BME 4920 – Biomedical Engineering Design II

Course Description

Segment two of the BME senior design sequence. Practicum results in the final engineering design and completion of the design project. Integrated writing course.

Undergraduate level – 3 credit hours.
Offered both face-to-face and online

Course Learning Objectives

Students enrolled in this course will learn to:
1) Gain understanding of the use of engineering tools in design and system improvement process
2) Effectively communicate completed work, in both written and oral formats
3) Define and prioritize objectives for a design project
4) Understand the process of creating and evaluating multiple design alternatives
5) Incorporate appropriate engineering standards in their design project
6) Deliver a working prototype to a client within time and budget constraints
7) Appreciate the roles within multidisciplinary teams
8) Appreciate the impact of engineering solutions in global and societal contexts
9) Develop and deliver a project report and other required documentation (e.g., User Manual)

Course Learning Outcomes

Through successful completion of this course, students will:
1) Understand of the use of engineering tools in design and system improvement process
2) Effectively communicate completed work, in both written and oral formats
3) Define and prioritize objectives for a design project
4) Understand the process of creating and evaluating multiple design alternatives
5) Incorporate appropriate engineering standards in their design project
6) Deliver a working prototype to a client within time and budget constraints
7) Appreciate the roles within multidisciplinary teams
8) Appreciate the impact of engineering solutions in global and societal contexts
9) Develop and deliver a project report and other required documentation (e.g., User Manual)

Tentative Weekly Schedule

Both face-to-face and online versions of this course will follow same tentative weekly schedule

Weeks 1-5	Course introduction, group organization (timeline, logistics), group work (writing assignment #1)
Weeks 6-10	Continued group work (writing assignments 2 and 3); midterm evaluations
Weeks 11-13	Preparation for senior design expo
Week 14	Senior design expo
Week 15	Deliver prototype to client