

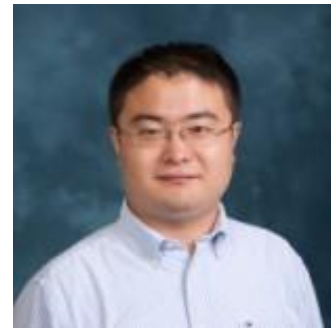
Mechanical and Aerospace Engineering

- **Welcome!**

Professor Assimina Pelegri
MAE Department Chair &
Course Coordinator



Professor Xi Gu
Course Coordinator



Mechanical and Aerospace Engineering

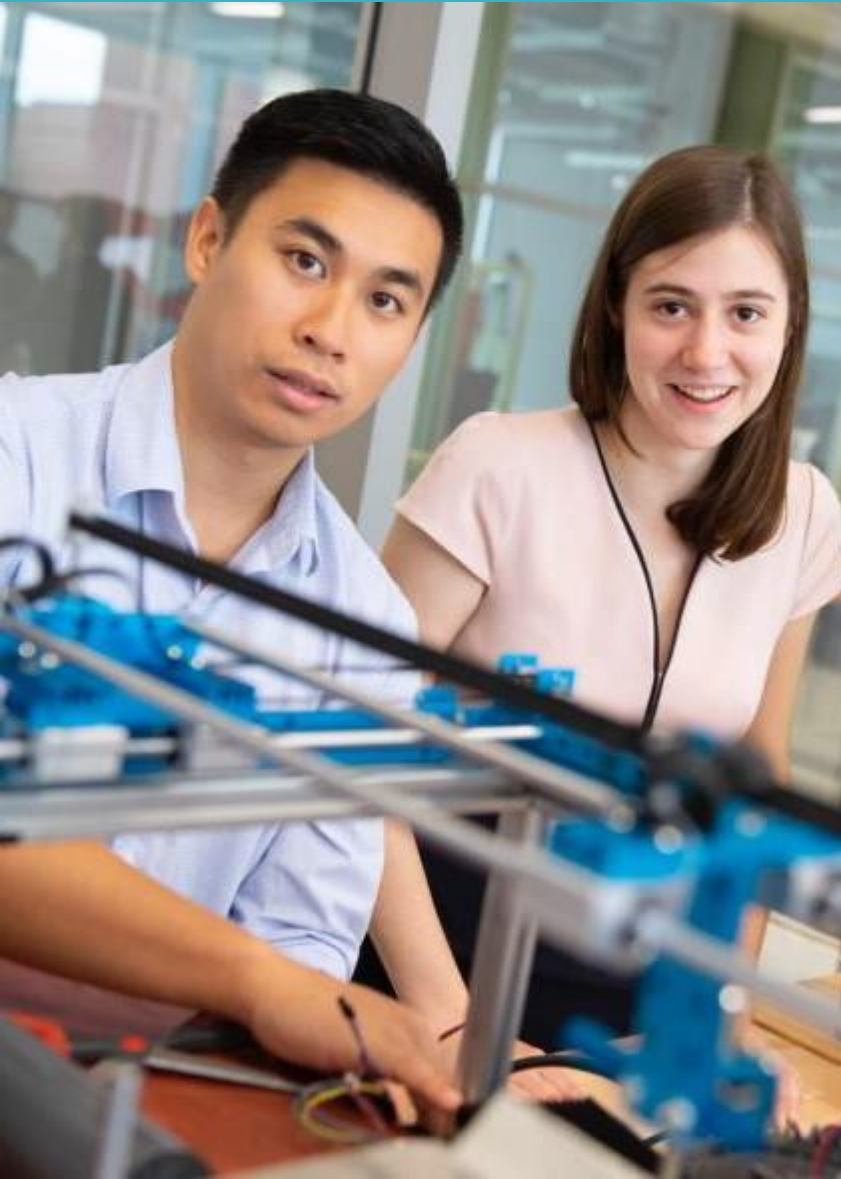
Approaching Senior Design What to Expect

Junior Class Info Session

650:467/468 - Design and Manufacturing I & II

650:487/488 – Aerospace Engineering Project I & II

Senior Design Projects at Rutgers





Senior Design...

