Department of Civil Engineering
College of Engineering
King Saud University

CE 497 Graduation Project - 2

Credit and Contact hours	2 / 2 (Lectures), 1 (Tutorials), 0 (Laboratory)
Required, Elective, or Selected Elective	Required for a BSCE degree
Course Description	This is the implementation phase of the capstone design project. It includes necessary design calculations and/or use of experimental tools to design the preferred alternative that was selected in CE 498. The final report to be submitted by the team includes project title, description, objectives and constraints, data and assumption; design alternatives and analyses, details of preferred design along with pertinent drawings, and summary and conclusions. In addition, the student team should orally present the project to the examining committee.
Prerequisites or Co-requisites	CE 496
Course Learning Outcomes	Students completing successfully the course will be able to:

Course Learning Outcomes	***Related Student Outcomes (SO)***
CLO 1 – Design preferred alternative based on calculations and/or experimental tools using modern engineering tools.	**SO2**
CLO 2 – Evaluate the impact of the selected design on public health, safety, welfare and global, cultural, social, economic and environmental factors.	**SO2**
CLO 3 - Work effectively as a member of the project team providing conducive environment and good leadership	**SO5**
CLO 4 – Acquire and apply new knowledge, beyond taught courses, using appropriate learning strategies includes updates Codes, Softwares, webinars etc to complete the project	**SO7**
CLO 5 - Prepare professional technical report including necessary design reports and drawings as well as making an oral	**SO3**

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<tr><td>Student Outcomes</td><td>SO2: An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors [ABET 2].

SO3: An ability to communicate effectively with a range of audiences [ABET 3].

SO5: An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives [ABET 5].

SO7: An ability to acquire and apply new knowledge as needed, using appropriate learning strategies [ABET 7].</td></tr>
<tr><td>Topics Covered</td><td>This is the implementation phase of the capstone design project. It includes utilizing design criteria, parameters and constraints for the design alternatives to select the preferred option, and design calculation and/or use of experimental tools (if required) to refine design.</td></tr>
<tr><td>Textbook(s) and Other Required Material</td><td>Codes, Text Books, Published Research Papers and Design Manuals relevant to the assigned Project Topic.</td></tr>
<tr><td>Instructors-Coordinators</td><td>All CE faculty with the coordination with the Capstone Design Project Committee</td></tr>
<tr><td>Grading System</td><td>Project work evaluated by the supervisor and co-supervisor 50%
Midterm (Presentation) 20%
Final Exam (Report + Presentation) 30%</td></tr>
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