



MEHRAN UNIVERSITY OF ENGINEERING AND TECHNOLOGY JAMSHORO

Department of Civil Engineering

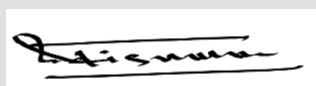
LESSON PLAN

COURSE TITLE: Steel Structures		COURSE CODE: CE316	CREDIT HOURS: 03	MINIMUM CONTACT HOURS: 48
COURSE INSTRUCTOR: Prof. Dr. Nafees Ahmed Memon (C)/Engr. Fahad Ali Shaikh (A+B+D)				
Batch: 20CE	Semester: 6 th	Semester Starting Date: 03-07-2023	Semester Suspension Date: 20-10-2023	
COURSE LEARNING OUTCOMES:				
CLO	Description	Taxonomy level	PLO	
1	DISCUSS the basic concepts related to design of steel structures along with design loads.	C2	1	
2	ANALYZE and design main structural members and connections of steel structures	C4	3	
LESSON CONTENTS AND ASSOCIATED CLO(s)				
Contents	CLO	Marks	Delivery Methods	Assessment Methods (Marks)
DESIGN METHODS & SPECIFICATIONS; DESIGN LOADS & ANALYSIS - Properties of steel, variation of stress-strain diagram with different percentage of carbon. - Advantages and disadvantages of steel structures. - Various steel sections used in the design of steel structures. - Introduction to AISC steel construction manual - Basic concepts and specification related to Allowable Stress Design (ASD) and Load and Resistance Factor Design (LRFD) methods. - Use of steel table. - Different loads considered in the design such as dead load, live load, wind load, earthquake load and traffic load on bridges. - Load calculation and analysis No. of Lectures: 13	1	25	• Lectures • Discussions • Sessional Activity-I: Class Test/Quiz (05) • Mid semester Exam (20)	
DESIGN OF STRUCTURAL MEMEBERS: - Design of floor beams and girders with different loading conditions - Design of beam with additional flange plates. - Web buckling and web crippling in steel beams. - Euler’s column theory, slenderness ratio, effective length, buckling of columns. - Design of column using different steel sections. - Design of plate girder, Significance of stiffeners in plate girder design. - Design of purlin, Types and strength of steel connections, significance of steel connection design. - Significance of truss design in steel structures and design of tension member - Fabrication and erection methods used in the construction of steel structures. No. of Lectures: 35	2	75	• Lectures • Discussions • Design practice • Sessional Activity-II: Class Test/Quiz (05) • Sessional Activity-III: Asignment/Project (10) • Final Exam (60)	

ASSESSMENT DETAILS

S. No.	Assessment Activities	Marks	Activities		CLO(s) to be assessed
1	Sessional	20	Class Test/Quiz/ Assignment/ Project	3	1, 2
2	Mid Semester Exam	20	1		1
3	Final Semester Exam	60	1		2

Prepared by: **Prof. Dr. Nafees Ahmed Memon**



Signature:

Dated: 13-04-2023

Reviewed by: **Curriculum Review Committee**



Signature:

Dated: 18-04-2023

Approved by: **Chairman, CED**



Signature:

Dated: 18-04-2023