MEHRAN UNIVERSITY OF ENGINEERING AND TECHNOLOGY, JAMSHORO.

FRM-001-QSP-004



DEC.01, 2001.

TENTATIVE TEACHING PLAN (THEORY)

Department: Civil Engineering

Name of Teacher: Dr Zaheer Ahmed Almani

Subject: Mechanics of Solids-II Course Code: CE250 Batch: 21CE (A) Year: 2^{nd} Semester: 2^{nd} (4^{th})

Semester Starting Date: 03-07-2023 Semester Suspension Date: 20-10-2023

Course Learning Outcomes (CLOs): Upon successful completion of the course, the student will be able to:

CLO	Description	Taxonomy Level	PLO
1	ANALYSE plane stress and strain in the members subjected to various loading conditions.	C4	2
2	ANALYSE the horizontal shear stress/force in thin walled sections and circular sections within the elastic limits; and describe unsymmetrical bending, curved beams, theories of failure, creen, fatigue and inelastic materials.	C4	2

S#	Торіс	CLO's	No: of lecture/hrs. required
1.	Introduction to strength of materials, revision to stress, strain, types of stresses, analysis of internal forces	1	1
2.	Analysis of plane stress, stresses on inclined planes, principal stresses and maximum shear stress, analytical method for finding normal, shear and maximum stress.	1	4
3.	Graphical method for finding the stresses on inclined planes, principal stresses and maximum shear stress.	1	4
4.	Problems related with stress analysis	1	2
5.	Stress concentration, maximum stress at a discontinuity in a structural member using stress concentration factors	1	1
6.	Stresses due to combined bending and torsion	1	3
7.	Introduction to two dimensional (2D) or plane strain	1	1
8.	Derivation of strain transformation equations for the case of plane strain	1	1
9.	Mohr's circle for plane strain	1	2
10.	Problems on determination of the principal strains, principle planes, and maximum shear strain using Mohr's circle	1	2
11.	Introduction to strain rosette, experimental strain measurement	1	1
12.	Problems of stain rosette	1	2
13.	Horizontal shear stress in beams	2	3
14.	Shear flow and shear centre	2	2
15.	Built-up beams	2	3
16.	Stress due to unsymmetrical bending	3	2
17.	Problems on determination of stress due to unsymmetrical bending (Problems)	3	2
18.	Stress in curved beams	3	2
19.	Problems on determination of stress in curved beams	3	2
20.	Creep and fatigue	3	2
21.	Theories of failure	3	3
22.	Inelastic action, limit torque, limit moment, residual stress TOTAL	3	3
	48		

Signature of Teacher:

Dated: 16-06-2023

Remarks of DMRC: APPROVED

Byin

Signature of Chairman Dated: 01-08-2023