

DE ANZA COLLEGE – FALL 2026

MATH 22-23 (CRN 27566) DISCRETE MATHEMATICS

Instructor: Lucian Segal, PhD

Class: Mondays and Wednesdays, 4:00 – 6:15 pm in room MLC 113

Email: segalucian@fhda.edu

Alternate Email: segamath@gmail.com

Cell/Text: 408-598-7107

Office Hours: Fridays, 9:00 am - 10:00 am PST (zoom) or by appointment

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 e-book: 9780357540244
- Instructor notes

Calculator

A graphing calculator (e.g TI-83/TI-84, TI-nspire CX CAS) is recommended, but is not required.

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 each week. The homework for an entire week is due by 11:59 pm PST on Monday of the following week. The homework problems will provide a good preparation for the midterms and final exam. Homework assignments that are less than 1 day late will be subject to a 10% deduction. Homework assignments that are between 2 and 7 days late will be subject to

a 25% deduction. Homework assignments that are more than 7 days late will be subject to a 50% deduction.

Quizzes will be given approximately 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 Monday. Late quizzes are not accepted and will be given no credit, independent of how late they are turned in.

Please submit your solution files through Canvas for both homework and quizzes.

Midterm Exams

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

- **Monday, October 12, 2026**
- **Monday, November 9, 2026**

Make-up midterms will only be given in **extraordinary** circumstances.

Final Exam: **Wednesday, December 9, 2026, 4:00 – 6:00 pm in MLC113**

A mandatory comprehensive 2-hour long final exam will be given at the end of the quarter. The final exam must be taken on Wednesday, December 9, at the scheduled time. There is no make-up final exam.

Last day to drop a course without a W: **Sunday, October 4, 2026**

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 attend all classes, to be on time and to stay for the entire class period. Any student who misses more than one (1) class during the first two weeks or more than three (3) classes before the withdraw deadline 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.

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:

2:00 PM - 3:00 PM	E37A or the PSME Village	M
3:00 PM - 4:00 PM	E37A or the PSME Village	M
11:00 AM - 12:00 PM	Zoom	F
9:00 AM - 10:00 AM	Zoom	F
10:00 AM - 11:00 AM	Zoom	F