CS 135 Discrete Structures

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Course Assistants

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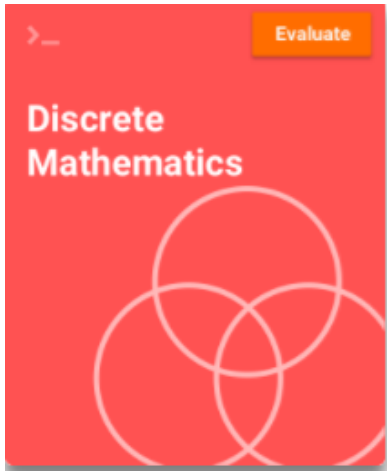
Required Online Textbook



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The first assignment is due before Monday's class.

Course Organization

Online Assignments	20%	Participation vs. Challenge Activities
Problem Sets	15%	2 problems weekly
Labs	20%	Participation, Programming Exercises
Class Participation	5%	Attendance, Engagement level
Quizzes	20%	
Final Exam	20%	

Final letter grades will be assigned on a curve, not on an absolute scale.

Course Topics

Formal Logic

Sets

Functions and Relations

Induction and Recursion

Elementary recursive programming

Elementary Number Theory

Elementary Combinatorics

Elementary Graph Theory

What you will leave with

How to think and reason logically

How to recognize bogus arguments

How to write (precise and concise) proofs

How to think recursively

How to write recursive programs

How to prove properties of recursive programs

How discrete structures (logical, numerical, relational) are used to solve problems

Housekeeping Rules

- Abide by the Stevens Honor Code
- No laptops or cell phones in lecture.
- Be engaged in class – ask questions (no question is dumb).
- Seek help from me and CAs when you need.
- Try to solve every problem yourself, but feel free to seek help from us.
- It is acceptable to discuss ideas for solving homework problems with other students, but the final submission must be your own.

Late Homework Policy

Online Assignments: no credit for work done after the deadline.

Problem Sets: < 10 minutes late : 10% of total points

10-30 minutes late : 25% of total points

30-60 minutes late : 50% of total points

> 60 minutes late : no credit

No exceptions without a Dean's excuse.

Online Assignments

The first online assignment will be visible when you obtain access to the online textbook.

Assignment 1 is due before next Monday's lecture.

What is a “proof?”

Simply put, a proof is a method of establishing the truth.

Different notions of truth:

- Justice system: legal truth
- Business world: authoritative truth
- Science: empirical truth
- Statistics: probable truth
- Philosophy: careful exposition and persuasion
- Mathematics: chain of logical deductions starting from a base set of axioms and concluding with the proposition under question.

Propositions

Definition: A proposition is a declarative statement that is either True or False (but not both).

- 4 + 3 = 7
- 1 + 1 = 3
- Give me an A!
- X + 1 = 2
- Humans are mortal
- This proposition is false.

- We will use letters to denote propositions:
- H : Humans are mortal
- A : I will get an A in CS135.