



## Math 22.51Z – Discrete Mathematics Online class

Fall 2023

<b>Instructor:</b> Lilit Mazmanyan	
<b>Contact:</b> <a href="mailto:mazmanyanlilit@fhda.edu">mazmanyanlilit@fhda.edu</a>	<b>Office hours:</b> Friday, 4:00 – 5:00 PM, online via Zoom (check Canvas course for instructions)

This is an online class and instructional method is fully **asynchronous**. You can study the assigned course materials and complete the assignments via Canvas course management system at your own pace by meeting weekly deadlines. You can access Canvas via MyPortal as you are enrolled in the course or 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 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](https://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.

### Prerequisites

- 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.
- Advisory: EWRT 211 and READ 211 or ESL 272 and ESL 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>).

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

<b>Quizzes (Q)</b>	<ul style="list-style-type: none"> <li>• There are 5 quizzes through Canvas.</li> <li>• Quizzes are timed and they will be assigned on Thursday due Sunday.</li> <li>• NO MAKE-UP QUIZZES are given.</li> <li>• Missed quiz is graded as a zero (0).</li> <li>• The lowest quiz score will be dropped.</li> </ul>																																						
<b>Exams &amp; Final Exam (EX,FE)</b>	<p>There will be four (4) examinations.</p> <ul style="list-style-type: none"> <li>• EX 1, 2 &amp; 3 are one hour each and Final exam is two (2) hours.</li> <li>• EX 1, 2 &amp; 3 and the FE dates are on the course schedule.</li> <li>• It is recommended to have ready one or two sheets of notes.</li> <li>• There are NO MAKE-UP examinations.</li> <li>• An absence from any examination earns a grade of zero (0).</li> <li>• You MUST take the final exam to pass the course.</li> </ul> <p>Quizzes and Exams will be assigned via Canvas. Check the announcements and follow the course schedule on Canvas.</p>																																						
<b>Grading</b>	<p>Students will be graded on group work (GW), quizzes (Q), and exams (EX1, 2 &amp; 3, FE). Grading depends on the clarity of work, interpretations, accuracy and completeness of graphs, and explanations as well as numerical answers.</p> <p><b>Distribution of weights for each category</b></p> <table border="1"> <thead> <tr> <th>Category</th> <th>% Weight on Final Grade</th> </tr> </thead> <tbody> <tr> <td>Group Work</td> <td>10 %</td> </tr> <tr> <td>Quiz</td> <td>10 %</td> </tr> <tr> <td>Exam 1</td> <td>20 %</td> </tr> <tr> <td>Exam 2</td> <td>20 %</td> </tr> <tr> <td>Exam 3</td> <td>20 %</td> </tr> <tr> <td>Final Exam</td> <td>20 %</td> </tr> </tbody> </table> <p><b>Grading Scale</b></p> <table border="1"> <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>&lt;60</td> </tr> </tbody> </table> <p><b>Extra Credit</b></p> <p>During the course you will have opportunities for extra credits. There will be extra problems included in the coursework.</p>	Category	% Weight on Final Grade	Group Work	10 %	Quiz	10 %	Exam 1	20 %	Exam 2	20 %	Exam 3	20 %	Final Exam	20 %			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>

<b>Monday</b>	<b>September 25</b>	First day of Fall Quarter 2023
<b>Saturday</b>	<b>October 8</b>	Last day to add classes
<b>Sunday</b>	<b>October 9</b>	Last day to drop classes with no record of "W"
<b>Friday</b>	<b>November 10</b>	Veterans Day holiday, no class
<b>Friday</b>	<b>November 17</b>	Last day to drop classes with a "W"
<b>Thursday-Sunday</b>	<b>November 23-26</b>	Thanksgiving holiday, no classes
<b>Tuesday</b>	<b>December 12</b>	Final examination

### 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](https://www.deanza.edu/policies/academic_integrity.html)

### Student Success Center

<http://deanza.edu/studentssuccess/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/studentssuccess/mstrc/weekly\\_ind.html](http://deanza.fhda.edu/studentssuccess/mstrc/weekly_ind.html)

For group tutoring, contact to Helen at [nguyenhelen@deanza.edu](mailto: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](mailto:dss@deanza.edu)

**Tentative Schedule**

		All Assignments except Examinations are due Sunday, 11:59 PM
<b>Week 1</b>	September 25 - October 1 <b>Syllabus/ Sections 1.1-1.3, 2.1-2.2</b> Speaking Mathematically, The Logic of Compound Statements	
<b>Week 2</b>	October 2-8 <b>Sections 2.3, 3.1-3.4</b> The Logic of Quantified Statements	<b>Quiz 1</b>
<b>Week 3</b>	October 9-15 <b>Sections 4.1-4.5</b> Elementary Number Theory and Methods of Proof	<b>Quiz 2</b>
<b>Week 4</b>	October 16-22 <b>Sections 4.6, 5.1-5.2</b> Sequences, Mathematical Induction, and Recursion	<b>Exam 1 (one hour): Chapters 1 to 4</b>
<b>Week 5</b>	October 23-29 <b>Sections 5.3-5.6</b> Sequences, Mathematical Induction, and Recursion	<b>Quiz 3</b>
<b>Week 6</b>	October 30 – November 5 <b>Sections 6.1-6.4</b> Set Theory	<b>Quiz 4</b>
<b>Week 7</b>	November 6-12 <b>Sections 7.1-7.4</b> Functions	<b>Exam 2 (one hour): Chapters 5 to 7</b> November 10, Veterans Day holiday, no class
<b>Week 8</b>	November 13-19 <b>Sections 8.1-8.3, 8.5</b> Relations	<b>Quiz 5</b>
<b>Week 9</b>	November 20-26 <b>Sections 9.1-9.4</b> Counting and Probability	November 23-26, Thanksgiving holiday, no classes
<b>Week 10</b>	November 27 - December 3 <b>Sections 9.5-9.6, 10.1</b> Counting and Probability, Graphs and Trees	<b>Exam 3 (one hour): Chapters 8 to 9</b>
<b>Week 11</b>	December 4-10 <b>Sections 10.2-10.4, Review</b> Graphs and Trees	
<b>Week 12</b>	December 12 <b>Final Exam (two hours) Chapters 1-10</b>	

- Group Work is assigned randomly during certain weeks and the due dates will be announced.
- Examinations 1,2&3 will be opened on scheduled week Thursday at 10:00 AM, and you will have one day to complete them with time limit. Final Examination will be opened on December 12 due December 13.

Any change in schedule is announced on Canvas. 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.

**Office Hours:**

F	04:00 PM	05:00 PM	Zoom
F	05:00 PM	06:00 PM	Zoom