

Math 22/Math 22 H- Discrete Mathematics- De Anza College- Fall 2025- Syllabus

Instructor: Reza Shariatmadari

Course Name: Math 22/Math 22H- Discrete Mathematics/Discrete Mathematics Honors

Class dates: This class runs from September 22 to December 12, 2025.

CRN/Section: 27948/17 **Honors:** 28926/17

Location: MLC 110

Time: Tuesday/Thursday 11:00 AM to 01:15 PM

Office Hours: Wednesday 9:00 AM to 10:00 AM on Zoom

Email: shariatmadarireza@fhda.edu

Textbook: Nexus, A Brief History of Information Networks from the Stone Age to AI

Supporting Textbook: Discrete Mathematics with Application, 5th edition, by Susanna Epp.

Course Description: This course explores elements of discrete mathematics with applications to computer science. Topics include methods of proof, mathematical induction, logic, sets, relations, graphs, combinatorics, and Boolean algebra.

Advisory: ESL 272 and ESL 273, or ESL 472 and ESL 473, or eligibility for ENGL C1000 or ENGL C1000H or ESL 5.

Course Pre-requisite: MATH 32 or MATH 32H (with a grade of C or better) or equivalent, and CIS 22A or CIS 35A (with a grade of C or better) or equivalent.

Homework Assignments: Homework is an integral part of the course. Homework assignments will be posted on Canvas based on our progress throughout the quarter.

Midterms, Exams and Quiz: There will be 3 quizzes this quarter. These quizzes will be given either during regularly scheduled class meetings, or as a take home exam, or group exam, or any combination of the three. You will be notified in advance about the format of these exams. Quizzes and exams are cumulative. Any change in quiz dates and/or location will be announced in advance.

Tentative Exam Schedule:

Quiz 1: Thursday October 09, 2025

Quiz 2: Thursday November 06, 2025

Quiz 3: Thursday December 04, 2025

Final Exam: Tuesday December 09, 2025, from 11:30 AM to 01:30 PM

Academic Integrity: Students are reminded that their behavior always reflects upon the college community. The minimum penalty for cheating, plagiarism, etc. is a grade of zero on the assignment. For additional information on the college's policies, read the Ethics and the Academic Integrity Policy at <http://www.deanza.edu/studenthandbook/academic-integrity.html>.

ADA Accommodation:

Students requiring special services or arrangements because of hearing, visual, or other disability should contact their instructor, counselor, or the Disability Support Services (DSS) to make arrangements as soon as possible.

Students Behavior

Students attending this class are here to learn. If you are disruptive in any way, you will be asked to leave the class and speak with the Dean before you return.”

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Grades: Course grades will be determined by homework, quiz, and final exams (Honors Students must also complete Research/Project as part of their final exam). Your grade is always available to you on Canvas. I reserve the right to make changes to the syllabus, and you will be notified in advance. I will not discuss grades via email for security and privacy reasons, so consult with me about your standing at the end of the class or during office hours throughout the semester. I strongly suggest that you do not leave anything for the last minute. General guidelines are as follows:

Homework Assignments: 10%

Quiz 1: 15%

Quiz 2: 20%

Quiz 3: 25%

Final Exam: 30%

Your Course letter grade will be determined based on the following percentiles:

(A) 94% to 100%

(A-) 90% to < 94%

(B+) 87% to < 90%

(B) 84%to<87%

(B-) 80% to < 84%

(C+) 77% to < 80%

(C) 74%to<77%

(C-) 70% to < 74%

(D+) 67% to < 70%

(D) 64%to<67%

(D-) 60% to < 64%

(F) 00%to<60%

Course policy and important information and guidelines about our class. Please Read Carefully and refer to these sections throughout the semester:

This course serves as a professional training ground, where you will develop a comprehensive set of problem-solving skills that will be highly valuable in both academic and professional settings. To ensure your success, I will challenge you rigorously, as the real world demands a high level of preparedness from its participants. In return, I promise to treat you with the respect and dignity that emerging professionals deserve, earned through hard work and dedication rather than authority.

This course also equips you with the scientific mindset, emphasizing the importance of precision and empirical evidence in establishing credibility. While mastery necessitates effort, you will emerge equipped to address sophisticated algorithms, cryptographic protocols, and the fundamental principles of artificial intelligence. We will operate under three fundamental principles:

1. Precision is Essential: Discrete Mathematics serves as the foundation for error-free algorithms and secure systems. Inadequate proofs can result in catastrophic bugs.
2. Perseverance is Essential: Overcoming challenges is paramount for achieving mastery. Constructive frustration serves as a steppingstone to success.
3. Professional Standards are Adhered To: Work should be submitted in a manner consistent with that of a professional, ensuring timely delivery, appropriate formatting, and thorough justification.

