

Syllabus: CSC 280 Fall 2023

This syllabus is subject to change.

Course: CSC 280: Computer Models and Limitations

Instructor: Kaave Hosseini kaave.hosseini@rochester.edu

– **Office hours:** W 3:30 PM - 5:00 PM Location: Wegmans 2507

Grad TA: Hecong Wang hwang99@UR.Rochester.edu

– **Office hours:** T 11:30 AM - 12:30 PM Wegmans 2307

Undergrad TA: Minh Dang mdang2@u.Rochester.edu

– **Office hours:** Th 2:00 PM - 3:00 PM Wegmans 2215

Undergrad TA: Jonathan Wang jwang201@u.rochester.edu

– **Office hours:** T 2:00 PM - 3:00 PM Wegmans 2215

Lecture: MW 2:00 PM - 3:15 PM Location: Morey Room 321

Recitation 1: M. 4:50-6:05pm, Location: Bausch & Lomb Room 269

Recitation 2: Th. 4:50-6:05pm, Location: Dewey Room 4162

Course description This course studies fundamental computer models and their computational limitations. Finite-state machines and pumping lemmas, the context-free languages, Turing machines, decidable and Turing-recognizable languages, undecidability, and NP-completeness.

Prerequisites CSC173 and MATH 150.

Textbook Introduction to the Theory of Computation, Michael Sipser, third edition, 2013.(USA version)

Some other resources for extra reading and practice include:

1. Introduction to Automata Theory, Languages, and Computation (3ed.), J. E. Hopcroft, R. Motwani, J. D. Ullman, 2006
2. Automata and Computability, D. Kozen, 1997

Assessment

- Attending lectures 5% (Attending workshops(aka recitations) is not mandatory but highly recommended)
- Homework 40%
- Three midterms 55% in total
 - Midterm with lowest grade 15%
 - Other two midterms 20% each

Letter grade cut-offs (out of 100) are as follows.

A	A-	B+	B	B-	C+	C	C-	D+	D	D-
90	87	84	80	77	74	70	67	64	60	58

Homework assignments Assignments will be provided on a weekly basis. Students are welcome to engage in group discussions about the problems, but the final answers must be composed independently. Additionally, for each homework problem, the names of all participating students in the discussion must be provided. The use of AI tools (in any way) in answering homework problems is strictly prohibited.

Midterms There will be three midterms during the class. There is no final exam.

- Midterm 1: October 4th (Wednesday)
- Midterm 2: November 8th (Wednesday)
- Midterm 3: December 13th (Wednesday) (Last day of class)

Communication Announcements, homework assignments, discussions, etc will be posted on Slack.

Academic Integrity Students must follow UR's Code of Academic Integrity: <https://www.rochester.edu/college/honesty/policy/index.html>

Disability resources The University of Rochester respects and welcomes students of all backgrounds and abilities. In the event you encounter any barrier(s) to full participation in this course due to the impact of a disability, please contact the Office of Disability Resources. The access coordinators in the Office of Disability Resources can meet with you to discuss the barriers you are experiencing and explain the eligibility process for establishing academic accommodations. You can reach the Office of Disability Resources at: disability@rochester.edu; (585) 276-5075; Taylor Hall; www.rochester.edu/college/disability.