

Capstone Design

ME/MSE/ID/BME/ECE

Pre-Semester Overview: Fall 2023

Dr. Amit Jariwala

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 4-6 students per team
- Total 246 students as of August 15
 - 139 MEs and 25 ECEs in monodisciplinary Capstone Design
 - 28 MEs, 10 IDs, 1 MSE, 37 ECE, 6 BME in Interdisciplinary Capstone Design
- Do NOT worry about swapping your registration from monodisciplinary capstone to interdisciplinary (or vice versa) during week #1. Your registration will be swapped automatically (if needed) after your teams are assigned projects during week #2
- 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 August 23 in **Student Success Center Press Rooms A/B**

How are teams matched to projects?

- Review the Flowchart here:

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

- Teams are matched to projects and then to faculty advisors
- Even if you plan on bidding for sponsored projects, you should have a “Plan B (C, and D)” project idea of your own
- See additional FAQ here: <https://mecapstone.gatech.edu/faq>

REMINDERS

1. Form your team ASAP!
 - Past students suggest forming **diverse** teams based on **complementary skills**
 - Visit <https://projects.gatech.edu/> to see the roster and find team members.
 - You may also use the MS Teams "[Capstone Design Support Network- Fall 2023](#)" to chat with other students in the class.
2. ME, ID, ECE, and MSE students are to attend 1st Studio on Monday, August 21 at 12:30 pm in IC #103
3. Attend the 1st Lab session on Wednesday, August 23 at 12:30 pm in **Student Success Center Press Room A & B** with **your project ideas** (*if any*). You will only have this session as an interactive opportunity to present your project ideas to the class!