

Capstone Design ME 4182

Pre-Semester Overview: Summer 2024

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WELCOME!

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

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

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 sponsored
3. Your idea!

- For types #1 and #2, check out currently available projects (more are being added) here: <https://projects.gatech.edu/>
- For guidance on how to use the online portal, see this: <http://mecapstone.gatech.edu/howto>
- Examples of past projects are here: https://capstone.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
- Total 29 ME and 1 MSE student as of May 9
- Find team members
 - Based on project interest or skills and experience on <https://projects.gatech.edu/>
 - Via class-wide chat on MS Teams <https://mecapstone.gatech.edu/support>
 - Self-identified/assembled during lab meeting on May 14 in **Klaus #1447**

How are teams matched to projects?

- Two avenues
 - Bid for a sponsored project
 - Propose your own project
- Teams are matched to projects and to faculty (see the FAQ [here](#))
- Even if you plan on bidding for sponsored projects, should have a “Plan B (C, and D)” project idea of your own

Important Dates for Students

- Pre-semester activities:
 - Create a profile on <https://projects.gatech.edu/> and enter skills/experience
 - Introduce yourself on MS Teams for the class at <https://projects.gatech.edu/>
 - Soft deadline to propose your own idea for premium pitch opportunity on <https://projects.gatech.edu/>
- 13th May (First Day/Studio of Class)
 - 5:00pm in KLAUS #1447
 - Course Introduction and Overview
- 14th May (First Lab of Class)
 - 12:30pm in KLAUS #1447
 - Learn about Industry Sponsored Projects
 - Propose your own idea, if any
 - 11:59pm: DEADLINE to form groups and submit your own project idea on <https://projects.gatech.edu/>
- 15th May (Second Studio of Class)
 - 5:00pm in KLAUS #1447
 - Studio lecture on User Needs, Design Specifications, etc.
 - 8:00pm DEADLINE to submit bids for sponsored projects on <https://mecapstone.gatech.edu/marketplace> (you will be required to work on ANY project that your team bids on if it is assigned)
- 16th May (Second Lab of Class)
 - 12:30pm in KLAUS #1447
 - Projects assigned to teams