MEHRAN UNIVERSITY OF ENGINEERING AND TECHNOLOGY JAMSHORO
Department of Civil Engineering

LESSON PLAN

COURSE TITLE: **Plain and Reinforced Concrete**	COURSE CODE: **CE345**	CREDIT HOURS: **03**	MINIMUM CONTACT HOURS: **48**
COURSE INSTRUCTER: **Prof. Dr. Naeem Aziz (A+B) / Engr. Samar Hussain Rizvi (C)**			
Batch: **22CE**	Semester: 5th	Semester Starting Date: 09-12-2024	Semester Suspension Date: 18-04-2025

COURSE LEARNING OUTCOMES:

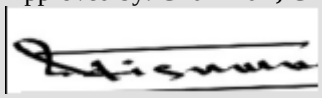
CLO No.	Description	Taxonomy level	Associated PLO
1	DESCRIBE various properties of concrete and its ingredients	C2	1
2	DESIGN various structural elements of reinforced concrete	C6	3

LESSON CONTENTS AND ASSOCIATED CLO(s)

Contents	CLO No.	Marks Assigned	Delivery Methods	Assessment Methods (Marks)
• **PLAIN CONCRETE:** - Introduction to Concrete and its types. - Cement its types, manufactures and properties. - Fine and coarse Aggregates, properties of aggregates & their quality tests. - Admixtures, various types of admixtures - Design of concrete mixes. - Concrete batching, mixing, transportation, placing, compaction and curing of concrete - Properties of concrete in fresh state - Properties of concrete in hardened state - Durability of concrete structures - Cracks and repair of concrete structures ➢ **No. of Lectures: 22**	**1**	**45**	• Class Lecture • Discussion • Design practice	• Quiz (10) • Class Test-I (05) • Mid semester Exam (30)
• **REINFORCED CONCRETE:** - Reinforced concrete, basic principles, design codes live & dead loads on reinforced concrete structures. - Factor of safety- Strength and Grades of Rebars. - Design methods-working stress and ultimate strength design methods of reinforced concrete members. - Flexure Analysis of reinforced concrete beams. - Balanced, under reinforced & over reinforced section - Design of reinforced concrete beams for flexure. - Slabs, types of Slabs-Live and dead loads on slabs. - Analysis of One-way solid slabs. - Design of One-way slabs and reinforcement details. ➢ **No. of Lectures: 26**	**2**	**55**	• Class Lecture • Discussion • Design practice	• Design Practice (10) • Class Test-II (05) • Final Exam (40)

ASSESSMENT DETAILS

S. No.	Assessment Activities	Marks	Activities		CLO(s) to be assessed
1	Class Test/Assignment/Project Design/ Presentation/Quiz/Field Report	**30**	Quiz & Design Practice	2	1,2
			Class test(s)	2	1,2
2	Mid Semester Exam	**30**	1		1
3	Final Semester Exam	**40**	1		2

Prepared by: Prof. Dr. Naeem Aziz  Signature: Dated: 13-12-2024	Reviewed by: **Curriculum Review Committee**  Signature: Dated: 20-12-2024	Approved by: **Chairman, CED**  Signature: Dated: 20-12-2024