

# CAPSTONE DESIGN COURSE

## SURVIVAL GUIDE

FOR STUDENTS. BY STUDENTS.



# Foreword

Congratulations on making it to the Capstone Design Course! We know you've had a long, difficult journey through your undergraduate career at Georgia Tech, and that you're ready to get out to the real world. That's why we've assembled the Capstone Design Course Survival Guide, so that you and your team can get the most out of the course.

The following pages are full of strategies and references that we've seen used successfully in past semesters - and we've tried to keep it short and sweet for your convenience!

So welcome, future engineers, designers, and innovators! We'll be rooting for you!



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# Tools at Your Disposal

The Capstone Design Course is a test of everything you've learned during your academic career, but that doesn't mean you have to do it alone. Georgia Tech provides a wide variety of resources to help you succeed.



## Information

*When you gotta know, you gotta know. These are the places to find out more specific details about the course, deadlines, and policies.*

- Course Website, [www.mecapstone.gatech.edu](http://www.mecapstone.gatech.edu)
- Project Marketplace, [www.projects.gatech.edu](http://www.projects.gatech.edu)
- Drafting Guide, <https://tinyurl.com/GTRI-draft>
- About the Expo, [www.expo.gatech.edu](http://www.expo.gatech.edu)



## Prototyping & Model Building

*Whether you're making proof-of-concept prototypes or your final Expo demo, the people staffing these fabrication labs and makerspaces can help you get it done.*

- Invention Studio, [www.inventionstudio.gatech.edu](http://www.inventionstudio.gatech.edu)
- Montgomery Machining Mall, MRDC 2nd Floor
- ME Electronics Lab, <http://tinyurl.com/ME-ELab>
- Aero Maker Space, Weber Building - 2nd Floor Lobby
- Digital Fabrication Lab, <http://tinyurl.com/ID-DFL>



## Large Format Printing

*A big project calls for a big presentation. These places will come in handy towards the end of the semester, when you've got to make a poster for your Expo showing.*



FedEx Print Services, 100 Peachtree St NW

Multimedia Studio, Library Basement

Paper & Clay, 3rd Floor Student Center



## Testing & Evaluation

*Have to learn more about your materials before you make a smart design decision? There are a few labs on campus who can help you get the data you need.*



Capstone Equipment Library, See Clint Rinehart

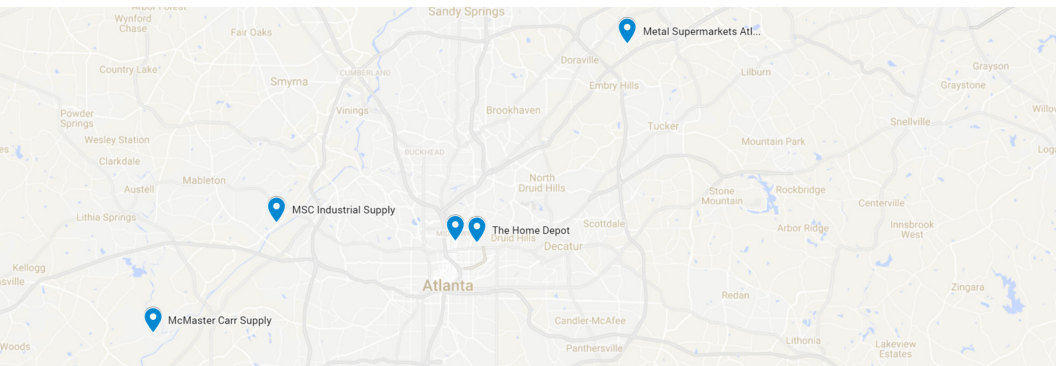
The MILL, Love Building, Rooms 176 and 150

MPRL Lab, [www.mpml.gatech.edu/](http://www.mpml.gatech.edu/)



