



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Medical Product Development Capstone I

BIOMEDE 4901.03

Credit Hours:

3.00

Course Levels:

Undergraduate (1000-5000 level)

Course Components:

Lecture
Lab

Course Description:

First 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 2001 and enrollment in BME MPD program, 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)
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Course Topics:

- Welcome/Overview, MS Presentations
 - Project Descriptions, Empathy Workshop
 - Secondary Research - Library Workshop
 - Strengths Workshop
 - Client Relations & Project Management
 - Biodesign Process & Needs Exploration
 - Defining Opportunity
 - Building Empathy with Users
 - Market Analysis
 - Effective Presentations & Constructive Feedback
 - Translating Opportunity to Specifications
 - Client Meetings, Site Visits, Team Workshops
 - Team Presentations/Reports
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Designation:

Required

Selective Elective ⁽¹⁾