



MEHRAN UNIVERSITY OF ENGINEERING AND TECHNOLOGY JAMSHORO
Department of Civil Engineering

LESSON PLAN

COURSE TITLE: Soil Mechanics	COURSE CODE: CET 207	CREDIT HOURS: 01	MINIMUM CONTACT HOURS: 16
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COURSE INSTRUCTOR: Engr. Ali Raza Lashari

Batch: 23BS-CET	Semester: 4 th	Semester Starting Date: 09-12-2024	Semester Suspension Date: 18-04-2025
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COURSE LEARNING OUTCOMES:

CLO No.	Description	Taxonomy level	Associated PLO
1	DISCUSS fundamentals of soil properties, behavior, and classification systems.	C2	1
2	SOLVE various problems related to soil permeability, consolidation and shear strength.	C3	2


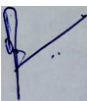
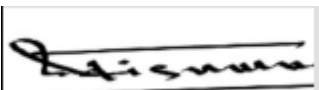
LESSON CONTENTS AND ASSOCIATED CLO(s)

Contents	CLO No.	Marks Assigned	Delivery Methods	Assessment Methods (Marks)
<ul style="list-style-type: none"> Introduction: Importance of mechanics of soils in Civil Engineering Technologists. Index Properties of Soil: Phase diagrams of soil, Phase relations of soil: water content, void ratio, porosity, degree of saturation, air content, percentage air voids, unit weights and specific gravity, Consistency of soils, States of consistency and Atterberg's limits, Determination of Atterberg's limits and consistency indices, Grain Size distribution of soils: particle size distribution curves, sieve analysis, Stoke's law, hydrometer analysis. Soil Classification: Particle size classification systems, AASHTO classification system, Unified soil classification system, Identification and classification of expansive soils, Collapsible and dispersion soils. <p>No. of lectures: 09</p>	1	27	<ul style="list-style-type: none"> Class Lecture Discussion Related Problems 	<ul style="list-style-type: none"> Class Test (07) Mid semester Exam (15) Final Exam (05)

<ul style="list-style-type: none"> • Permeability of Soil: Permeability, Darcy's law, Factors affecting permeability, Permeability of stratified soils, Laboratory and field determination of permeability. • Consolidation: Introduction to Consolidation, Laboratory consolidation tests, Graphical representation of data, Compression index, Coefficient of compressibility, Calculation of voids ratio and coefficient of volume change, Degree of consolidation, Primary and secondary consolidation, Determination of pre-consolidation pressure and over consolidation ratio, Normally and pre-consolidated clays. • Shear Strength: Shear strength parameters of soils, shear strength of cohesive and cohesion less soil, Laboratory measurement of shear strength parameters: shear box test, unconfined compression test, vane shear test and tri-axial shear test. <p>No. of lectures: 07</p>	2	23	<ul style="list-style-type: none"> • Class Lecture • Discussion • Related Problems 	<ul style="list-style-type: none"> • Assignment (08) • Final Exam (15)
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ASSESSMENT DETAILS

S. No.	Assessment Activities	Marks	Activities	CLO(s) to be assessed	
1	Assignment and Test	15	Test	1	1
			Assignment	1	2
2	Mid Semester Exam	15	1	1	
3	Final Semester Exam	20	1	1,2	

Prepared by: Engr. Ali Raza Lashari  Signature: Dated: 09-12-2024	Reviewed by: Curriculum Review Committee  Signature: Dated: 20-12-2024	Approved by: Chairman, CED  Signature: Dated: 20-12-2024
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