

Course	ENGR 41000 – Interdisciplinary Senior Engineering Design I
Cross-listed Course	ME 48700 – Mechanical Engineering Design I
Type of Course	Required – satisfies the capstone senior design I requirement for engineering students
Catalog Description	The first course of a two-semester sequence of senior capstone design. Provides students with experience in the process and practice of mechanical/electrical component/system design from concept through final design. Emphasis on teamwork, project management, oral and written communication, general lectures on issues important to the engineering profession, such as professional and ethical responsibility, the impact of engineering solutions in a global and societal context, and other contemporary issues.
Credits	3
Contact Hours	3
Prerequisite Courses	Consent of instructor
Corequisite Courses	None
Prerequisites by Topics	Senior standing and completion of topics necessary for project
Textbook	None
Course Objectives	To develop capabilities of students to solve real-life problems. Students have to apply knowledge from their previous course work to accomplish projects formulation to prototype evaluation.
Course Outcomes	Students who successfully complete this course will have demonstrated an ability to: <ol style="list-style-type: none">1. Formulate a problem statement. (1, 2)2. Generate solutions (conceptual designs) using brainstorming technique. (1, 2)3. Evaluate conceptual designs using well-defined criteria. (1, 2)4. Obtain a final design including safety, economic, ethical, and engineering standard considerations. (1, 2, 4)5. Function within a team. (5)6. Present his/her work both written and orally. (3)

Lecture Topics	<ol style="list-style-type: none"> 1. Introduction, Capstone Senior Design Guidelines 2. Formulation of problem statement 3. Brainstorming and conceptual designs 4. Evaluation of conceptual designs 5. Detailed design 6. Discussion related to oral presentations 7. Oral presentations
Computer Usage	Medium
Laboratory Experience	None
Design Experience	High
Coordinator	Hosni Abu-Mulaweh, Ph.D.
Date	26 February 2018