Multi-disciplinary Capstone Design Info/Mixer Session
Through GT4823 and Special Problems

04/03/2018
GTMI Auditorium at 11:00am
Objective for today

• Learn about how to get course credit for participating on a capstone design team (two mechanisms)
  • GT4823 for Capstone students
    • Syllabus & Schedule
    • Deliverables, grading, etc.
    • How to form teams
    • How to pick a project
  • Special Problems Courses for Non-capstone students

• NOT necessarily form teams
• NOT necessarily identify a project

• Next steps:
  • Register for a class
    • School specific Capstone Design section of GT4823 if you are a senior in ME, BME, MSE or ECE
    • Special problems course, ME4903 if you are not any of the above
  • Check [http://projects.gatech.edu](http://projects.gatech.edu) for new projects or upload your idea
What is Capstone Design all about?

Teams apply a systematic design process to real multidisciplinary problems.
A team structure is used to design a solution that performs the functions established by a project description.

• Course Syllabus: https://goo.gl/vecEfv

Goals for Capstone Design

1. Invent/design something useful
2. Apply your analytical knowledge to design it
3. Build it, test it (physically & virtually)
4. Document everything (lab notebooks, reports, presentations)
5. Demonstrate it at the Design Expo
6. Give to sponsor for use or patent it and start company
Tuesday April 24, 4:30pm, McCamish Pavilion
Why GT4823?

• Cool “real-world” projects
• Greater chance of winning at the expo
• Employers are looking for cross-disciplinary collaborative skills
GT4823 Lectures

• **Different Schools have different lecture requirements**
  
  • GT4823 – ME and MSE has lectures on every T/Th from 3:00pm – 3:50pm
  
  • GT4823 – BME has lectures concurrent with the BMED 4602 lectures
  
  • GT4823 – ECE has lectures concurrent with the ECE4012 lectures
  
  • ME4182 – ECE for Junior and Senior ECE students have to attend ME4182 lectures

• First common lecture and project pitch session on 21st August, 2018 at 3pm in Architecture (East) 123
GT4823 Studio meetings

• Meet with your **primary** instructor at least once per week for 30 – 180 minutes during the scheduled studio times

• Studios are scheduled for meeting times with your instructor, team and for progress presentations.

• Coordinate with your primary instructor for weekly mentorship, presenting deliverables, grading etc.
Special Problems Course Credit

• A route for non-capstone students to participate in capstone design teams
• Identify a design project of interest
  • Projects.gatech.edu (final team decisions made end of first week of semester, see below First Week of Classes)
  • Student Mixers (mid-term, beginning of semester)
  • Social Contacts
• Each Design Project / Team has a faculty advisor
• Request permit for Special Problems Course credit from the faculty advisor for the design project
• Special Problems Course credit in the ‘home’ school for the project
  • 1 - 3 credit hours available depending on the project and individual student effort
Timeline

- Project Assignment
- Choose a team
- Choose a topic
- Understand the problem
- Market research
- Patent study
- Design concepts

- 1st report
- 1st presentation

- 2nd report
- 2nd presentation

- Final report
- Final presentation

- Fall/Spring Semesters [16 wks]

- First Report
- Choose Design
- Physical Mockup
- Analyses
- Calculations
- Drawings

- Second Report
- Design validation
- Prototyping
- Testing
- CAD
- FEA

- Final Report
- Manufacturing

- Capstone Design Expo
First Week of Class (Fall ‘18)

• 21st August – Sponsors pitch projects during first lecture
• 23rd August – Students form teams in studios (Team size of 4-6 students)
• 25th August – Teams submit bids for projects by 11:59pm
• 27th August – Projects are awarded to teams

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• 4th December – Capstone Design Expo
How to form teams?

• Team sizes are 4 – 6 students per team
• At least one team member from outside of your school to qualify for a GT4823 team

• When?
  • Find team members today
  OR
  • At the beginning of semester mixer immediately after the first GT4823 lecture
  OR
  • Through projects.gatech.edu
Elements of a Good Capstone Design Project

1. Creative/Innovative - not just an assembly of off-the-shelf parts
2. Lends itself to analysis
3. Validate your design and learn from it
   • Prototype revisions
   • Design changes
4. Sufficient scope for senior design
5. Team must have the skills to complete the project or be prepared to learn them.
Projects types

• Industrial (big and small)
  • Teams bid for the projects on http://projects.gatech.edu/

• Faculty Research Lab
  • Teams bid for the projects on http://projects.gatech.edu/

• Your own crazy idea!
  • Submit your project on http://projects.gatech.edu/
Projects.gatech.edu (Demo)

• How to login?
• How to submit a project?
• How to form a team?
• How to bid for a project?
Group Activity for Today

• Pick 5 sentences that you do best
  • Share 2 of the above with your group

• Share one misconception about your major with your group
Takeaways/Reminders

1. Register for GT4823-<SCHOOL> or Special Problems through the projects ‘home school’

2. RSVP to receive this presentation via email
   • [http://capstone.gatech.edu/rsvp/](http://capstone.gatech.edu/rsvp/)

3. Check [http://projects.gatech.edu/](http://projects.gatech.edu/)
   • Learn about projects and find team members with similar interests
   • Submit interesting multidisciplinary project ideas that you would like to pursue for Capstone/Senior Design

4. Attend the first GT4823 Tuesday’s lecture, the projects’ pitch session at 3:00pm in Architecture (East) 123 on 21st August, 2018

5. Visit the Expo on 24th April, 2018 at 4:30pm in McCamish Pavilion