



Math 22.01Z – Discrete Mathematics
Meets: MTWThF, 8:30 AM to 9:20 AM
Online classes via Zoom

Spring 2022

Instructor: Lilit Mazmanyanyan	
Contact: mazmanyanyanlilit@fhda.edu	Office hours: Friday, 9:30 – 10:30 AM, online via Zoom (check Canvas for instructions)

This is an online class and instructional method is **synchronous**. Lectures will be delivered online via Zoom during scheduled class times. Virtual breakouts will be used for group collaboration. Instructions how to connect Zoom lectures can be found on **Canvas**, which are accessible to you via **MyPortal** as you are enrolled in the course. You can also access Canvas using direct link (<https://deanza.instructure.com>) with your MyPortal login credentials. We will communicate via Canvas Inbox, discussion board, Zoom office hours, and emails. Check periodically Canvas announcements. Instructions to access Zoom for office hours can be found on our Canvas course. Information about Canvas, Zoom, and Online Education Orientation can be found in Canvas on the Student Resources page: <https://deanza.instructure.com/courses/3382>. The Student Online Resources hub with extensive information and tips can be found at deanza.edu/online-ed/students/remoteteaching.

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.

Requisites

- *Prerequisite:* 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.
- Not open to students with credit in MATH 22H.
- *Advisory:* EWRT 211 and READ 211, or ESL 272 and 273.

Textbook

Epp, Susanna S., "Discrete Mathematics: Introduction to Mathematical Reasoning." 1st ed. Boston, MA: Brooks/Cole, 2011.

Supporting Textbook

Epp, Susanna S., "Discrete Mathematics with Applications." 4th ed. Boston, MA: Brooks/Cole, 2011.

Calculator

- You are allowed to use a scientific calculator.
- If you do not have calculator, you can use online calculator via website as DESMOS (<https://www.desmos.com>) or GeoGebra (<https://www.geogebra.org>).

Homework (HW)	<ul style="list-style-type: none"> • HW will be assigned every week, but they will not be collected nor graded. • Quizzes and exams will include similar problems from your homework. • Ask your homework questions before quiz and exam.
Group Work (GW)	<ul style="list-style-type: none"> • GW will be assigned randomly during the class times. • GW must be completed in groups of at least two and no more than four. • Topics and details will be discussed in class. Due date will be announced in class. • Work with details must be uploaded on Canvas as one document. • May be used programming languages such as Matlab, C, C++, Python or similar.

Quizzes (Q)	<ul style="list-style-type: none"> • There are 5 quizzes through Canvas. • Quizzes are timed and they will be assigned on scheduled Friday due Saturday. • NO MAKE-UP QUIZZES are given. • Missed quiz is graded as a zero (0). • The lowest quiz score will be dropped. 																																				
Exams & Final Exam (EX,FE)	<p>There are 3 examinations through Canvas during scheduled class time.</p> <ul style="list-style-type: none"> • EX 1 & 2 are 50 minutes each and Final exam is two (2) hours. • EX 1 & 2 and the FE dates are on the course schedule. • It is recommended to have ready two sheets of notes. • There are NO MAKE-UP examinations. • An absence from any examination earns a grade of zero (0). • You MUST take the final exam to pass the course. <p>Check the announcements for instructions and follow the course schedule on Canvas.</p>																																				
Grading	<p>Students will be graded on quizzes (Q), group work (GW), and exams (EX1, EX2, FE). Grading depends on the clarity of work, interpretations, accuracy and completeness of graphs, and explanations as well as numerical answers.</p> <p>Distribution of weights for each category</p> <table border="1" data-bbox="407 919 1123 1131"> <thead> <tr> <th>Category</th> <th>% Weight on Final Grade</th> </tr> </thead> <tbody> <tr> <td>Quizzes</td> <td>10 %</td> </tr> <tr> <td>Group work</td> <td>10 %</td> </tr> <tr> <td>Exam 1</td> <td>25 %</td> </tr> <tr> <td>Exam 2</td> <td>25 %</td> </tr> <tr> <td>Final Exam</td> <td>30 %</td> </tr> </tbody> </table> <p>Grading Scale</p> <table border="1" data-bbox="407 1188 946 1331"> <tbody> <tr> <td></td> <td></td> <td>A</td> <td>94-100</td> <td>A-</td> <td>90-93</td> </tr> <tr> <td>B+</td> <td>87-89</td> <td>B</td> <td>83-86</td> <td>B-</td> <td>80-82</td> </tr> <tr> <td>C+</td> <td>77-79</td> <td>C</td> <td>70-76</td> <td>D</td> <td>60-69</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>F</td> <td><60</td> </tr> </tbody> </table> <p>Extra Credit During the course you will have opportunities for extra credit assignments.</p>	Category	% Weight on Final Grade	Quizzes	10 %	Group work	10 %	Exam 1	25 %	Exam 2	25 %	Final Exam	30 %			A	94-100	A-	90-93	B+	87-89	B	83-86	B-	80-82	C+	77-79	C	70-76	D	60-69					F	<60
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Important Dates and Deadlines <https://www.deanza.edu/calendar/>