■ Relevant and Impactful

- Prepare to innovate transformative solutions that make the world a better place

■ A Path to Professional Success

- Senior Designs are part of your “portfolio”
- Videos, presentations and elevator pitch



Prerequisites

650:312 Fluids

650:342 Design of mechanical Components
(prereq: 291, 388)

650:350 MAE Measurements

60:351 Thermodynamics

Registration

Two step registration

Starting this week

- ME students (650) register in 650:467
- AE students (021) register in 650:487

Starting from early May

- Forming groups, selecting projects
- The process will continue until August
- Formed groups will be registered to specific sections in September



Groups

650:467 ME

Can have only mechanical engineering students

650:487 AE

Can have aerospace students and one or 2 mechanical (priority of the groups forming goes to aerospace)

Projects

Projects may be offered

- Professors

- Companies

professor will indicate to you if your project is industry supported

- Groups

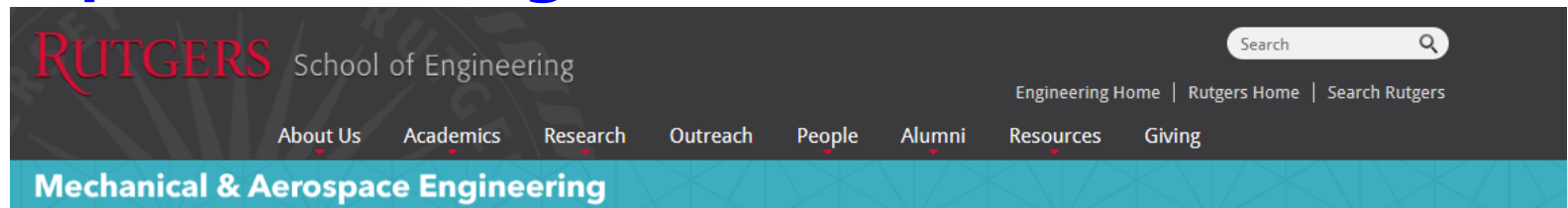
you have to solicit a professor to work w/you



Where can I find a project?

**Will be Updated
in early May**

■ <https://mae.rutgers.edu/capstone-design-project>



Click to view [2022 Senior Projects >>](#)



Home >

Capstone Design Project

The culmination of every Rutgers MAE student's undergraduate academic career is the Senior Design Capstone Project. All that classroom learning gets put to real-life use as small groups work under one of our distinguished faculty members to design and build a device to accomplish a preset list of goals. Students present their projects in April/May of each year, often on Rutgers Day. Past projects have included a mechanical fish, unmanned aerial, ground, and naval vehicles, power generators, and so much more.

During this project, students have the opportunity to work with industry members as well as our faculty, gaining experience in real-world engineering. Many of these projects can lead to new technologies or other innovations outside of academia and they help our students transition to life after graduation.

Sponsor a Senior Design Project

Academic Year 2022-23

Mechanical Engineering Projects for 2022-2023 (650:467/8)

Aerospace Engineering Projects for 2022-2023(650:487/8)

Student Expertise

Student Expertise

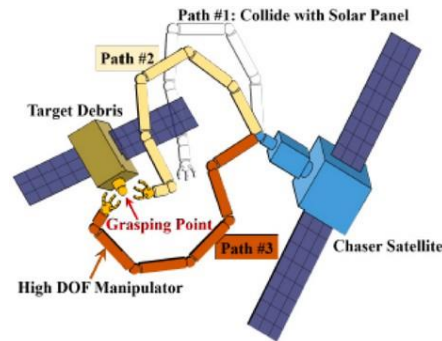
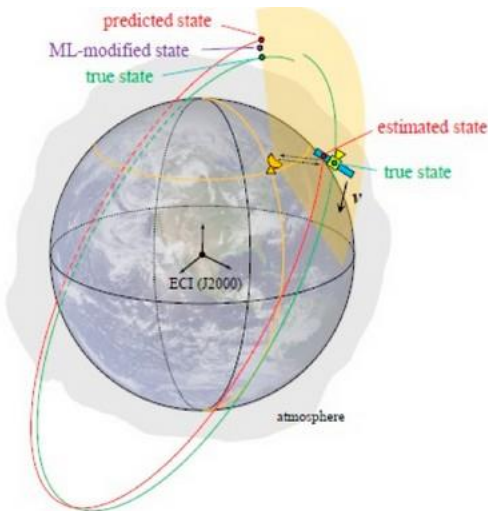
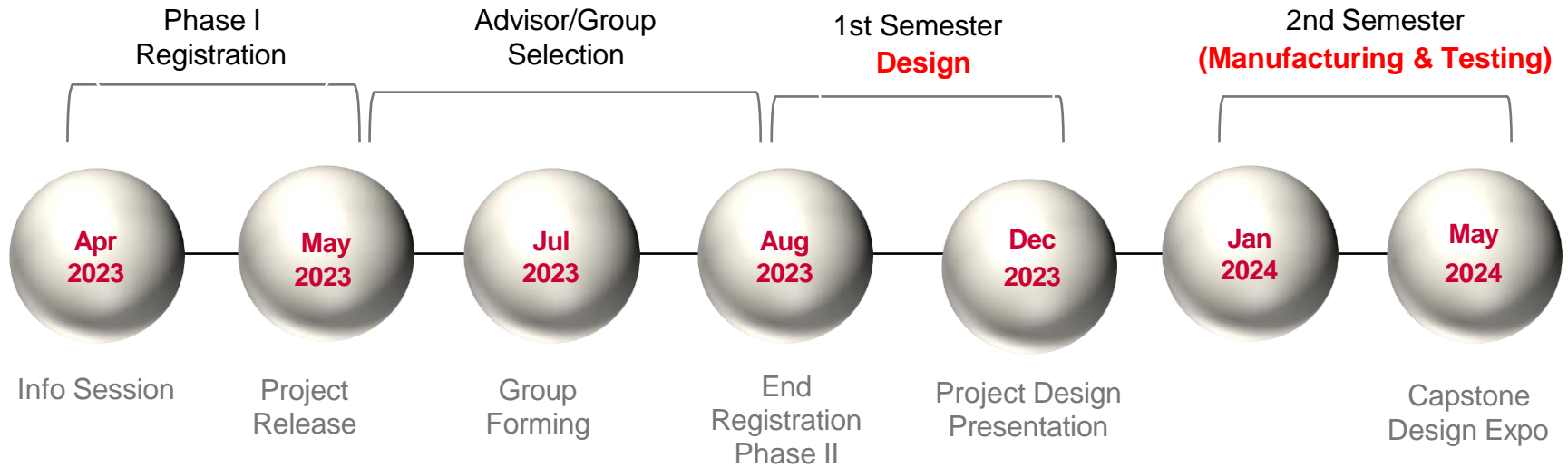
	None	Beginner	Intermediate	Serious Hobbyist	Professional
Design	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Analysis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hand Tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Machining (trad...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CNC Machining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3D Printing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Welding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wiring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Simple analog ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Microcontroller...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bonding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Processing (i.e...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Software Expertise

