

# Introduction

CS 220 — Applied Discrete Mathematics

January 27, 2025



The course web page:

<https://www.cs.umb.edu/~ryanc/cs220/>

Everything is linked from there:

- ▶ syllabus (course policies)
- ▶ lectures and links to slides
- ▶ schedule of office hours
- ▶ other course resources

# Your Goals and My Goals

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## Your Goals

- ▶ Learn the material  
so that you can apply it in later classes and your career.
- ▶ Get a good grade  
so that you can enroll in those later classes and ultimately graduate.

## My Goals

# Your Goals and My Goals

## Your Goals

- ▶ Learn the material so that you can apply it in later classes and your career.
- ▶ Get a good grade so that you can enroll in those later classes and ultimately graduate.

## My Goals

- ▶ Teach the material and help you understand it through lectures and course work and *office hours*.
- ▶ Assign a grade appropriate for your understanding — your *timely, demonstrated* understanding.

# How to Succeed

- ▶ Attend lecture.
  - ▶ Actively listen. Take notes.
  - ▶ If you are confused, ask questions.
- ▶ Do the homework.
  - ▶ Start early.
  - ▶ Use it to check your understanding.
- ▶ Come to office hours.
  - ▶ Fix misunderstandings quickly.
  - ▶ It's your right, not an imposition or a favor.
- ▶ Don't fall behind. Or, if you do:
  - ▶ Catch up quickly.
  - ▶ Don't delay asking for help.

# Work and Grading

Grade breakdown:

- ▶ **Homework** — 25–30%, submitted via Gradescope
- ▶ **Quizzes and in-class exercises** — 10–15%
- ▶ **Midterm exam** — 25%
- ▶ **Final exam** — 35%

You must pass the final exam to pass the course.

$\geq 90$	$\geq 75$	$\geq 60$	$\geq 50$	$< 50$
A	B	C	D	F

# Resources

## Textbook

- ▶ Recommended: *Applied Discrete Mathematics* (zyBook)
- ▶ Supplemental: *Book of Proof* (PDF online)

## Discussion forum

Discord: Use the invitation on course page.  
Change your server name to be recognizable.

## Homework

Gradescope: Register with your @umb.edu email.  
If you already have an account, I will add you automatically.  
If Gradescope asks for an entry code, use G34K3Y.



## Attendance

Attendance is required. There is graded in-class work.

Excused absences: Email me in advance.

You are responsible for knowing everything covered in lecture, whether you are here or not.

## Academic Integrity

You are allowed and encouraged to collaborate to *understand* the material.

All graded work must be completely yours — that is, written from scratch, in your own words, without reference to anyone else's work.

*Prohibited:* AI, copying, sharing, homework-for-hire, etc.

# Homework Policies

## Typed

Homework submissions must be typed. See course page for resources.

## Select Pages on Gradescope

You must tell Gradescope what page each solution is on.

## Late Submissions

Late submissions are generally not accepted. Start early.  
Gradescope allows unlimited resubmissions. Submit early, submit often.

This class is about the **language of mathematics** (concepts and notations).  
The value of **generalizations** is their **application** to **specific instances**.

## Topics

- ▶ sets, relations, functions, matrices
- ▶ propositional logic, first-order logic, Boolean algebra
- ▶ proofs, induction, recursion
- ▶ counting (combinatoric), discrete probability
- ▶ graphs, trees

# Your TODO Items

- ▶ Bookmark the course web page.
- ▶ Register for Gradescope with your @umb.edu address.
- ▶ Join the course Discord server/channel and say “hi”.