Math 22: Discrete Mathematics, Winter 2019
Monday/Wednesday 4:00 – 6:15 pm

Instructor: Matthew Lee **Email:** leematthew@fhda.edu
Office Hours: Monday/Wednesday after class (in library or other location)

Textbook: <u>Discrete Mathematics: An Introduction to Mathematical Reasoning</u> by Susanna S. Epp. We will be following the sections in the book closely as well as using it for homework problems. Please obtain a copy as soon as possible.

Reading: *Please read over each section of the textbook BEFORE we cover that section. I do not want to simply recite the book word by word and prefer to use class time answering your questions, doing examples and problem solving. You will need to refer to the text for details.*

About the Course: Official description: "Elements of discrete mathematics with applications to computer science. Topics include methods of proof, mathematical induction, logic, sets, relations, graphs, combinatorics, and Boolean algebra."

This course is a very unique math course, likely your first course that does not focus on real numbers (in contrast to pre-calculus and algebra) or use a calculator. Instead, we will focus on the abstract side of mathematics involving symbols, logic and proofs. My hope is that at the end of this course, you will have a broader notion of what mathematics is about.

Course website: Canvas will be the main hub of information for the course. All course materials will be uploaded and made available as the course progresses, and grades will be uploaded regularly. You can log in at https://deanza.instructure.com/ or through MyPortal.

Grades: We will use a standard letter grading system with plus/minus (97-100 A+, 93-96 A, 90-92 A-, etc). Your grade will be made up of the following:

Weekly Homework	15%	*Online Quizzes*	5%
Classwork/Participation	20%	*3 Exams*	30%
Final Exam	30%		

Weekly Homework: There are weekly homework assignments, which will be due every *Monday* at the beginning of class. Problems will mostly be from the textbook. They will be graded for completeness and correctness. Expect to spend many hours per week on problems!

Homework is 15% of your grade. The lowest 2 scores will be dropped.

Classwork: This class is not just a lecture. Every day, you will be working on mathematics problems together with your classmates. You will learn the most by actively engaging and collaborating with each other on problems. I will occasionally ask you to submit classwork problems.

Classwork is 20% of your grade. If you are absent, you may make up the work at home and turn it in within a week of the class you missed.

Online Quizzes: We will have quizzes on Canvas every few weeks. These will be posted on Canvas and with a due date. Try your best do to them without outside help and without notes. They are meant to help you assess your own understanding and practice for the exams.

Exams: We will have 3 midterm exams throughout the semester. The dates are listed on the schedule in bold. Each will be administered during the first half of class (around 60 minutes).. You may also bring with you a 3x5 handwritten index card of notes.

Each midterm is 10% of your grade. If you must miss a midterm exam, notify me ASAP.

Final Exam: The final exam will be cumulative and is scheduled for *Wednesday, March 25th from 4 pm to 6 pm.* We will not meet for class that Monday. You will be allowed one page of notes (one sided) as well as your graphing calculator, and I will provide a formula sheet.

NO MAKEUP FINAL EXAM WILL BE GIVEN. If you miss the final exam, you will fail this course.

Academic Integrity: All students are expected to exercise high levels of academic integrity throughout the quarter. You are encouraged to work together but you are also expected to write up your answers independently when required. Any instances of cheating or plagiarism will result in disciplinary action, including getting a '0' on the assignment and report to the PSME dean, which may lead to dismissal from the class or the college.

Disability Notice: If you have any special circumstances that you feel may influence your performance in this class (a diagnosed learning disability, physical disability, or anything at all that might interfere with your learning), please email or chat with me privately so that we can best accommodate you and we can create a learning environment that works for you.

Communication: Please ask questions and let me know your concerns throughout the course! Talk to me after, class, send me emails and Canvas messages so that I know how to support you throughout the quarter.

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.