

College of Engineering

Department of Civil Engineering

جامعة  
الملك سعود  
King Saud University



## CE 412 Estimating Construction Costs

<b>Credit and Contact hours</b>	3 / 3 (Lectures), 1 (Tutorials), 0 (Laboratory)	
<b>Required, or Elective</b>	Elective for a BSCE degree	
<b>Course Description</b>	The estimating process. Conceptual estimation. Range estimation. Detailed estimate. Earthwork. Concrete. Masonry. Carpentry and steel. Mechanical and Electrical estimating. Heavy construction. Profit and bonds. Labor productivity. Computers in estimating. Bidding strategy, Group Project.	
<b>Prerequisites or Co-requisites</b>	None.	
<b>Course Learning Outcomes</b>	<b>Course Learning Outcomes</b>	
		<i>Related Student Outcomes (SO)</i>
	<b>CLO1:</b> Determine basic cost estimation concepts, techniques, tools, and its suitability.	<b>SO1</b>
	<b>CLO2:</b> Develop construction plans involved in real life projects through identifying various civil engineering works, and reviewing different construction drawings and specifications	<b>SO1</b>
	<b>CLO3:</b> Analyze the conceptual and detailed construction cost estimating process for real-life projects with the consideration of local cost engineering practice and realistic constraints ( through a project)	<b>SO1</b>
	<b>CLO4:</b> Perform a comprehensive estimation of construction cost for real-life projects subjected to realistic constraints using modern engineering tools. (complex Problem )	<b>SO1</b>
<b>Student Outcomes related to this Course</b>	<b>SO1.</b> an ability to <b>identify, formulate,</b> and <b>solve complex engineering</b> problems by applying principles of engineering, science, and mathematics, and using <b>modern engineering tools.</b> [ ABET 1]	
<b>Topics Covered</b>	<b>List of Topics</b>	
	1. Introduction	CLO. 1
	2. Overview of the Construction Estimating Process	CLO. 1
	3. Computers in Construction Estimating	CLO. 1

	4. Overview of the Detailed Estimate	CLO. 3
	5. Developing the Cost of a Detailed Estimate	CLO. 3
	6. Earthwork	CLO. 2
	7. Concrete	CLO. 2
	8. Masonry	CLO. 2
	9. Metals	CLO. 2
	10. Carpentry, Miscellaneous, and Specialty Work	CLO. 2
	11. Plumbing, Mechanical, and Electrical	CLO. 2
	12. Transfer of the Estimate to the Construction Process	CLO. 4
<b>Textbook(s) and Other Required Material</b>	<ol style="list-style-type: none"> <li>Peterson, Steven J. and Dagostino, Frank R., Estimating in Building Construction, 8th Edition, 2015, Pearson Higher Education</li> <li>Construction Cost Index, by Riyadh Chamber of Commerce &amp; Industry, Saudi Arabia.</li> <li>General Specifications for Building Construction, Ministry of Municipal &amp; Rural Affairs, Saudi Arabia</li> <li>Schuette, Stephen D. and Liska Roger W. Building Construction Estimating. McGraw-Hill, Inc.</li> <li>Means Construction Cost Data, R. S. Means Co., Inc., Kingston, MA. USA.</li> <li>The Construction Specifications Institute/Construction Specifications Canada (CSI/CSC) MasterFormat</li> </ol>	
<b>Grading System</b>	Assignments & Quizzes	10%
	Mid-Term Test	40%
	Term Project	10%
	Final Examination	40%
<b>Instructors</b>	Dr. Naif Ibn-Homaid (Room 2A20), email; bnhomaid@ksu.edu.sa	
<b>Date of Review</b>	September 2020	