College of Engineering

Department of Civil Engineering

CE 600 MSc Thesis

Credit and Contact hours	1/ 1 (Lectures), 0 (Tutorials), 0 (Laboratory)
Required, or Elective	Mandatory for a MSCE degree (Thesis-based)
Course Description	The Master's Thesis course runs throughout a full semester(s) and constitutes the final and concluding task in the Master Program in civil engineering. During this course, students will study research methods, will design and do an empirical and/or experimental study and present this in a written report called a Master's thesis and presenting the work in oral presentation.
Prerequisites or Co-requisites	Completion of 15 credit hours of MSc course work. Passing Thesis Proposal course, CE596.
Course Learning Outcomes	Students completing this course successfully will be able to

Course Learning Outcomes	***Related Program Outcomes***
CLO1: demonstrate knowledge and understanding in the main field of study, including both broad knowledge of the field and a considerable degree of specialized knowledge in certain areas of the field as well as insight into current research and development work	**K1**
CLO2: demonstrate the ability to critically and systematically integrate knowledge and to analyze, assess and deal with complex phenomena, issues and situations even with limited information	**S1**
CLO3: demonstrate the ability to identify and formulate issues critically, independently and creatively as well as to plan and use appropriate methods, undertake advanced tasks within predetermined time frames, and to contribute to the formation of knowledge as well as the ability to evaluate this work	**S2**
CLO4: Analyze, modify and improve the performance of advanced civil engineering systems.	**S2**
CLO5: demonstrate the ability in speech and writing, to report clearly and discuss his conclusions and the knowledge and arguments on which they are based in dialogue with different audiences, both in a national and international context	**C1**
CLO6: Publish at least one conference papers related to the MSc thesis topic.	**C1**

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<tr><td></td><td><table><tr><td>CLO7: Defend MSc Thesis.</td><td>C1</td></tr></table></td></tr>
<tr><td>Student Outcomes related to this Course</td><td>K1. Recognize advanced engineering knowledge, concepts and techniques to identify, interpret and analyze complex and real-life engineering problems.

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.

S2: Investigate scientific research problems independently or through a team work using critical thinking, appropriate techniques , advanced tools, and management principles.

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.</td></tr>
<tr><td>Topics Covered</td><td><table><tr><th>List of Tasks</th><th>Related CLOs</th></tr><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>CLO4</td></tr><tr><td>Writing conclusion and recommendation</td><td>CLO5</td></tr><tr><td>final report and scientific paper evaluation</td><td>CLO6</td></tr><tr><td>Final defense Presentation</td><td>CLO7</td></tr></table></td></tr>
<tr><td>Textbook(s) and Other Required Material</td><td>• Online scientific resources and dependent on the chosen special topic(s)</td></tr>
<tr><td>Grading System</td><td>Pass and Fail system</td></tr>
<tr><td>Instructors</td><td>All faculty involved in teaching and supervise graduate students</td></tr>
<tr><td>Date of Review</td><td>March, 2021</td></tr>
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