ME General Capstone

MECHENG 4900 – SP23

Dan Wisniewski, Lecturer
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Outline

Background

Class Goals

Projects
Background
Experience

The Ohio State University
B.S. in Mechanical Engineering
M.S. in ISE - Focus on Product Design

Priority Designs  11 yrs
Industries
- Sporting Goods
- Home Goods
- Medical Devices
- Industrial/Military

Expertise
- Advanced CAD
- Mechanisms
- Conceptualization/Brainstorming
- Design for Manufacturing
- Project Management
- Marketing Strategy
- UI/UX
Experience

D&W Elements

Founded and own an e-commerce business; posters, stickers, apparel and greeting cards

dandwelements.com
Class Goals
Class Overview

Project Selection

Brainstorming & Conceptualization

Concept Refinement

Prototyping

Project Design and Build

SP22

AU22
Goals

- Students will gain an understanding of the design process and how to balance constraints.
- Focus on your visual communication skills. (presentations and portfolios)
- Improve on storytelling and communicating your ideas.
- Create a comfortable and safe speaking environment
- Develop professional and project management skills and how it applies to the design process
- Help the students grow as engineers, professionals and people.
Design Process

You will be able to understand the following, at a deep level:

Exploration & Discovery
- The problem you're trying to solve

Design & Development
- The needs of everyone who interacts with or depends on the potential solution for that problem

Implementation & Production
- How the design decisions you make affect how the product is manufactured
Visual Communication
Storytelling and Communication

BIG IDEA

WHAT

SETTING

CHARACTERS

CONFLICT

RESOLUTION

WHY

HOW
Project Management

- Project Planning
- Time Management
- Working with a Team
- Assigning Tasks
- Budget Tracking
Projects
Swimming Pace “Robot”

How can you visually show swimmers their pace during training?
Swimming Pace “Robot”
Other Projects

Soccer Ball Training Launcher

Pipe Inspection Robot

Automated Plant Growing System

Baseball Pitcher Training Net

Bicycle Pedal Assist

Coffee Alarm Clock
Thank You

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