

CSC-400: SENIOR CAPSTONE

Fall 2025

Instructors:	Qixin Deng	Time:	Tues./Thur. 9:45 PM-11:00AM
Email:	dengq@wabash.edu	Place:	Goodrich Hall, 101
Offices:	Goodrich Hall 108	Office Hours:	Mon/Wed 10:00 am to 5:00 pm

Office Hours:

Find me any time from 10:00 am to 5:00 pm on Monday/Wednesday. I will not be available on Tuesday and Thursday. A pre-schedule/appointment is required after 5:00 pm.

Final Presentations:

Final presentations will be in lieu of an exam, and will take place during our designated exam time.

Course Description:

This course is a senior capstone course, which all computer science majors should take in their senior year. This is a project-based course that develops skills in individual and team software development, including reading, documenting, presenting, and critiquing software systems. You are required to spend at least 4 hours outside this class to learn and finish the assigned materials.

Academic Credit Statement:

Students are required to spend enough time outside the class to finish the proposed projects. Students probably need to learn some new knowledge by themselves, such as web development, database and etc. I will provide as much help as possible.

- Students will be assigned 15 weekly reports, each of which includes reports of the detailed progress and difficulties encountered since last Thursday and plans for next week. Each report should take more than 1 hour and will account for **15 additional 4th hours sessions** for the semester.

In total, the course includes 15 hours of additional structured activities outside of regular class meetings (equivalent to 1 hour per week for 15 weeks.)

Course Goals / Student Learning Outcomes:

- Synthesis of Knowledge from Other Courses: working on solving a larger problem than encountered in most other courses in the major, using knowledge from many courses that the student has taken at Wabash, particularly in computer science.
- Development of Professional Skills Related to Software Development: Gaining skills that are essential to careers in the software industry, including team coordination, documentation, presentation, source control, project management, product feasibility research, pitching, agile development, etc.
- Learning how to Research and Utilize Unfamiliar Technologies and Software Development Platforms: Technology moves at a fast pace, so students cannot assume that only understanding the technologies and programming platforms they were specifically taught in college will ever suffice. Thus it is particularly important that students who wish to have a career related to computer science be adept at the actual process of researching and learning new technology skills.

Attendance:

- **Required!** Course meetings will involve group presentations, discussions, and group work time. Your attendance is critical at all class meetings.

- **Missed Class.** You should only miss class in the case of illness, emergencies, or other College-affiliated reasons. In any of these situations, please notify both of us AS SOON AS POSSIBLE, and also your group members.

Grading:

This is a project based course. Some assignments will be done individually, but most will be assigned to your small group. We will follow a standard +/- scheme, e.g. $80 \leq B- < 83 \leq B < 87 \leq B+ < 90$. Grades on group work may involve both group and individual components.

Important Dates:

1. **Proposal Draft Due:** Sep.14th
2. **Proposal Final Due:** Sep. 28th
3. **Technical Report Draft Due:** Oct. 12th
4. **Technical Report Final Due:** Dec. 13th
5. **Demo Video & MVP & Presentation Due:** Dec. 18th
6. **Weekly Report Due:** Every week Sunday night

Guidelines for Ethical Computing and Working with Others

For the purposes of this course, adhering to the Gentleman's Rule means also adhering to the ACM Code of Ethics and Professional Conduct. The Code lays out the fundamental ethical principles that should guide all students and professionals in their study and work when computing and technology are involved. One major part of ethical computing is respecting the ideas and works of others, and only using them in an ethically appropriate and responsible manner. Computing, like almost all human endeavors, is a collaborative enterprise. We learn from each other and from the work of those who came before us, just as our descendants will learn from us. To not respect the works of others damages one's own learning, and ultimately damages human society as a whole.

For the purpose of this course, we will add the following guidelines. You will be collaborating in groups, and as such working with your peers is both accepted and expected. You should refrain from using the work of other parties without appropriate attribution, e.g. Stack Overflow or GitHub. Generative AI systems (e.g. ChatGPT) should not be used in place of your own work, and should never be used with attribution or you having **complete** understanding of what it produces. This also goes for AI-based coding assistants, such as GitHub Copilot.

Academic Credit Policy

This course complies with the [Wabash College Academic Credit Policy](#) stated in the Academic Bulletin. In addition to regular class meetings, direct instruction takes place in this course through: faculty office hours, advising for group and individual projects, technical interviews, through Canvas, online videos, and public facing activities.

The Syllabus as a Living Document

A syllabus is a living document and can be amended. We will communicate any syllabus changes; it is your responsibility to be aware of course policies at all times.

Quantitative Skills Center (QSC)

Is biology shredding your brain into fine particulate matter? Does chemistry have your anxiety level reacting negatively? Do you have bugs in your computer science code that you just can't squash? Are the demands of your economics homework far outpacing your supply? Is math leaving you feeling irrational or derivative?

Has your last physics exam, not gravity, been pulling you down? If you have questions about biology, chemistry, computer science, economics, mathematics, or physics, visit the Quantitative Skills Center (QSC)! Our department-selected tutors will work with you to answer your questions and deepen your understanding of each subject. The QSC operates Sundays, Tuesdays, and Thursdays from 7- 11pm on the second floor of the Library. Please check out the QSC webpage <https://www.wabash.edu/ace/qsc> for specific tutor availability. If you have any questions, please email Vic Lindsay at lindsayv@wabash.edu.

Writing Center

Do you have questions about how to start a paper? Are you struggling to get all of your ideas to fit? Do you have a draft but want someone to review it? Are you unsure of how to incorporate comments from your professor? Head to the Writing Center! No matter what your writing questions or needs, the Wabash Writing Center. Consultants are eager and able to help you! Please visit the webpage, <https://www.wabash.edu/ace/writing> to schedule an appointment. If you have any questions, please email the director, Dr. Koppelman, at koppelmz@wabash.edu.

The Office of Student Enrichment

Succeeding at Wabash College takes a great deal of effort and planning. Life is complex, assignments are time consuming, and staying involved keeps you running. When you have questions about how to make everything fit into your schedule, how to study more efficiently, how to take better notes, or any other question about developing your college skills, visit the Office of Student Enrichment (OSE). Go to <https://www.wabash.edu/ace/office> and follow the “Make an Appointment” link to arrange a one-on-one, personalized meeting with Dr. Koppelman or one of the OSE Advisors. No matter your questions, we will work with you to find a solution that helps you achieve your goals.

Disability and/or Special Accommodations

Students with disabilities (apparent or invisible) are invited to confidentially discuss their situation with the disability coordinator, Heather Thrush, Associate Dean for Student Engagement and Success. If a student wishes to receive an academic accommodation, it is required that his documentation of the disability be on file with Dean Thrush, who can, in confidence, provide information and guidance. Early notification helps us all work together in the most effective ways. To make an appointment with Dean Thrush, call (x6347), or email thrushh@wabash.edu. Appointments can be available via Zoom, if needed.

Course Arrangement

This is a tentative schedule.

Course Arrangement	
Week #	Course Content
Weeks 1–2	Distribute project proposal templates covering key topics such as project scope, task allocation, and critical deadlines. LaTeX will also be introduced during class sessions.
Weeks 3–4	Submit weekly progress reports and revised project proposals.
Weeks 5–7	Continue weekly progress reports; provide the final report template.
Week 8	Submit the first draft of the final report.
Weeks 9–12	Weekly progress reports continue; submit the second draft of the final report. A Docker tutorial will be provided.
Weeks 13–14	Begin transitioning projects into Docker images.
Final Week	Deliver final presentations, demo videos, and things for students' celebration.