

College of Engineering

Department of Civil Engineering

جامعة
الملك سعود
King Saud University



CE 527 Water Resources Planning

Credit and Contact hours	3/ 3 (Lectures), 0 (Tutorials), 0 (Laboratory)										
Required, or Elective	Required for a MSCE degree										
Course Description	Principles and standards for planning water resources; water uses and water supply alternatives; benefit-cost analysis, economic and financial analysis; environmental impact assessment, legal and institutional aspects; elements of project formulation and appraisal, programming water resources investigations.										
Prerequisites or Co-requisites	None										
Course Learning Outcomes	<p>Students completing this course successfully will be able to</p> <table border="1"><thead><tr><th>Course Learning Outcomes</th><th>Related Program Outcomes</th></tr></thead><tbody><tr><td>CLO1: Recognize and explain the main concepts of water resources planning</td><td>K1</td></tr><tr><td>CLO2: Identify the different considerations in planning: economic, social, legislative, and environmental.</td><td>K1</td></tr><tr><td>CLO3: Determine the water supply and water demand from possible resources and for different purposes</td><td>S1</td></tr><tr><td>CLO4: Apply the water resources planning concepts on Saudi Arabia as a case study.</td><td>S1</td></tr></tbody></table>	Course Learning Outcomes	Related Program Outcomes	CLO1: Recognize and explain the main concepts of water resources planning	K1	CLO2: Identify the different considerations in planning: economic, social, legislative, and environmental.	K1	CLO3: Determine the water supply and water demand from possible resources and for different purposes	S1	CLO4: Apply the water resources planning concepts on Saudi Arabia as a case study.	S1
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CLO4: Apply the water resources planning concepts on Saudi Arabia as a case study.	S1										
Student Outcomes related to this Course	<p>K1. Recognize advanced engineering knowledge, concepts and techniques to identify, interpret and analyze complex and real-life engineering problems.</p> <p>S1. Provide solution for complex and real-life engineering problems through critical thinking and using modern engineering tools and identify its impact on social and ethical issues.</p>										

Topics Covered	List of Topics		Related CLOs
	1. Introduction to water resources planning.		CLO1
	2. Planning process.		CLO1
	3. Decision making techniques.		CLO1
	4. Economic considerations.		CLO2
	5. Social considerations.		CLO2
	6. Legislative considerations		CLO2
	7. Environmental considerations		CLO2
	8. Determine the water supply and water demand		CLO3
	9. Case study: Saudi Arabia ,and project presentation.		CLO4
Textbook(s) and Other Required Material	<ul style="list-style-type: none"> • Chow, Grigg, N. S. (1985). Water resources planning. Millenium Development Goals Report 2014 (available online at www.un.org) 		
Grading System	Assignments	5%	
	Quizzes	5%	
	Lecture Attendance	5%	
	Project Work	5 %	
	Two Midterm Exams	40%	
	Final Exam	40%	
Instructors	Dr. Faisal Mohammed A Alfaisal E-mail: falfaisal@ksu.edu.sa Office 2A93		
Date of Review	February, 2021		