sections; Product of Inertia - Principal stresses and Principal Moment of Inertia - Theory of simple bending - Bending stress and determination of flexural formula • STRAIN ENERGY: - Strain energy stored in a body due to gradual, sudden and impact loads - Theory of torsion of solids and hollow circular shafts ➤ No. of lectures: 16 	2	25	<ul style="list-style-type: none"> • Class Lecture • Discussion 	<ul style="list-style-type: none"> • Final Exam (25)

ASSESSMENT DETAILS

S. No.	Assessment Activities	Marks	Activities	CLO(s) to be assessed
1	Assignment and Test	10	Test	1
			Assignment	1
2	Mid Semester Exam	15	1	1
3	Final Semester Exam	25	1	2

Prepared by: Dr. Muhammad Rehan Hakro  Signature: Dated: 13-11-2023	Reviewed by: Curriculum Review Committee  Signature: Dated: 12-12-2023	Approved by: Chairman, CED  Signature: Dated: 12-12-2023
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