Course Logistics

Lectures

- **Lecture 1:** MWF: 9:55 am - 10:45 am, 180 Science Hall
- **Lecture 2:** MWF: 1:20 pm - 2:10 pm, S413 Chemistry

URLs

- **Canvas:** canvas.wisc.edu
- **Piazza:** piazza.com/wisc/fall2022/compsci240
- **DvM readings:** pages.cs.wisc.edu/~cs240-1/readings
- **zyBooks:** learn.zybooks.com

Assessment

- **56% Exams**:
  - Exam 1 (18%): Monday, October 17th, 7:30 - 9:30 pm
  - Exam 2 (18%): Monday, November 14th, 7:30 - 9:30 pm
  - Exam 3 (20%): Wednesday, December 21st, 12:25 - 2:25 pm
- **35% Assignments**:
  - 14 assignments
  - written work, on-line quizzes, zyBooks Challenge Activities
- **9% Participation**:
  - zyBook Participation Activities (4%)
  - Additional Participation Activities (2%)
  - Discussion Participation (3%)

Course Overview

discrete mathematics = mathematical study of discrete structures

discrete structures

- can be enumerated
- in Computer Science:

Course goals

- become familiar with discrete structures (& related notions)
- develop your skills to reason rigorously

Course content can be thought of as consisting of 4 parts:

- Part 1: Logic & Proofs
- Part 2: Inductions & Recursion
- Part 3: Graphs & Relations
- Part 4: Intro to Combinatorics
Course Overview

Part 1: Logic & Proofs

- propositional & predicate logic
- set theory
- proof techniques

Part 2: Inductions & Recursion

- induction → show some property holds for all items in a discrete structure
- recursion – recursive programs & recursive definitions
- program analysis

Part 3: Graphs & Relations

- graphs & trees
- functions & relations
- graph theory
- finite state automata

Part 4: Intro to Combinatorics

- counting
- permutations
- combinations