



**MEHRAN UNIVERSITY OF ENGINEERING AND TECHNOLOGY JAMSHORO**  
**Institute of Environmental Engineering & Management**

**LESSON PLAN**

COURSE TITLE: <b>Construction Planning &amp; Management</b>		COURSE CODE: <b>CE438</b>	CREDIT HOURS: <b>03</b>	MINIMUM CONTACT HOURS: <b>48</b>
COURSE INSTRUCTOR: <b>Prof. Dr. Tauha Hussien Ali (A) / Dr. Ali Raza Khoso (A+B+D) / Engr. M. Saleem Raza (C)</b>				
Batch: <b>20CE</b>	Semester <b>8<sup>th</sup></b>	Semester Starting Date: <b>15-07-2024</b>	Semester Suspension Date: <b>06-11-2024</b>	

**COURSE LEARNING OUTCOMES:**

CLOs	Course Learning Outcomes	Taxonomy Level	PLOs
1.	APPLY the knowledge of deterministic and probabilistic models for project planning and scheduling.	C3	11
2.	DISCUSS engineering contracts and procurement methods related to construction projects.	C2	11




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

Contents	CLO No.	Marks Assigned	Delivery Methods	Assessment Methods (Marks)
<p><b>Introduction and basic overview of Construction Management</b></p> <p>Introduction and overview of the subject, Construction industry, players and their roles, organizational hierarchy, Types of Construction Projects, Construction Economy and Civil Engineer, Skills and responsibilities of construction managers and information and knowledge management.</p> <p><b>Project Planning &amp; Scheduling and Controlling</b></p> <p><b>a) Bar Chart/Gantt Chart/WBS &amp; Resource schedules &amp; Leveling</b></p> <p>Introduction to scheduling techniques, Work Breakdown Structure, Gantt Chart, Scheduling of labor, materials, equipment and expenditure, Determining the minimum total cost of a project, Resource levelling concepts.</p> <p><b>b) Deterministic Techniques</b></p> <p>Critical Path Method using Activity on Arrow (A.O.A) Diagram, Critical Path Method using Activity on Node (A.O.N) Diagram, Precedence Diagram Method (PDM), Line of Balance Method.</p> <p><b>a) Probabilistic Techniques</b></p> <p>Project Evaluation and Review Technique (PERT), Graphical Evaluation and Review Technique (GERT), Determining Mean, Variance, Standard deviation, Probability and Beta Distribution.</p> <p><b>Software Application:</b> Introduction to software application in construction project management.</p> <p><b>(Total Classes: 26)</b></p>	1	54	<ul style="list-style-type: none"> <li>• Class Lecture</li> <li>• Discussion</li> </ul>	<ul style="list-style-type: none"> <li>• Class Test-I (05)</li> <li>• Class Test-II (05)</li> <li>• Mid semester Exam (20)</li> <li>• Final Exam (24)</li> </ul>

<p><b>Construction Equipment and Management</b> Importance of Equipment Management in Construction, Developments in Construction Equipment, Types of Construction Equipment, Selection of Construction Equipment &amp; Factors influencing the productivity of equipment and planning, AI applications in modern equipment</p> <p><b>Engineering contracts and procurement methods</b> Different types of engineering contracts, Procurement methods and their selection, Procurement in project life cycle, Procurement guidelines, E-procurement in construction industry. Prequalification process, Preparation of bidding documents and NIT, Factors influencing, contractor selection, Joint venturing, Public Private Partnership, Construction claims and dispute resolution.</p> <p><b>(Total Classes:22)</b></p>	2	46	<ul style="list-style-type: none"> <li>• Class Lecture</li> <li>• Discussion</li> </ul>	<ul style="list-style-type: none"> <li>• Assignment (10)</li> <li>• Final Exam (36)</li> </ul>
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**ASSESSMENT DETAILS**

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

<p>Prepared by: <b>Prof. Dr. Tauha Hussain Ali</b></p> <p style="text-align: center;">   Signature :  Dated: 29-05-2024 </p>	<p>Reviewed by: <b>Curriculum Review Committee</b></p> <p style="text-align: center;">   Signature:  Dated: 30-05-2024 </p>	<p>Approved by: <b>Chairman, CED</b></p> <p style="text-align: center;">   Signature:  Dated: 30-05-2024 </p>
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