

CE 512 Construction Management

Credit and Contact hours	3 / 3 (Lectures), 0 (Tutorials), 0 (Laboratory)												
Required, or Elective	Elective												
Course Description	This course aims at advancing study and analysis of construction top and upper-middle management responsibilities, on construction management, construction financing, construction safety, inspection and quality control, and disputes and claims. Stresses investigations to improve construction management efficiency and to lower construction costs.												
Prerequisites or Co-requisites	None												
Course Learning Outcomes	<p>Students completing this course successfully will be able to:</p> <table> <thead> <tr> <th>Course Learning Outcomes (CLOs)</th><th>Related Student Outcomes (SO)</th></tr> </thead> <tbody> <tr> <td>CLO1. Acquire the advanced knowledge in construction management field that are related to major real projects management. K1</td><td>SO1</td></tr> <tr> <td>CLO2. Apply the broad range of skills and knowledge acquired in the Construction Management curriculum to evaluate, and solve different challenges faced by the industry. S1</td><td>SO2</td></tr> <tr> <td>CLO3. Analyze construction project in term of time, cost, quality and success. S1</td><td>SO2</td></tr> <tr> <td>CLO4. Evaluate the success and performance of construction projects in terms of scope, time, cost, and quality. S4</td><td>SO5</td></tr> <tr> <td>CLO5. Demonstrate scientific integrity and ethical values through writing research paper addressing recent developments in maintenance engineering and management. V1</td><td>SO6</td></tr> </tbody> </table>	Course Learning Outcomes (CLOs)	Related Student Outcomes (SO)	CLO1. Acquire the advanced knowledge in construction management field that are related to major real projects management. K1	SO1	CLO2. Apply the broad range of skills and knowledge acquired in the Construction Management curriculum to evaluate, and solve different challenges faced by the industry. S1	SO2	CLO3. Analyze construction project in term of time, cost, quality and success. S1	SO2	CLO4. Evaluate the success and performance of construction projects in terms of scope, time, cost, and quality. S4	SO5	CLO5. Demonstrate scientific integrity and ethical values through writing research paper addressing recent developments in maintenance engineering and management. V1	SO6
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Student Outcomes related to this Course	<p>SO 1 Recognize advanced engineering knowledge, concepts, and techniques to identify, interpret, and analyze complex and real-life engineering problems.</p> <p>SO 2 Provide solutions for complex and real-life engineering problems through critical thinking and the use of modern engineering tools, and identify their impact on social, global, cultural, environmental, safety, and economic factors.</p> <p>SO 5 Design novel advanced Civil Engineering systems and evaluate their performance, sustainability, and effectiveness for engineering practice and their impact in global, economic, environmental, and societal contexts</p> <p>SO 6 Demonstrate scientific integrity, ethical responsibility, and academic values in scientific publications, research projects, and thesis work.</p>												

Topics Covered	List of Topics		Related CLOs
	1. Introduction Project environment		CLO 1
	2. Project Life Cycle and Project Charter		CLO 1
	3. Identifying project activities		CLO 2
	4. Project planning		CLO 2 , 3
	5. Estimating cost		CLO 2, 3
	6. Estimating time		CLO 2, 3
	7. Contracting strategies		CLO 3
	8. Selecting, organizing and managing the project team		CLO 2 , 5
	9. Procurement and logistics		CLO 3
	10. Project execution – monitoring and control		CLO 4
	11. Safety – risk management – stakeholder relationship		CLO 5
	12. Project close out – claims and disputes – evaluation		CLO 5 , 4
Textbook(s) and Other Required Material	<ul style="list-style-type: none"> Harris, F., & McCaffer, R. (2013). Modern construction management. John Wiley & Sons. Dainty, A., Moore, D., & Murray, M. (2007). Communication in construction: Theory and practice. Routledge 		
Grading System	Assignments	5%	
	Lecture Attendance	5%	
	Course paper Research	15%	
	Mid-term exam	20%	
	Project work	15%	
	Final Exam	40%	
Instructors	Dr. Saad Aljadhari		
Date of Review	March 2025		