THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Industry BME Capstone II

BIOMEDE 4902.02

Credit Hours:
3.00

Course Levels:
Undergraduate (1000-5000 level)

Course Components:
Lecture
Lab

Course Description:
Serves as the second 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 4901.02, and GenEd 1201 or GenEd 2601; or permission of instructor

Course Goals / Objectives:

- develop and list engineering specifications from clinical needs; (4)
- demonstrate engineering design & 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)
- GE Reflctn Booknd LO: Engaged Citiznshp & Intercultural Competency: Studnts consider public health, safety, welfare, global, cultural, social, environmental, & econ factors in applying eng design to produce solutions meeting specified needs.
- GE Reflctn Booknd LO: Personal & Professional Development: Students individually assess and pursue personal professional growth in concert with project requirements and personal career goals
- GE Refl Bkend LO: Engaged Citiznshp & Intercultural Competency: Cultivate Engr Mindset: Studnts develop an engr mindset that demonstrates constant curiosity, makes connections betwn disparate bodies of info, & seeks opportunities to create value
- GE Reflctn Booknd LO: Cultivate Engineering Mindset: Students develop an engineering mindset that demonstrates constant curiosity, makes connections between disparate bodies of information, and seeks opportunities to create value.

Course Topics:

- Sensor Testing/Product Concept Sketches
- Build Iteration #1: Mockup
- Validation Testing #1
- Build Iteration #2
- Validation Testing #2
- Build Iteration #3
- Preparing for Presentations
- Final Presentation/Poster

Designation:

Required
Selective Elective (1)