



Industry BME Capstone I

BIOMEDE 4901.02

Credit Hours:

3.00

Course Levels:

Undergraduate (1000-5000 level)

Course Components:

Lecture

Lab

Course Description:

Serves as the first installment of the Industry BME capstone sequence. Provides students with a foundational understanding of design principles, emphasizing the application of these principles in the context of solving real-world industry challenges. Students will engage in a structured process that includes needs finding, idea generation, and prototyping with a keen focus on industry end-users.

Prerequisites and Co-requisites:

Prereq: BIOMEDE 2001, or permission of instructor

Concur: BIOMEDE 3702

Course Goals / Objectives:

- develop and list engineering specifications from clinical needs; (4)
 - demonstrate engineering design and optimization for a new medical product in a team environment; (c)
 - take a clinical need from idea to drawing and/or prototype using modern engineering tools; (2)
 - demonstrate engineering design & optimization for a new medical product in a team environment; (5)
 - test design performance with respect to at least one primary design requirement and standard (6).
 - deliver a technical presentation & write a technical team report (3)
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Course Topics:

- Design Intro/Team Dynamics
 - Problem Definition/Research
 - Design Functions/Requirements/Constraints
 - Design Standards/Concept Generation/BOM
 - Revision of Design
 - Revision of Concepts
 - Report Discussion
 - Approve Design
 - Project Management/Scrum
 - Design Test/Validation/Collaboration
 - Sprints
 - Team Workshops
 - Prototype Showcase
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Designation:

Required

Selective Elective (1)