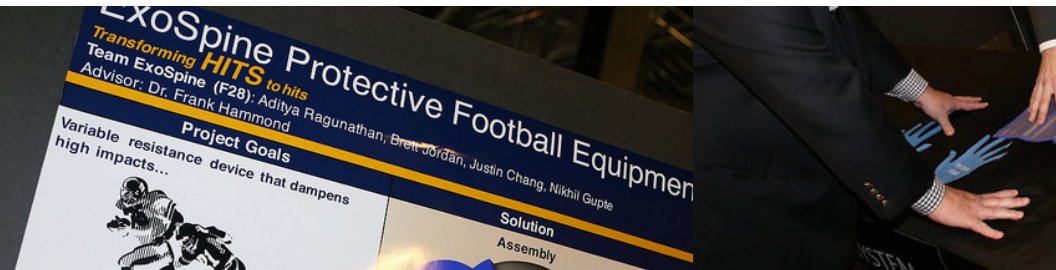
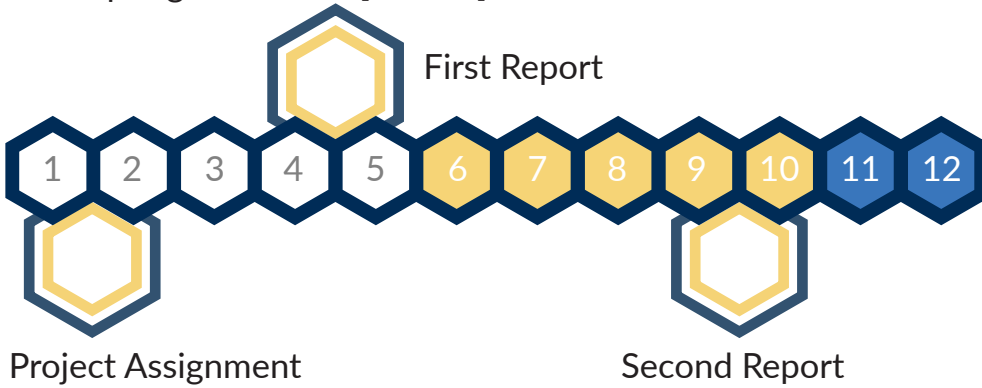
## Materials Suppliers

*Atlanta has amazing resources for people who need to make something. These stores will help you get last minute supplies, and they're only a car ride away!*

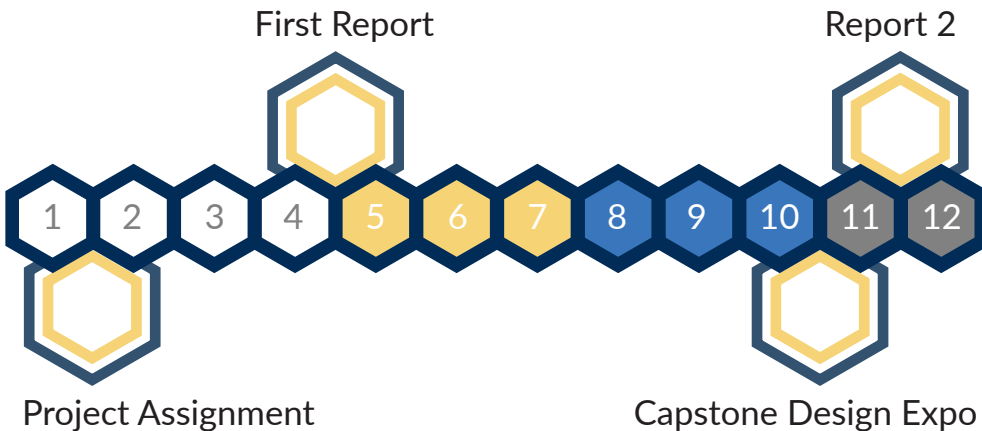


# Tentative Timelines

Fall/Spring Semesters [16 wks]



Summer Semesters [ 12 wks]





