



**MEHRAN UNIVERSITY OF ENGINEERING AND TECHNOLOGY JAMSHORO**

**Department of Civil Engineering**

**LESSON PLAN**

COURSE TITLE: <b>Civil Engineering Materials</b>		COURSE CODE: <b>CE107</b>	CREDIT HOURS: <b>02</b>	MINIMUM CONTACT HOURS: <b>32</b>
COURSE INSTRUCTORS: <b>Prof. Dr. Tauha Hussain Ali (A+B)/Engr. Muhammad Saleem Raza (C)</b>				
Batch: <b>24CE</b>	Semester: <b>1<sup>st</sup></b>	Semester Starting Date: <b>26-08-2024</b>	Semester Suspension Date: <b>04-12-2024</b>	

**COURSE LEARNING OUTCOMES:**

CLO	Description	Taxonomy level	PLO
1	<b>EXPLAIN</b> various materials and their physical characteristics used in different types of civil engineering works	C2	1
2	<b>ILLUSTRATE</b> the suitability of different materials and their behavior for their use in civil engineering projects.	C3	4


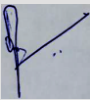
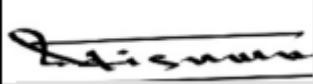
**LESSON CONTENTS AND ASSOCIATED CLO(s)**

Contents	CLO No.	Marks Assigned	Delivery Methods	Assessment Methods (Marks)
<p><b>Materials and their properties:</b> Introduction, importance, and various properties of civil engineering materials</p> <p><b>Clay Products (Bricks, Tiles, Porcelain, Stoneware, Earthenware and Tiles):</b> General characteristics, Merits and demerits, Varieties, Manufacturing, Strength tests.</p> <p><b>Building Stones &amp; Aggregates:</b> Characteristics, Varieties, Merits and demerits, Strength tests, Properties of fine &amp; coarse aggregates, Uses.</p> <p><b>Binders (Cement, Lime, Asphalt, Bitumen):</b> Chemical composition, Manufacturing, Varieties, Properties and uses, Types, Quality tests</p> <p><b>Cementitious Materials (Concrete and Mortar):</b> Composition, Manufacturing, Merits and demerits, Varieties, Applications and Uses.</p> <p><b>Timber:</b> Characteristics, Defects, Methods of seasoning and preservation of timber, Industrial Products.</p> <p><b>Glass:</b> Composition, Merits and demerits, Special Varieties, Properties, Uses.</p>	1	33	<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Discussion</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment-I (04)</li> <li>• Class Test-I (04)</li> <li>• Mid Semester Exam (10)</li> <li>• Final Exam (15)</li> </ul>

<p><b>Metals and Steel:</b> Introduction to Ferrous and non-ferrous metals and alloys, Iron and its types, copper, tin, zinc, Aluminum Characteristics, Importance, Strength tests, and uses of different metals &amp; alloys.</p> <p><b>Paints and Varnishes:</b> Composition, Preparation, Properties, Tests, Uses of paints, Merits and demerits, Varnishes and distempers.</p> <p><b>Miscellaneous Materials:</b> Plastics, Fiber Glass, Epoxy, Resins materials, Adhesive, Rubber, Natural and artificial fibers, Bamboo, Asbestos, Gypsum, Pavers</p> <p><b>No. of Lectures: 21</b></p>				
<p>Precast Materials and their use Uses of Stones, bricks, tiles, and blocks Use of Binders Uses of concrete and mortar Uses of Timber Use of Glass and different types of metals Use of paint, plastic, and varnishes Use of Asbestos and Bituminous materials Uses of Miscellaneous Materials</p> <p><b>No. of Lectures: 11</b></p>	2	17	<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Discussion</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment-II (04)</li> <li>• Class Test-II (03)</li> <li>• Mid Semester Exam (05)</li> <li>• Final Exam (05)</li> </ul>

**ASSESSMENT DETAILS**

S. No.	Assessment Activities	Marks	Activities		CLO(s) to be assessed
1	Class Test/Assignment/Project Design/ Presentation/Quiz/Field Report	15	Assignment(s)	2	1,2
			Class test(s)	2	1,2
2	Mid Semester Exam	15	1		1,2
3	Final Semester Exam	20	1		1,2

<p>Prepared by: <b>Prof. Dr. Tauha Hussain Ali</b></p>  <p>Signature: Dated: 10-09-2024</p>	<p>Reviewed by: <b>Curriculum Review Committee</b></p>  <p>Signature: Dated: 20-11-2024</p>	<p>Approved by: <b>Chairman, CED</b></p>  <p>Signature: Dated: 20-11-2024</p>
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