Wednesday	April 6	First day of Spring Quarter 2022
Saturday	April 16	Last day to add classes
Sunday	April 17	Last day to drop classes with no record of "W" Last day to drop classes for full refund or credit
Friday	April 29	Last day to request "Pass/No Pass" for full-length classes
Friday	May 27	Last day to drop classes with a "W"
Sat.-Monday	May 28-30	Memorial Day Weekend – no classes
Monday	June 20	Juneteenth Holiday - no classes
Tuesday	June 22 7:00 – 9:00 AM	Final examination https://www.deanza.edu/calendar/final-exams.html

Online Education Center

- [Student Resource Hub](#): Visit this site for tips, guides and answers to your questions about using Canvas, Zoom and other online learning tools that your classes may be adopting.
- [Staying Organized](#): This webpage has advice for planning and staying on top of your online coursework.
- [Canvas Help](#): Need technical support with Canvas? This page has information on how to get help.
- [More Student Resources](#): Visit this page for more links and tips.

California Virtual Campus

- [Get Ready for Online Learning](#): This website has videos about getting "tech ready," managing your time, communicating with instructors and more.

Student services and support

<https://www.deanza.edu/online-spring/#Services>

- Tutoring and Library Help
- Computers and Tech Products
- Internet Access
- Food and Financial Assistance
- Health and Psychological Services

Attendance, Drops or Withdrawals

- Regular online attendance is essential for success in the course.
- You must not miss a class in the first week of the quarter or you will be dropped.
- A student who discontinues coming to class and does not drop the course will automatically receive a 'F' grade for the course.
- It is the student's responsibility to drop or withdraw from this course by the college deadlines.

Academic Honesty and Discipline Policy:

Students are expected to abide by the DeAnza College Code of Conduct and not participate in academic dishonesty.

https://www.deanza.edu/policies/academic_integrity.html

Student Success Center

<http://deanza.edu/studentsuccess/mstrc/>

Hours of online Zoom Tutoring Center are Monday to Thursday 9:00-6:00 PM and Friday 9:00 AM-12:30 PM.

The SSC provides free tutoring services such as individual, drop-in, groups, in-class and workshops.

For individual tutoring, fill out a weekly individual application:

http://deanza.fhda.edu/studentsuccess/mstrc/weekly_ind.html

For group tutoring, contact to Helen at nguyenhelen@deanza.edu.

Disability Support Services

<https://www.deanza.edu/dsps/dss/>

Students with disabilities who qualify for academic accommodations must provide a notification from the Disability Support Services (DSS) and discuss their specific needs with the instructor at the beginning of the quarter.

For information or questions about eligibility, support services or accommodations to disability (physical or learning disability) please contact Disability Support Services (DSS).

Phone number: (408) 864-8753

Email: dss@deanza.edu

Tentative Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	April 4	April 5	April 6 Syllabus/ Section 1.1 Speaking Mathematically	April 7 Section 1.2-1.3	April 8 Section 2.1 The Logic of Compound Statements
Week 2	April 11 Section 2.2	April 12 Section 2.3	April 13 Section 3.1 The Logic of Quantified Statements	April 14 Section 3.2	April 15 Section 3.3 Quiz 1
Week 3	April 18 Section 3.4	April 19 Section 4.1 Elementary Number Theory and Methods of Proof	April 20 Group Work	April 21 Section 4.2	April 22 Section 4.3 Quiz 2
Week 4	April 25 Section 4.4	April 26 Sections 4.5	April 27 Section 4.6	April 28 Review	April 29 Exam 1 Chapters 1-4
Week 5	May 2 Section 5.1 Sequences, Mathematical Induction, and Recursion	May 3 Section 5.2	May 4 Section 5.3	May 5 Section 5.4	May 6 Section 5.5 Quiz 3
Week 6	May 9 Section 5.6	May 10 Section 6.1 Set Theory	May 11 Section 6.2	May 12 Section 6.3	May 13 Section 6.3 Quiz 4
Week 7	May 16 Section 6.4	May 17 Section 7.1 Functions	May 18 Group Work	May 19 Section 7.2	May 20 Section 7.3 Relations
Week 8	May 23 Section 7.4	May 24 Section 8.1	May 25 Section 8.2	May 26 Review	May 27 Exam 2 Chapters 5-8
Week 9	May 30 Memorial Day – No class	May 31 Section 8.3	June 1 Section 8.5	June 2 Section 9.1 Counting and Probability	June 3 Group Work
Week 10	June 6 Section 9.2	June 7 Section 9.3	June 8 Section 9.4	June 9 Section 9.5	June 10 Section 9.6 Quiz 5
Week 11	June 13 Section 10.1 Graphs and Trees	June 14 Section 10.2	June 15 Section 10.3	June 16 Section 10.4	June 17 Review
Week 12	June 20	June 21	June 22 Final Exam (two hours) Chapters 1-10 7:00 AM - 9:00 AM		

- Any change in schedule is announced during class. Students are responsible for keeping track of schedule changes.

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.