

Introduction to CNSA Senior Design

What is CNSA Senior Design?

- The CNSA Senior Design is structured as **capstone courses** requiring the application of knowledge gained in lower division courses.
 - **SAT4480: Senior Design I**
 - **SAT4880: Senior Design II**
 - Each course is 3 semester credits.
 - These are mandatory courses for graduation.
- Why senior design is important?
 - It is the final capstone project for the CNSA degree.
 - It gives you the opportunity to apply what you have learned in CNSA.

Who and When to Take Senior Design?

- All CNSA students should plan to take the senior design **one semesters before the expected graduation semester**.
 - For example, if you plan to graduate on Fall 2016, then you should take SAT4480 on Spring 2016 and SAT4880 on Fall 2016.
- The CNSA students will need to fill out a **special approval form** and have it **signed** by the program chair in order to register the courses.
 - You can ask the academic advisor for help on registration.
 - You can register senior design under any faculty session. We will adjust them later.

How to Come Up With Senior Design Ideas?

- You are encouraged to propose your own senior design ideas
- You can talk with CNSA faculty earlier to get senior design ideas
- On week 1 of the semester, there will be a kickoff meeting to have all SAT4480 students gather together, brainstorm senior design ideas, and choose faculty advisors.
 - Ideally we want to finalize senior design projects no later than week 2.

How is Senior Design Organized?

- Senior Design projects are **team-oriented**, require **weekly progress reports**, **monthly group presentation**, and culminate with **a final paper, a poster and oral presentation**.
 - Usually a team of 2-4 students with 1 faculty advisor
 - Weekly meeting/report with the advisor
 - Monthly group presentation for all senior design groups;
 - Business casual; Recorded; Pizza provided
 - At the end of 2nd semester, there will be a final report/paper and a poster due.
 - IEEE format paper, 6 pages
 - Poster with group photo
 - At the end of 2nd semester, there will be a final oral presentation
 - Usually Thursday on the final exam week
 - Formal dressing code

How is Senior Design Organized – 2?

- Additional class expectations:
 - There is \$100 equipment/accessory budget per student per semester. Students are expected to manage the project budget and all purchased equipment.
 - If available, students are expected to maintain a project website.
 - Every student is expected to make contributions to the senior design project. There is a group peer review at the end of the project.

Grading Policy

- Weekly Reports 10%
- Group Web Page Maintenance 10%
- Monthly Group Presentation 10%
- Peer Review 20%
- Final project oral presentation 20%
- IEEE Format Project Report 20%
- Course Project Poster 10%

List of Faculty Advisors

- Yu Cai
 - Cybersecurity project including Mirai IOT botnet, Ransomware
- Guy Hembroff
 - Cybersecurity games, medical informatics projects
- Xinli Wang
 - Cloud computing
- Rob Maatta
 - Big data
- Todd Arney
 - Wireless security
- Talk with faculty advisors for details.

Alternative to Senior Design

- You can take Enterprise courses to substitute Senior Design courses.
 - Enterprises are student-run business teams at Michigan Tech. Students can join any Enterprise on campus. You can take Enterprise multiple times.
- Enterprise option
 - ENT 3950 (1 credit, on year 3)
 - ENT 3960 (1 credit, on year 3)
 - ENT 4950 (2 credit, on year 4)
 - ENT 4960 (2 credit, on year 4)
- For details, please contact the academic advisor and visit <http://www.mtu.edu/enterprise/>

Contact Info

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