Your work requires:

- 1- Preparation
Come to class having attempted the work. “I didn’t understand” is acceptable, “I didn’t try” is not.
- 2- Critique Ideas
Challenge arguments with evidence (e.g., “the data suggests...” not “you’re wrong”).
- 3- Struggle Out Loud
If you are experiencing confusion, please specify precisely where you are encountering difficulties. Concealing information is counterproductive and hinders progress.
- 4- Forward Focused
Errors serve as valuable learning opportunities. Revisions should not be perceived as punishments; rather, they are essential components of the mastery development process.

Discrete Mathematics is an upper division undergraduate math course in most universities, and we will treat the content of this course with the same quality and rigor. Examples and problems given in this class will cover a wide range of topics such Number Theory, Abstract Algebra, Real Analysis, Graph Theory, Topology, Probability, Machine- Learning, Philosophy, and ethics.

Attendance:

CSIS 26 is a synchronous online class, and students' participation during the designated class schedule is expected. All students are required to have access to Zoom with their cameras and microphones enabled during all sessions. It is imperative to remember that professional meetings necessitate active engagement.

You are expected to be prepared for the day's discussion. In the event of missing a lecture due to any unforeseen circumstances, you are fully responsible for the material covered and assignments distributed. I recommend that you reach out to your classmates to ascertain the content of the lecture you missed.

In Class Recording:

Class sessions are not recorded. Students are prohibited from taking video, audio, or streaming audio/video recordings of private, non-public conversations and meetings, including classroom settings, without the knowledge and consent of all parties involved, except in cases of approved disability accommodations. The dissemination or sharing of any classroom recording without the instructor's permission constitutes misuse and is therefore prohibited.

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Policies and Protocols:

- 1- Late work will not be accepted under any circumstances, nor will credit be given for late homework or assignments.
- 2- Under no circumstances will a makeup quiz or exam be administered.
- 3- To submit assignments, quizzes, exams, or any documents to Canvas, ensure that your document is saved as a PDF file. All other file types are not accepted.
- 4- You are solely responsible for maintaining your coursework and ensuring you comprehend the subject matter covered in this class. This entails reading the textbook, solving problems, and practicing extensively, utilizing the problems provided within the textbook.
- 5- To contact me, the most efficient method is to send me an email. I will do my best to respond to your emails promptly.
- 6- I reserve the right to make revisions to this syllabus. Any updates regarding changes to the syllabus will be communicated through Canvas's "Announcements" section.
- 7- You are responsible for maintaining an accurate record of significant dates on the academic calendar. A PDF copy of the calendar is available on the college website. I have also posted a copy of the file on the "Home" page of our course Canvas site.
- 8- Office hours are entirely on Zoom.

Here are some valuable tips to enhance your success in this course:

Your academic achievement in this class holds significant importance to me, and I am committed to providing comprehensive support to assist you in achieving your objectives.

- 1- Develop an active learning approach rather than relying solely on memorization. Emphasize comprehending the underlying concepts and principles.
- 2- When you try to solve a problem, make sure you understand what the problem is asking for. Read the question multiple times if needed. Think about how you are going to solve the problem, and what is your strategy for solving the problem.
- 3- Embrace Imperfection and Perseverance. Do not be apprehensive about making mistakes. It is perfectly acceptable that you may not be able to solve a problem on the initial attempt. Persevere and attempt to solve it again. Regardless of the outcome, never succumb to defeat.
- 4- Your participation is crucial. Your progress is directly proportional to your commitment both within and outside the classroom setting. I anticipate that you will allocate a minimum of three to four hours outside of class to prepare thoroughly for each lecture.

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My Expectations:

By the end of this semester, I would like you to be able:

- 1- To match key terms to the appropriate concepts and definitions.
- 2- To define key terms in your own words.
- 3- To recognize and use concepts and procedures correctly in new situations appropriate to your discipline.
- 4- To break larger issues and problems into their component parts to facilitate problem solving and deeper understanding.
- 5- To combine concepts and procedures from this class in new ways so you can solve problems and create new ways of seeing the course content.
- 6- To compare and contrast information in such a way that allows you to solve problems and accomplish your goals.
- 7- Finally, one of my objectives is for you to develop self confidence in your abilities to learn mathematics mainly by reading, thinking, and asking questions, rather than memorizing bunch of formulas.

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Final Remarks:

All quizzes and exams are strictly for your exclusive use. Sharing them with anyone, posting them online, or using any other means without my written and verbal consent is strictly prohibited. You are solely responsible for keeping quizzes and exams for your personal use.

To obtain full or partial credit, you must demonstrate your work step-by-step and in detail. Ensure clarity and neatness in your writing. Simply providing a final answer without showing detailed work will not result in any credits. I will grade your quizzes and assignments based on the clarity, detail, legibility, and logical construction of your arguments and proofs.

If I am unable to read your work or if it lacks clarity, I will not grade it, and you will receive a score of zero.

Welcome to Math 22/Math 22 H, and I trust you will find this class enjoyable.

R.S.

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:

M	8:00 AM - 9:00 AM	Zoom,By Appointment
W	8:00 AM - 9:00 AM	Zoom,By Appointment
M	9:00 AM - 10:00 AM	Zoom,By Appointment
W	9:00 AM - 10:00 AM	Zoom,By Appointment