## Legend



*Research & Requirements*



*Conceptual Design*



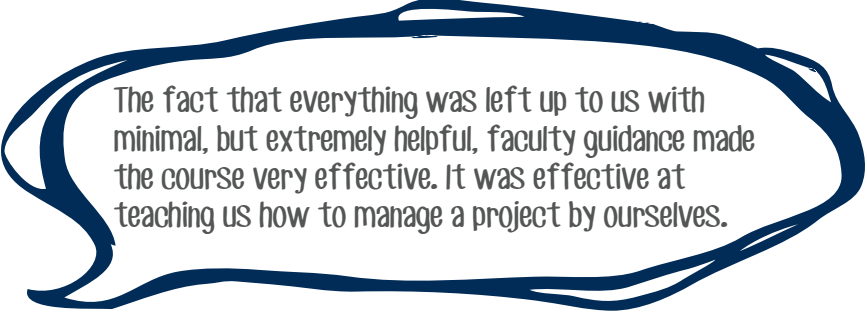
*Prototyping & Analysis*



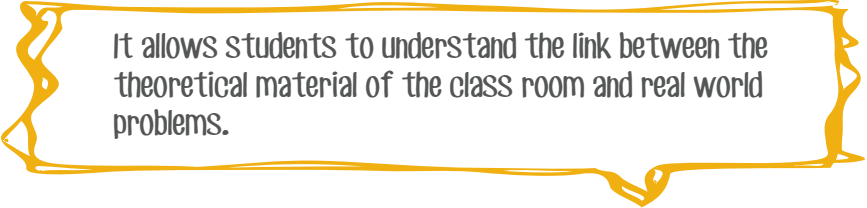
*Deliverable*

# Benefits of Capstone Design Course

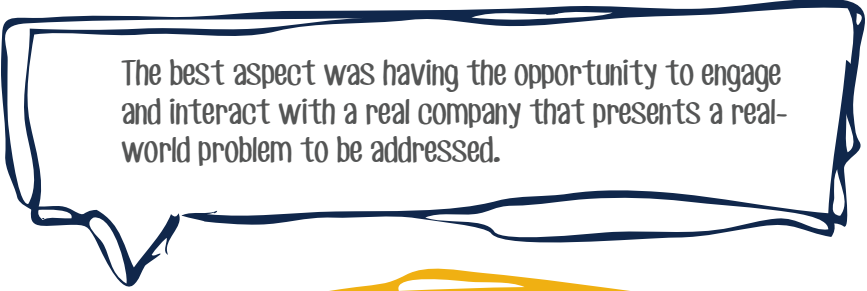
If Capstone sounds like a lot of work, that's because it is. No sugar coating it. But it's worth it! Here are a few of the things we loved about the course!



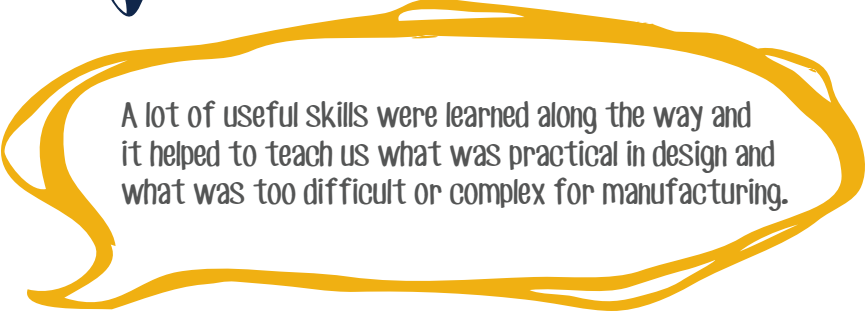
The fact that everything was left up to us with minimal, but extremely helpful, faculty guidance made the course very effective. It was effective at teaching us how to manage a project by ourselves.



It allows students to understand the link between the theoretical material of the class room and real world problems.



The best aspect was having the opportunity to engage and interact with a real company that presents a real-world problem to be addressed.



A lot of useful skills were learned along the way and it helped to teach us what was practical in design and what was too difficult or complex for manufacturing.



# Your Team

You'll have 4-6 members of your capstone team. They'll see you at your best, they'll see you at your worst. Below we've defined some highly recommended roles for you and your teammates - just to make sure that you get the most out of your experience.



Each role has a brief description of their responsibilities, list of skills that are good matches for the role, as well as some procedures, tips, and tricks that will help you help your team.

# Jack-of-All-Trades

You've heard the term "there is no I in team". This applies here. Every person on your team needs to pull their own weight. Everyone researches, everyone ideates, and everyone writes the report.

## Responsibilities:

- *Being a team player*
- *Communicating with team*
- *Coordinating with team*
- *Evenly sharing workload*

## Skills you should have:

- *Technical Writing*
- *Engineering Analysis*
- *Prototyping*
- *Interneting in general*



## Tips and Tricks:

- *Communication is the most important part of a good capstone. Set up a good method for reaching each other ASAP.*

# Sponsor Liaison

Every team needs a point of contact; this time, it's you! If you are the Sponsor Liason for your team, you'll be coordinating meetings, correspondence, and sharing files with your project sponsor.

