



**THE OHIO STATE UNIVERSITY**  
COLLEGE OF ENGINEERING

# Product Design Engineering for Entrepreneurs

## MECHENG 5682.02

**Credit Hours:**

3.00

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**Course Levels:**

Undergraduate (1000-5000 level)

Graduate (5000-8000 level)

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**Course Components:**

Lecture

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**Course Description:**

An engineering perspective on product development for non-engineering students in the Entrepreneurship & Innovation minor. This course covers fundamentals of the product design process, from user research to concept creation to final implementation and manufacturing. Not open to students in the College of Engineering, does not count as an engineering Technical Elective.

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**Prerequisites and Co-requisites:**

Prereq: Enrollment in a major outside of the College of Engineering, and enrollment in the Entrepreneurship & Innovation minor.

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**Course Goals / Objectives:**

- Provide the student with a thorough understanding of the entire product design process: from the initial inception of a concept based on user needs through system and detail design to product fabrication.
  - Provide the background necessary to critically analyze products and product concepts
  - Understand the role that engineered products play in our culture
  - Exposure to the local design and entrepreneurship community through guest speakers
  - Students will gain an appreciation for the roles played by disciplines other than engineering in the development of products, such as industrial design and marketing.
  - Students will understand product system architecture, and how it can enable or impede rapid product evolution and the development of flexible product portfolios.
  - Students will understand the basic tenets of design for assembly, disassembly and manufacturing.
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**Course Topics:**

- Introduction
  - Context & Constraints
  - Product Opportunities Discussion: Lecture 2 Articles
  - Video - IDEO
  - Distilling Information
  - Design Evolution
  - Movie: Design + Thinking and Product Benchmarking
  - Product Portfolios
  - Product architecture
  - Designing for Manufacture & Assembly
  - Processes and Materials
  - Designing for Humans
  - Design Project 2 work and prototyping
  - Several guest speakers
  - Two field trips to local design firms
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**Designation:**

Elective