Let's get started

We want you to be successful.

We will work together to build an environment in CSE 20 that supports your learning in a way that respects your perspectives, experiences, and identities (including race, ethnicity, heritage, gender, sex, class, sexuality, religion, ability, age, educational background, etc.). Our goal is for you to engage with interesting and challenging concepts and feel comfortable exploring, asking questions, and thriving.

If you or someone you know is suffering from food and/or housing insecurities there are UCSD resources here to help:

Basic Needs Office: https://basicneeds.ucsd.edu/

Triton Food Pantry (in the old Student Center) is free and anonymous, and includes produce:

https://www.facebook.com/tritonfoodpantry/

Mutual Aid UCSD: https://mutualaiducsd.wordpress.com/

Financial aid resources, the possibility of emergency grant funding, and off-campus housing referral resources are available: see your College Dean of Student Affairs.

If you find yourself in an uncomfortable situation, ask for help. We are committed to upholding University policies regarding nondiscrimination, sexual violence and sexual harassment. Here are some campus contacts that could provide this help: Counseling and Psychological Services (CAPS) at 858 534-3755 or http://caps.ucsd.edu; OPHD at 858 534-8298 or ophd@ucsd.edu , http://ophd.ucsd.edu; CARE at Sexual Assault Resource Center at 858 534-5793 or sarc@ucsd.edu , http://care.ucsd.edu.

Please reach out (minnes@ucsd.edu) if you need support with extenuating circumstances affecting CSE 20.

Introductions

Class website: https://canvas.ucsd.edu/

Instructor: Prof. Mia Minnes "Minnes" rhymes with Guinness, minnes@ucsd.edu, http://cseweb.ucsd.edu/ minnes

Our team: One instructor + two TAs and eleven tutors + all of you

Fill in contact info for students around you, if you'd like:

On a typical week in CSE 20: **MWF** Lectures (sometimes with pre-class reading), **W** Discussion, Review quiz, then **M** Homework due. Office hours (hosted by instructors and TAs and tutors) where you can come to talk about course concepts and ask for help as you work through sample problems and Q+A on Piazza available throughout the week. CSE 20 has one project and two tests this quarter. Demonstration of class website on Canvas (https://canvas.ucsd.edu/):

1. Syllabus
2. Notes for class + annotations
3. Assignments (PDF, tex, solutions)
4. Gradescope
5. Piazza
6. Dates

There are lots of great reasons to have a laptop, tablet, or phone open during class. You might be taking notes, getting a photo of an important moment on the board, trying out a construction that we're developing together, working on the review quiz, and so on. The main issue with screens and technology in the classroom isn't that it might distract you, it's the distraction of other students. We ask that if you would like to use a device in class and may have have unrelated content open, please sit in one of the back two rows of the room so that it's not adversely affecting other students.

Pro-tip: you can use MATH109 to replace CSE20 for prerequisites and other requirements.

Welcome to CSE 20: Discrete Math for Computer Science in Spring 2024!

Themes and applications for CSE 20

- **Technical skepticism**: Know, select and apply appropriate computing knowledge and problem-solving techniques. Reason about computation and systems. Use mathematical techniques to solve problems. Determine appropriate conceptual tools to apply to new situations. Know when tools do not apply and try different approaches. Critically analyze and evaluate candidate solutions.
- **Multiple representations**: Understand, guide, shape impact of computing on society/the world. Connect the role of Theory CS classes to other applications (in undergraduate CS curriculum and beyond). Model problems using appropriate mathematical concepts. Clearly and unambiguously communicate computational ideas using appropriate formalism. Translate across levels of abstraction.

Applications: Numbers (how to represent them and use them in Computer Science), Recommendation systems and their roots in machine learning (with applications like Netflix), "Under the hood" of computers (circuits, pixel color representation, data structures), Codes and information (secret message sharing and error correction), Bioinformatics algorithms and genomics (DNA and RNA).