



MEHRAN UNIVERSITY OF ENGINEERING AND TECHNOLOGY

FRM-001/00QSP-004

TENTATIVE TEACHING PLAN

Dec.01.2001

DEPARTMENT/INSTITUTE/DIRECTORATE: CIVIL ENGINEERING

Name of Teacher: **Engr. Samar Hussain Rizvi**

Year: 2nd

Semester: 3rd

Subject: **Theory of Structures**

Course Code: CE222

Batch: 22CE (A + D)

Semester Starting Date: 20-11-2023

Semester Suspension Date: 29-03-2024

Course Learning Outcomes (CLOs):

Upon successful completion of the course, the student will be able to:

CLO No.	Description	Taxonomy level	Associated PLO
1	ANALYZE shear force and bending moment in beams and frames.	C4	2
2	EVALUATE axial forces in trusses; axial force, shear force and bending moment in arches; buckling of columns; influence lines and moving loads.	C5	2

Sr#	Description of Topic	CLO's	No. of Lectures Required
1.	Introduction to the subject, syllabus, and reference books.	1	1
2.	Types of beams, Supports and Loadings.	1	1
3.	Support reactions for different beams and Frames. Related problems	1	2
4.	Concept of Shear force (SF) and its sign convention.	1	1
5.	Concept of Bending Moment (BM) and its sign convention.	1	1
6.	Shear force and Bending Moment diagrams in determinate beams. Related problems.	1	2
7.	Relationship between loading intensity, shear force and bending moment.	1	1
8.	Maximum shear force and bending moment calculations. Related problems.	1	2
9.	Frames its types and Equilibrium of frames.	1	2
10.	Analysis of forces in frames. Related problems.	1	1
11.	Shear force and bending moment diagrams of determinate plane frames.	1	2
12.	Introduction to Trusses and methods of solution.	2	1
13.	Analysis of axial forces in trusses by method of Joints. Related problems.	2	2
14.	Analysis of axial forces in trusses by method of Sections. Related problems.	2	2
15.	Arches. Forces acting on arches.	2	1
16.	Analysis of three hinged parabolic and circular Arches. Related problems.	2	2
17.	Columns. Axial Loading on columns.	2	1
18.	Long Columns and Short Columns.	2	1
19.	Euler's Formula for buckling Load on column. Related problems.	2	2
20.	Influence lines for statically determinate beams and girders.	2	1
21.	Influence lines for reactions, shear force and bending moment. Related problems.	2	1
22.	Moving loads on beams. Max: S.F and B.M due to moving loads. Related problems.	2	2
	Total Lectures		32

Signature of Teacher:

Dated: 20/11/2023.

Remarks of DMRC: APPROVED

Signature of Chairman:

Dated: 21/12/2023