



MEHRAN UNIVERSITY OF ENGINEERING AND TECHNOLOGY JAMSHORO

Department of Civil Engineering


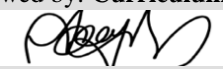
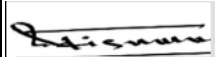
LESSON PLAN

COURSE TITLE: Geology for Engineers		COURSE CODE: CE127	CREDIT HOURS: 02	MINIMUM CONTACT HOURS: 32
COURSE INSTRUCTOR: Dr. Muhammad Rehan Hakro (A+B+C)				
Batch: 24CE	Semester: 2nd	Semester Starting Date: 06-01-2025	Semester Suspension Date: 24-04-2025	
COURSE LEARNING OUTCOMES:				
CLO	Description	Taxonomy Level	PLO	
1	DESCRIBE different branches of geology, constituents of earth, formation of rocks, and structural features of strata .	C2	1	
2	DISCUSS structural geology, geo-hazards, hydrogeology and site for the important civil engineering projects	C2	1	
LESSON CONTENTS AND ASSOCIATED CLO(s)				
Contents	CLO No.	Marks Assigned	Delivery Methods	Assessment Methods (Marks)
<ul style="list-style-type: none">• Introduction to Geology Introduction to Geology and Engineering Geology,• Geological Science and Subdivisions: Earth’s Materials, Earth’s Process• Earth’s History, Structure and Composition of the Earth• Geological Times, Sequence and Principles of Stratigraphy.• Mineral and Rocks Introduction to Minerals and Rocks, Identification of Minerals, Crystal Form of Minerals, Rocks: Igneous, Sedimentary and Metamorphic, Rock Cycle,• Rock-Forming Minerals, Physical Properties of Rocks and Minerals• Classification of Rocks and Minerals• Identification of Common Rock Types and Their Engineering Properties: Shales, Sandstones and Limestone. No. of Lectures required : 14	1	22	<ul style="list-style-type: none">• Class Lectures• Discussion• Presentation	<ul style="list-style-type: none">• Class Test (07)• Mid Semester Exam (15)

<ul style="list-style-type: none"> • Structural Geology • Introduction to Structural Geology, Dip and Strike, • Folds and Their Types, • Faults and their Causes, • Classification of Faults with Respect to Relative Moment, Dip and Strike of Strata, Amount of Inclination, Mode of Occurrence • Joints and Their Classification, Field Interpretation of Folds • Faults and Joints, Structures due to Denudation. • Earthquakes, Earthflows & Land sliding • Tectonics Plates, Earthquakes and Their Causes, Measurements of Earthquakes, Protective Measures against Earthquakes, Earthquake Zoning of Pakistan. • Landslides and Types of Landslides, prediction and preventive measures, • Hydrogeology Introduction to Wells, Springs, Streams, Ground Water, and Glaciers, Types of Wells, Springs, Streams, Ground Water, and Glaciers. • Tunnelling • Introduction to Tunnels, Types of Tunnels, Tunnel Construction Methods in Rocks, Geological Survey Prior to Tunnelling, Lining of Tunnels • Role of Geology in Selection of Sites for Dams, Reservoirs, Tunnels and Other Civil Engineering Projects, Such as Highways, Airfields and Bridges • No. of lectures required: 18 	2	28	<ul style="list-style-type: none"> • Class Lectures • Discussion • Presentation 	Assignment (08) Final Exam (20)
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ASSESSMENT DETAILS

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

Prepared by: Dr. Muhammad Rehan Hakro  Signature: Dated: 05-02-2025	Reviewed by: Curriculum Review Committee  Signature: Dated: 10-02-2025	Approved by: Chairman, CED  Signature: Dated: 10-02-2025
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