GE 105
Introduction to Engineering Design

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General Course Information

Course Description:
GE 105 (Introduction to Engineering Design) is a 2-credit hour (1 weekly lecture, 1 tutorial session and 2 studios) sophomore level course. In addition to exposing students to the engineering profession and to its different categories available in the college, this course aims at introducing the systematic engineering thinking, communication and teamwork dynamics in a design process. During this course the students are divided into teams and are assigned a conceptual design project for which they practice systematic design steps starting from identifying needs and ending by devising a suitable solutions and communicating it. During tutorial sessions, student groups are assisted to practice the design concepts highlighted during lectures on a diverse number of real problems usually treated in previous exams and or projects. Tutorials aim to bring students into a certain level of skills allowing them to use design concepts more in depth for their course project. Moreover, each group of students is requested to provide at least three draft presentations and draft reports about their project progress during the term. This intends to improve their soft skills and prepare them to deliver correctly their final project presentation and report. Students are encouraged to make prototypes of their design and are required to deliver a poster summarizing their project to be exposed in the projects day of the college. Prices are given to the best projects.

Course Structure:
One 50-minute lecture session, one 50-minute tutorial, two 50-minute laboratory sessions per week.

Grading System:

Evaluation Method	Grading Scale
Class work (Quizzes & assignments)	15%
Tutorials	10%
Term Project	35% → 5%: Individual logbook; 5%: Group Poster 10%: Group Report 15%: Presentation
Final Exam	40%
	100%

Course Outcomes (CO): Upon completion of this course you will be able to

1. Recognize the importance of professional, ethical, and legal factors in the engineering profession. [f]
2. Use the engineering design process to define and formulate a design project. [e]

3. Synthesize and critically judge the relevant gathered information to solve open-ended design problems. [c]
4. Identify human factors involved in a design problem. [e]
5. Apply creative techniques to generate and evaluate alternatives concepts and select the preferred solution. [e]
6. Generate detailed drawings of the selected design solution. [c]
7. Deliver efficiently design solutions through professional oral and written communications. [g]
8. Work effectively in teams with full group interaction during a design project. [d]