

# What is Capstone

# What we do in Capstone

- Devise a new biomedical product
  - Mostly done in Capstone I
- Develop and execute a project to fabricate and test a prototype of this product
  - Started in Capstone I
  - but mostly done in Capstone II

# Create a new biomedical product

- Define Customers interested in the Product
- Determine your Technical Advisor/Customer
- Define Needs of Customers for Product
  - Your Team proposes
  - Your Team negotiates with your Customer
- Define Design for Product
  - Your Team proposes
  - Your Team negotiates with your Customer

# Customers and Customer Needs

- Who would use the product
  - Market Research
- What features should the product support and how should it work
  - Market Research
  - Technical Research

# Design of the Product

- Translate Needs of the product into possible designs alternatives
- Evaluate alternatives
- Develop a detailed design and a set of requirements

# Develop a Project to Fabricate and Test the Product

- Define the design responsibilities of each team member to develop the product
  - Electronics
  - Programming
  - Materials
  - Mechanics
  - Etc.
- Define a schedule of tasks to complete the project
  - Use a program like Microsoft project to track each task

# Define a Project Plan

- Define the tasks to design, procure, build, and test that the product meets the customer needs
- Based on the expertise of the team, define who will perform each of the tasks
- Develop a plan and schedule to execute these tasks
- Meet with your project manager advisor weekly
- Meet with your technical advisor/customer weekly

# The Plan

- Designing
  - Document the design to assure that it meets the customer needs
- Procuring
  - Find suppliers for the materials needed to build the product
  - Potentially, the downfall of a project
- Building the product
  - Follow the documentation to build the product
  - Match this task with the team members' expertise
- Testing the product to show that it meets the customer needs
  - Document how the product will be tested
  - Update the design if tests fail



# Execute the Plan

- Follow the plan
  - Project status meetings
- Manage the project problems
  - Be prepared to deal with the unknowns
  - The more detailed the design the easier the project