

College of Engineering

Department of Civil Engineering

جامعة
الملك سعود
King Saud University



CE 598 Research Project

Credit and Contact hours	1/ 1 (Lectures), 0 (Tutorials), 0 (Laboratory)														
Required, or Elective	Mandatory for a MSCE degree (course-based)														
Course Description	<p>Research project provides students with the opportunity to understand the research process, and to participate in it by analysing, presenting and writing up their research results.</p> <p>The research project course should encompass a replication of the work done in latest recent journal papers. The research project can take the form of experimental work and/or theoretical analysis related to the research subject. A final course report should be presented. And a final presentation of the work is to be delivered to an examination committee.</p>														
Prerequisites or Co-requisites	N/A														
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: Acquire new knowledge about selected research project in the relevant field</td><td>K1</td></tr><tr><td>CLO2: Be able to model and/or simulate and/or perform theoretical and experimental studies related to the system under study and demonstrate the ability to identify problem issues critically, independently and creatively.</td><td>K1</td></tr><tr><td>CLO3: Enhance their capacity to collect and analyse data and other information and demonstrate specialized methodological knowledge in the main field of study</td><td>S1</td></tr><tr><td>CLO4: Investigate real-life engineering problems using modern engineering tools in a research project</td><td>S2</td></tr><tr><td>CLO5: Enhanced their skills in criticizing and discussing the results of other team research project</td><td>C1</td></tr><tr><td>CLO6: Analyze the performance of civil engineering systems.</td><td>C1</td></tr></tbody></table>	Course Learning Outcomes	Related Program Outcomes	CLO1: Acquire new knowledge about selected research project in the relevant field	K1	CLO2: Be able to model and/or simulate and/or perform theoretical and experimental studies related to the system under study and demonstrate the ability to identify problem issues critically, independently and creatively.	K1	CLO3: Enhance their capacity to collect and analyse data and other information and demonstrate specialized methodological knowledge in the main field of study	S1	CLO4: Investigate real-life engineering problems using modern engineering tools in a research project	S2	CLO5: Enhanced their skills in criticizing and discussing the results of other team research project	C1	CLO6: Analyze the performance of civil engineering systems.	C1
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	CLO7: Project report and presentation to Examination committee.	C1																						
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> <p>S2: Investigate scientific research problems independently or through a team work using critical thinking, appropriate techniques , advanced tools, and management principles.</p> <p>C1 Criticize and discuss scientific research reports /papers related to Civil Engineering issues with high level of ethics and proficiency, independently, or as a team work.</p>																							
Topics Covered	<table border="1"> <thead> <tr> <th>List of Topics</th> <th>Related CLOs</th> </tr> </thead> <tbody> <tr> <td>State the general topic and give some background</td> <td>CLO1</td> </tr> <tr> <td>Provide a review of the literature related to the topic</td> <td>CLO1</td> </tr> <tr> <td>Find the problem statements of the research topic</td> <td>CLO2</td> </tr> <tr> <td>Identifying the research gaps of the selected topics</td> <td>CLO2</td> </tr> <tr> <td>Identifying and outline the research methodology</td> <td>CLO3</td> </tr> <tr> <td>Comparative analysis discussion</td> <td>CLO4</td> </tr> <tr> <td>Discuss the theoretical and test Results</td> <td>CLO5</td> </tr> <tr> <td>Writing conclusion and recommendation</td> <td>CLO6</td> </tr> <tr> <td>final report evaluation</td> <td>CLO7</td> </tr> <tr> <td>Final Presentation</td> <td>CLO7</td> </tr> </tbody> </table>	List of Topics	Related CLOs	State the general topic and give some background	CLO1	Provide a review of the literature related to the topic	CLO1	Find the problem statements of the research topic	CLO2	Identifying the research gaps of the selected topics	CLO2	Identifying and outline the research methodology	CLO3	Comparative analysis discussion	CLO4	Discuss the theoretical and test Results	CLO5	Writing conclusion and recommendation	CLO6	final report evaluation	CLO7	Final Presentation	CLO7	
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Textbook(s) and Other Required Material	<ul style="list-style-type: none"> • Online scientific resources and dependent on the chosen special topic(s) 																							
Grading System	Pass and Fail system																							
Instructors	All faculty involved in teaching and supervise graduate students																							
Date of Review	March, 2021																							