



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Medical Product Development Capstone II

BIOMEDE 4902.03

Credit Hours:

3.00

Course Levels:

Undergraduate (1000-5000 level)

Course Components:

Lecture

Lab

Course Description:

Second course in a culminating BME design sequence for those enrolled in the BS-MS pathway in Medical Product Development (MPD). Introduction to the Biodesign process, focused on opportunity definition, market analysis, and user-centered co-design in collaboration with clinical and corporate partners. Professional and technical skills related to biomedical industries are also developed.

Prerequisites and Co-requisites:

Prereq: BIOMEDE 4901.03 and enrollment in BME MPD program, 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 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)
- GE Reflectn 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 Reflectn Booknd LO: Personal & Professional Development: Students individually assess and pursue personal professional growth in concert with project requirements and personal career goals.
- GE Repl 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 Reflectn 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:

- Course Structure
- BioDesign
- Brainstorming and Ideation
- Initial Concept Selection
- Concept Exploration and Testing
- Status Updates w/ faculty mentors
- Formal presentations
- Team Workshops
- Client Meeting
- Designer Showcase

Designation:

Required

Selective Elective (1)