## Responsibilities:

- *Monitoring sponsor needs/requests*
- *Managing & facilitating meetings*
- *Identifying communication issues*
- *Relaying issues to DDI*

## Skills you should have:

- *Professional Writing Voice*
- *Professional Attitude*
- *Ability to Schedule*
- *Ability to Stick to a Schedule*



## Tips and Tricks:

- *You and your team should be meeting with your Technical Liaison at least once a week. If you aren't, you need to let your section instructor and the DDI know.*
- *Communication is a two way street. If your Liaison is unresponsive to your attempts to contact them OR is unclear about their expectations for the project, request the DDI to coerce them to get on top of their game.*

# Project Manager

If you're the project manager, that means that you're the one making sure that everyone does what they need to do, when they need to do it. Just try not to let it go to your head.

## Responsibilities:

- *Create reasonable work schedules*
- *Motivate team to meet deadlines*
- *Adjust schedule to account for delays*
- *Keep sponsors aware of project timelines*

## Skills you should have:

- *Organized*
- *Prior project leadership experience*
- *Experience with project scheduling*
- *Understanding of team skill sets*



## Tips and Tricks:

- *To keep track of schedules/deliverables, you can use project management tools like Planner app on MS Teams.*
- *Make sure that you can give status updates to the people who need them most - your instructors and your technical mentor. When the schedule looks like it's going to change, let the Sponsor Liaison know!*

# Expo Liaison

Every performance needs a director. As the Expo Liaison, you play the part! You're in charge of everything Expo, from registration to display design.

## Responsibilities:

- *Register team up for the Expo*
- *Display setup/teardown*
- *Curate & create Expo display*
- *Coordinate team participation*

## Skills you should have:

- *An eye for presentation*
- *Communication*
- *Some form of transport for setup*



## Tips and Tricks:

- *Don't forget to register your team for the capstone expo! Registration opens a month after the semester starts, and you'll find the form here: <http://expo.gatech.edu/>*
- *The capstone design expo coordinator is your best friend. If you're unclear about how to setup, you can email [expo@capstone.gatech.edu](mailto:expo@capstone.gatech.edu).*

# Finance Manager

Dollar dollar bill, y'all. If you're the Finance Manager, you'll be controlling your team's project budget and taking note of team purchases.

## Responsibilities:

- *Tracking purchases of supplies*
- *Recording who made the purchases*
- *Cataloging receipts*
- *Submit team reimbursement form*

## Skills you should have:

- *Excel*
- *A love of numbers*
- *Receipt Cataloging*
- *Meticulous attention to detail*



## Tips and Tricks:

- *The full guide of the reimbursement process is here: <http://tinyurl.com/ME-Repay>.*
- *Keep the original copy of all itemized receipts.*
- *Only one person will get reimbursed, so you should keep track of who spent what!*
- *You'll be distributing the money at the end of the semester.*

# Content Manager

They say a picture is worth a thousand words - and they're right. Nothing is worse than showing up to the Capstone Expo with a pictureless poster. Luckily, you've got the Content Manager!

## Responsibilities:

- *Taking pictures of the process*
- *Scan and store drawings, CAD*
- *Have assets at the ready*

## Skills you should have:

- *Naturally takes a LOT of Pictures*
- *Strong file organizer*
- *An eye for presentation*
- *A scanner - or a friend with one*



## Tips and Tricks:

- *Document progress of any type as you make it. Whenever you need them, your assets will already be there!*
- *It's always better to take more pictures than not enough pictures. You can always whittle them down later. Same goes for videos.*
- *Action shots are very, very impactful as presentation images.*

# About the Capstone Design Expo

Since 2008, crowds of people have flocked to the Capstone Design Expo. To them, it's a neat thing to see. To those presenting, it's a looming deadline. Here's some helpful tips to survive the Expo.

## Look on the bright side!

*If your team impresses the judges, you could win up to \$1000, and some fancy trophies. Plus, there's free food for you and your team!*

## Dress for success.

*Whatever your version of success looks like, own it. If you feel like that's business formal, grab your tie! If you feel like that's making custom matching t-shirts for your team, go ahead and order them. Just remember to keep it neat and relatively professional. Oh, and to wear comfortable shoes. You'll be doing a lot of walking.*

## Make a good impression.

*Looking the part is only half of the challenge. Judges can be from any background or discipline (including non-technical). Sometimes they're even kids! Regardless of their technical prowess, they've got to understand your project.*

*When you're designing your display, remember that you'll be evaluated on the following aspects: creativity, utility, quality of analysis, proof of function, and good communication.*



