Capstone Design
ME 4182

Pre-Semester Overview: Summer 2023

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Georgia Tech

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

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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

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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

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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 31 ME students as of May 11

- 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 16 in **Klaus #1447**

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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

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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/
- 15th May (First Day/Studio of Class)
  - 5:00pm in KLAUS #1447
  - Course Introduction and Overview
- 16th 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/
- 17th 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)
- 18th May (Second Lab of Class)
  - 12:30pm in KLAUS #1447
  - Projects assigned to teams

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