

## CE 515 Cost Analysis and Control

<b>Credit and Contact hours</b>	3 / 3 (Lectures), 0 (Tutorials), 0 (Laboratory)										
<b>Required, or Elective</b>	Required										
<b>Course Description</b>	Basic principles of cost accounting, financial analysis, and cost control. Integration of scheduling and cost control. Systematic cost control as related to job production and historical data.										
<b>Prerequisites or Co-requisites</b>	None										
<b>Course Learning Outcomes</b>	<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><b>CLO1.</b> Identify advanced cost estimation concepts, advanced techniques, tools, and suitability. K1</td><td><b>SO1</b></td></tr> <tr> <td><b>CLO2.</b> Apply advanced knowledge to solve real-life issue or aspect of construction estimating in Saudi Arabia. S1</td><td><b>SO2</b></td></tr> <tr> <td><b>CLO3.</b> Analyze the conceptual and detailed construction cost estimating process. S1</td><td><b>SO2</b></td></tr> <tr> <td><b>CLO4.</b> Develop the detailed estimate of civil engineering works. S1</td><td><b>SO2</b></td></tr> </tbody> </table>	Course Learning Outcomes (CLOs)	Related Student Outcomes (SO)	<b>CLO1.</b> Identify advanced cost estimation concepts, advanced techniques, tools, and suitability. K1	<b>SO1</b>	<b>CLO2.</b> Apply advanced knowledge to solve real-life issue or aspect of construction estimating in Saudi Arabia. S1	<b>SO2</b>	<b>CLO3.</b> Analyze the conceptual and detailed construction cost estimating process. S1	<b>SO2</b>	<b>CLO4.</b> Develop the detailed estimate of civil engineering works. S1	<b>SO2</b>
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<b>Student Outcomes related to this Course</b>	<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>										

<b>Topics Covered</b>	<b>List of Topics</b>		<b>Related CLOs</b>
	1. Introduction		<b>CLO 1</b>
	2. Overview of the Construction Estimating Process		<b>CLO 1</b>
	3. Types of Estimates, Risks, and Conceptual Estimating		<b>CLO 1</b>
	4. Computers and estimating		<b>CLO 2</b>
	5. Overview of the Detailed Estimate		<b>CLO 2</b>
	6. How To Determine Costs for the Project		<b>CLO 2</b>
	7. Intensive Construction Related Applications: Site work and Excavation, Earthwork, Concrete, etc.		<b>CLO 3, 4</b>
	8. Construction Cost Accounting Methods and System		<b>CLO 3</b>
	9. Job Cost Control System		<b>CLO 3,4</b>
	10. Managing Costs and Setting Profit Margins for Bidding		<b>CLO 3 , 4</b>
	11. Term Project Presentations		<b>CLO 4</b>
<b>Textbook(s) and Other Required Material</b>	<ul style="list-style-type: none"> <li>Schuette, Stephen D. and Liska Roger W. Building Construction Estimating. McGraw-Hill Higher Education, Inc. USA.</li> <li>Robert L. Peurifoy and Garold D. Oberlender. Estimating Construction Costs. McGraw-Hill Higher Education, Inc. USA.</li> <li>James J. Adrian. Construction Estimating: An Accounting and Productivity Approach. Prentice-Hall Inc., Upper Saddle River, NJ, USA.</li> <li>Steven J. Peterson. Construction Accounting and Financial Management, Pearson Higher Education, Inc. Upper Saddle River, NJ, USA.</li> </ul>		
<b>Grading System</b>	Participation	10%	
	Lecture Attendance	--	
	Project work	20%	
	Mid-term exams	30 %	
	Final Exam	40 %	
<b>Instructors</b>	Dr. Abdulmohsen S. Almohsen		
<b>Date of Review</b>	March 2025		