Mechanical Engineering Dept. Department

Syllabus
ME 416: Design Project II (0-0-2)

Course Catalog Description:

The second part of this capstone design project course is completed in semester following the COOP Training and integrates various components of the curriculum in comprehensive engineering experience so that the basic sciences, mathematics, and engineering sciences which the student has learned in his freshman-to-senior years of study can be applied. It considers design of a complete project or system including establishment of objectives and criteria, formulation of the problem statements, preparation of specifications, consideration of alternative solutions, feasibility considerations, and detailed engineering designs. The design should take into consideration appropriate constraints such as economic factors, safety, reliability, ethics and environmental and social impact. Oral presentation and submission of final written report of the design project are essential requirements for the completion of the course. Students Project Team will work closely with their project adviser and are expected to spend about 6 hours per week /per student on the project.

Course Pre-requisites:

- ME 414: Design Project I

Course Objectives:

1. be able to use design procedures to develop engineering solutions and design concepts considering economical, health and safety.
2. be able to analyze the developed solutions (concepts) and interpret missing information using engineering principles and modify these designs to meet needed specifications and engineering standards
3. be able to work collaboratively in team to manage, plan and execute project and meet its objectives and provide leadership.
4. be able to acquire and apply necessary new knowledge required to complete their design and verify it.
5. be able to proof their design concept through prototyping and test the designed product, assess its performance, and refine it if needed
6. be able to effectively communicate their designs through hand-sketch CAD tools, written reports and oral presentations.

Course Learning Outcomes:

CLO1. 1, 2 and 4

CLO2. 3 and 6

CLO3. 5

CLO4. 1

Learning Resources:

- As this is higly dependant on the nature of projects, students can refer to available standards and codes, patents and articles.

Lecture Assessment Plan:

Assessment Task	Week Due	Weight
meeting attendance	None	5.0%
logbook maintinance	None	5.0%
achiving assigned tasks	None	5.0%
final report	None	50.0%
final presentation	None	30.0%
poster	None	5.0%