

# Math 2200-001 Discrete Mathematics

Fall Semester 2025

## Course Description

This is a course on the fundamentals of discrete mathematics. It includes an introduction to proofs and rigorous analytic thinking; students will learn how to understand and write short proofs. We will introduce basic elements of mathematics such as fundamentals of logic, sets and relations, functions, number theory, modular arithmetic, combinatorics, and discrete probability. Math 2200 provides a foundation for higher mathematics or computer science courses.

- **Time:** Tuesday, Thursday 10:45AM – 12:05PM
- **Location:** JTB 120
- **Instructor:** Karl Schwede
- **Contact information:**
  - email: [schwede@math.utah.edu](mailto:schwede@math.utah.edu)
  - office: JWB 315
  - website: <http://www.math.utah.edu/~schwede/math2200>
- **Office hours:**
  - TBD
- **Textbooks:**
  - *A Concise Introduction to Pure Mathematics* by Martin Liebeck, 4th edition

## Course Outcomes and Objectives

By the end of this course, you will be able to:

- Write and identify correct proofs on subjects within the topics of the course.
- Know and be able to work with and prove things about sets, functions, etc.
- Work with and prove things about division of integers, modular arithmetic, etc.
- Handle various combinatorics (counting) problems and related proofs.
- Read and implement mathematical induction proofs.

## Course Requirements

Your grade will be determined by the following formula

- 35% - Homework, in-class worksheets, in-class quizzes. Each of these will occur every 1-2 weeks.
- 15% - Midterm #1, Tentatively Tuesday, September 25<sup>th</sup>
- 20% - Midterm #2, Tentatively Thursday November 6<sup>th</sup>
- 30% - Final Exam. Scheduled as per University guidelines. See <https://registrar.utah.edu/academic-calendars/final-exams-fall.php>  
Currently - Thursday, December 11, 2025. 10:30 am – 12:30 pm

## Grading Scale

A 93+ will be an *A*, 90-93 an *A-*, 87-90 a *B+*, 83-87 a *B*, 80-83 a *B-*, 77-80 a *C+*, 73-77 a *C*, 70-73 a *C-*, 67-70 a *D+*, 63-67 a *D*, and below will be an *E*.

The final grading scheme may be more generous than this one.

## Gradescope

All assignments will be turned in and graded on gradescope.

## Group work

Students are allowed and even encouraged to work together when solving homework problems (although each student is responsible for their own write-up). Do not use artificial intelligence tools to solve homework problems without authorization. We will have some activities where we explore what artificial intelligence can do though.

## University Policies

Updated mandatory syllabus policies regarding the ADA Act, Safety at the U, Addressing Sexual Misconduct, and Academic Misconduct can be viewed at: <https://cte.utah.edu/instructor-education/syllabus/institutional-policies.php>

## Americans With Disabilities Act (ADA)

The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. All written information in this course can be made available in an alternative format with prior notification to the [Center for Disability & Access](#) (CDA). CDA will work with you and the instructor to make arrangements for accommodations. Prior notice is appreciated. To read the full accommodations policy for the University of Utah, please see Section Q of the [Instruction & Evaluation regulations](#).

In compliance with ADA requirements, some students may need to record course content. Any recordings of course content are for personal use only, should not be shared, and should never be made publicly available. In addition, recordings must be destroyed at the conclusion of the course.

If you will need accommodations in this class, or for more information about what support they provide, contact:

### Center for Disability & Access

801-581-5020

[disability.utah.edu](https://disability.utah.edu)

Third Floor, Room 350

Student Services Building

201 S 1460 E

Salt Lake City, UT 84112

## **Safety at the U**

The University of Utah values the safety of all campus community members. You will receive important emergency alerts and safety messages regarding campus safety via text message. For more safety information and to view available training resources, including helpful videos, visit [safeu.utah.edu](https://safeu.utah.edu).

To report suspicious activity or to request a courtesy escort, contact:

### **Campus Police & Department of Public Safety**

801-585-COPS (801-585-2677)

[dps.utah.edu](https://dps.utah.edu)

1735 E. S. Campus Dr.  
Salt Lake City, UT 84112

## **Addressing Sexual Misconduct**

Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status, or genetic information.

If you or someone you know has been harassed or assaulted, you are encouraged to report it to university officials:

### **Title IX Coordinator & Office of Equal Opportunity and Affirmative Action**

801-581-8365

[oeo.utah.edu](https://oeo.utah.edu)

135 Park Building  
201 Presidents' Cir.  
Salt Lake City, UT 84112

### **Office of the Dean of Students**

801-581-7066

[deanofstudents.utah.edu](https://deanofstudents.utah.edu)

270 Union Building  
200 S. Central Campus Dr.  
Salt Lake City, UT 84112

To file a police report, contact:

### **Campus Police & Department of Public Safety**

801-585-COPS (801-585-2677)

[dps.utah.edu](https://dps.utah.edu)

1735 E. S. Campus Dr.  
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If you do not feel comfortable reporting to authorities, the U's Victim-Survivor Advocates provide free, confidential, and trauma-informed support services to students, faculty, and staff who have experienced interpersonal violence.

To privately explore options and resources available to you with an advocate, contact:

## Center for Campus Wellness

801-581-7776

[wellness.utah.edu](http://wellness.utah.edu)

350 Student Services Building

201 S. 1460 E.

Salt Lake City, UT 84112

## Academic Misconduct

It is expected that students comply with University of Utah policies regarding academic honesty, including but not limited to refraining from cheating, plagiarizing, misrepresenting one's work, and/or inappropriately collaborating. This includes the use of generative artificial intelligence (AI) tools without citation, documentation, or authorization. Students are expected to adhere to the prescribed professional and ethical standards of the profession/discipline for which they are preparing. Any student who engages in academic dishonesty or who violates the professional and ethical standards for their profession/discipline may be subject to academic sanctions as per the University of Utah's Student Code: [Policy 6-410: Student Academic Performance, Academic Conduct, and Professional and Ethical Conduct](#).

Plagiarism and cheating are serious offenses and may be punished by failure on an individual assignment, and/or failure in the course. Academic misconduct, according to the University of Utah Student Code:

*"...Includes, but is not limited to, cheating, misrepresenting one's work, inappropriately collaborating, plagiarism, and fabrication or falsification of information...It also includes facilitating academic misconduct by intentionally helping or attempting to help another to commit an act of academic misconduct."*

For details on plagiarism and other important course conduct issues, see the U's [Code of Student Rights and Responsibilities](#).