

Capstone Design Introduction

Summer 2021

You are part of an experiment to create the most high-profile, rewarding, expensive, hard-working course at Georgia Tech and a model for design education at engineering schools worldwide

<http://mecapstone.gatech.edu/students>

(for lecture slides, links, etc.)

What is Capstone Design all about?

Goals for the course:

1. Identify an unmet need

WHAT'S THE PROBLEM?

2. Invent/design something useful

CREATIVITY, INNOVATION

3. Apply your analytical knowledge to design it

ANALYTICAL SKILLS

4. Prove it will work (Simulate it, build it, test it, virtually, physically)

MODELING AND HANDS-ON

5. Document your process (reports, presentations)

6. Demonstrate it at the Expo

7. Give to sponsor for use or patent it and start company

Project Types

1. External company sponsored
2. Faculty Research Lab
3. Your own idea!
 - Check out currently available projects (**more are being added**) here: <https://projects.gatech.edu/> (Use your GT Credentials to LOGIN on top right)
 - For guidance on how to use the online portal, see this: <http://mecapstone.gatech.edu/howto>
 - Examples of past projects are here (use the 'Project Major' filters to select ME): http://mecapstone.gatech.edu/past_projects

Elements of a Good Student Project

- What's the problem?
 - NOT “We're going to design a better mousetrap”
- Creative/Innovative - not just an assembly of off-the-shelf parts (room for novelty)
- Lends itself to analysis
- Sufficient scope for senior design
- Team should have or acquire the skills to complete the project.
- Produce a proof-of-concept and learn from it
 - Design revisions
 - Validate design decisions

How to form a team?

- Team sizes are 5-6 students per team.
- Find team members
 - Using Piazza:
<https://piazza.com/class/koj065opkb1b9?cid=5#>
 - Based on project interest on
<https://capstone.gatech.edu/marketplace>, **or**
 - Based on skills and experience on
<https://capstone.gatech.edu/marketplace>
 - Self-identified/assembled during lab meeting on 18th May.

Important Dates for Students

- Pre-semester activities:
 - Submit start-of-semester survey on CANVAS
 - Create profile on projects.gatech.edu and enter skills/experience
 - Soft deadline to propose your own idea for premium pitch opportunity on capstone.gatech.edu/marketplace
- 17th May (First Day/Studio of Class)
 - 5:00pm at <http://mecapstone.gatech.edu/studio>
 - Course Introduction and Overview
- 18th May (First Lab of Class)
 - 12:30pm at <https://mecapstone.gatech.edu/l01>
 - Learn about Industry Sponsored Projects
 - Propose your own idea, if any
 - 11:59pm: **DEADLINE** to form groups and submit your own project idea on capstone.gatech.edu/marketplace
- 19th May (Second Lab of Class)
 - 5:00pm at <http://mecapstone.gatech.edu/studio>
 - Studio lecture on User Needs, Design Specifications, etc.
 - 8:00pm **DEADLINE** to submit bids for sponsored projects on capstone.gatech.edu/marketplace (*you will be required to work on ANY project that your team bids on if it is assigned*)
- 20th May (Second Lab of Class)
 - 12:30pm at <https://mecapstone.gatech.edu/l01>
 - Projects assigned to teams