Software Expertise

	None	Beginner	Intermediate	Serious Hobbyist	Professional
Matlab	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comsol	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Python	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ansys	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Solid Works	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other CAD pack...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Siemens NX	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LabView	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E-Calc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AVL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Xfoil	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Machine vision ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Timeline

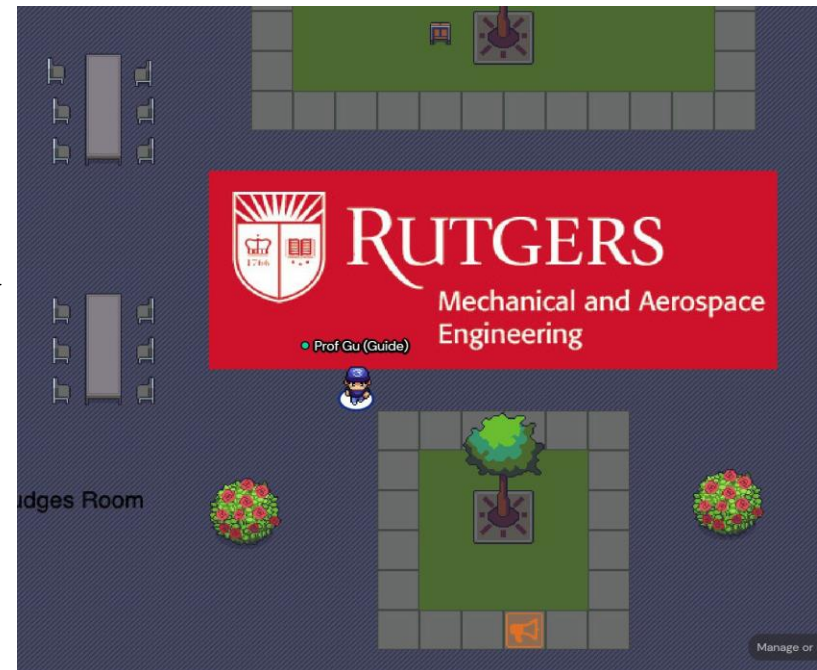


Senior Design Expo

- This year's Expo will be on May 4, 10 am to 2 pm @ RWH Concepts Labs

Feel free to stop by and vote for your favorite project(s)!

- For AY2020-2021, we had a virtual Expo on [Gather.town](https://gather.town)
- Password: RUMAESD



Mechanical and Aerospace Engineering

- **Useful Links!**

<https://mae.rutgers.edu/flipbook/ughandbook/mobile/>

<https://mae.rutgers.edu/capstone-design-project>

<https://mae.rutgers.edu/flipbook/dm20/mobile/>

