DE ANZA COLLEGE – SUMMER 2026

MATH 22-13 (CRN 13701) DISCRETE MATHEMATICS

Instructor: Lucian Sega, PhD

Class: MTWTh, 3:00 – 5:15 pm PST in room E31

Email: segalucian@fhda.edu, Phone: 408-598-7107

Office Hours: Wednesdays 10:00 am -11:00 am PST (zoom) or by appointment

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Prerequisites

Math 32 or Math 32H (with a grade of C or better) and CIS 22A or CIS 35A (with a grade of C or better), or equivalent

Course Materials

- Discrete Mathematics with Applications, by Susanna Epp, 5th Edition, ISBN-13 for ebook: 9780357540244
- Instructor notes

Calculator

A graphing calculator (e.g TI-83/TI-84, TI-nspire CX CAS) is recommended.

Tips for Success

- Participate actively in class discussions and office hours
- Do not fall behind on assignments, work problems/practice every day
- Make use of tutoring and online resources

Course Objectives

- Describe how formal tools of symbolic logic are used to model real-life situations, including those arising in computing contexts such as program correctness, database queries, and algorithms; develop logical reasoning skills for both direct and indirect arguments.
- Construct mathematical proofs, including proofs by induction; relate the ideas of mathematical induction to recursion and recursively defined structures.
- Formulate combinatorial techniques; basics of counting.
- Investigate and solve recurrence relations by employing recursive thinking and methods; analyze a problem to create relevant recurrence equations.
- Examine properties of sets and mathematical relations on sets.
- Examine the algebraic structure of a Boolean algebra.
- Diagram, examine, and analyze graphs and trees; demonstrate different traversal methods for trees and graphs.
- Apply the Binomial Theorem to independent events and Bayes Theorem to dependent events.

Student Learning Outcomes

- Critique a mathematical statement for its truth value, defend choice by formulating a mathematical proof or constructing a counterexample.
- Analyze and apply patterns of discrete mathematical structures to demonstrate mathematical thinking.

Homework and Quizzes

Homework problems will be assigned regularly and posted in canvas on Friday each week. The homework for an entire week is due by 11:59 pm PST on Friday of the following week. The homework problems will provide a good preparation for the midterms and final exam.

Quizzes will be given once a week and will be similar to the homework and class examples. The quizzes are take-home, will be posted in canvas on Friday each week, and are due back by 11:59 pm PST on the following Friday. Please submit your solution files through Canvas for both homework and quizzes. **Late homework and quizzes will be given no credit and awarded a score of 0.**

Midterm Exams

There will be two one-hour in-class midterm exams:

- **Thursday, July 9, 2026**
- **Thursday, July 23, 2026**

Make-up midterms will only be given in **extraordinary** circumstances, and will be subject to a 25% deduction.

Final Exam: Thursday, August 6, 2026 in E31

A mandatory comprehensive 2-hour long final exam will be given at the end of the quarter. The final exam must be taken on Thursday, August 6, at the scheduled time. There is no make-up final exam.

Grading Policy

- Homework……15%
- Quizzes……15%
- Each midterm exam……20%
- Final exam……30%

A+: 98-100	**B+**: 87-88	**C+**: 74-77	**F**:0-54
A: 92-97	**B**: 80-86	**C**: 65-73	
A-: 89-91	**B-**: 78-79	**D**: 55-64	

Attendance Policy

Students are expected to be present in class and check posted assignments in canvas regularly (I will not send reminders). **Students who are absent from class for more than 1.5 weeks may be dropped by the instructor.** If a student decides not to continue with the course, it is the student's responsibility to officially drop the course. Failure to do so may result in a grade of F for the course.

Last day to drop a course without a W: Sunday, July 5, 2026

Academic Honesty Policy

Students are responsible for keeping themselves informed of the De Anza College Policy on Academic Integrity. Cheating will not be tolerated and may result in receiving a zero on the exam or an F for the course and being reported to the Dean of Students Office for possible disciplinary action.

https://www.deanza.edu/policies/academic-integrity.html

Accommodations for Students with Disabilities

Students with disabilities who believe that they may need accommodations in this course are encouraged to contact Disability Support Services (408-864-8753) or Educational Diagnostic Center (408-864-8839) as soon as possible to ensure that such accommodations are arranged in a timely fashion.

Student Learning Outcome(s):

• Critique a mathematical statement for its truth value, defend choice by formulating a mathematical proof or constructing a counterexample.

• Analyze and apply patterns of discrete mathematical structures to demonstrate mathematical thinking.

Office Hours:

9:00 AM - 10:00 AM	Zoom	W
10:00 AM - 11:00 AM	Zoom	W