IMPERIAL VALLEY COLLEGE

Basic Course Information

Semester:	**Fall 2024**	Instructor Name:	**Jill Nelipovich**
Course Title & #:	**Math 240: Discrete Structures**	Email:	**Jill.nelipovich@imperial.edu**
CRN #:	**10066**	Webpage (optional):	**Canvas**
Classroom:	**2725**	Office #:	**2760**
Class Dates:	**08/12/24 – 12/07/24**	Student Hours:	**MW: 10:15 – 11:15 a.m. W: 5:45 – 6:15 p.m. T: 12:30 – 1:30 p.m. R: 3:00 – 3:30 p.m.**
Class Days:	**MW**	Office Phone #:	**760-355-6297**
Class Times:	2:40 - 4:05 p.m.	Emergency Contact:	**760-355-6201**
Units:	3	Class Format/Modality:	Face-to-Face

Course Description

This course is an introduction to the theory of discrete mathematics and introduces elementary concepts in logic, set theory, graph theory, number theory and combinatorics. This forms a basis for upper division courses in mathematics and computer science, and is intended for the transfer student planning to major in these disciplines. The topics covered in this course include methods of proof, sets and relations, functions, number theory, induction, recursion, counting principles and probability trees, permutations, combinations, introduction to computer programming, and graph theory. (C-ID: MATH 160) (CSU/UC)

Course Prerequisite(s) and/or Corequisite(s)

MATH 192 - with a grade of "C" or better

Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. Use a truth table to test the validity of an argument.
2. Construct proofs of mathematical statements using standard techniques, including induction.
3. Apply graph theory to real world situations.

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Course Objectives

Upon satisfactory completion of the course, students will be able to:

1. Write proofs using symbolic logic and Boolean Algebra.
2. Use recursion to analyze algorithms and programs.
3. Use sets to solve problems in combinatorics and probability theory.
4. Apply matrices to analyze graphs and trees.
5. Use finite state machines to model computer operations.

Textbooks & Other Resources or Links

Epp, Susanna. 2020. *Discrete Mathematics with Applications*. 5th Brooks/Cole. ISBN: 978-0495391326.

Course Requirements and Instructional Methods

1. Class participation: Be present in mind, body and spirit! You need to participate to succeed. Calculus is not easy. Your algebra must be strong! Your trig – yep! You need that knowledge too (especially in Calc

2. Do not spend time on your cell phone. Time on your cell phone is time away from calculus.

3. Love to learn! Embrace the productive struggle. Take joy in not knowing how to do a problem and working it out with your peers. Learn a little every day and refrain from learning a lot in one day. You need time to digest the material.

4. Exams – Three exams! Study a little bit every day.

5. Final Exam – you get to share with me what you learned!

6. No Make-up tests. If you miss an exam and can produce an excused absence as defined by the catalog, I will adopt the policy of some departments of the University of Southern California: your test score will be the average of your other three exam scores AND the average of the final exam of the class.

Course Grading Based on Course Objectives

Quizzes: In class and on Canvas……..……..10%

Exams: (Four)……..……60%

Projects……..……..5%

Final Exam……..……25%

A: 90% - 100% B 80% - 89.9%

C: 70: - 79.9% D: 60% - 69.9%

F: Less than 60%

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Academic Honesty (Artificial Intelligence -AI)

IVC values critical thinking and communication skills and considers academic integrity essential to learning. Using AI tools as a replacement for your own thinking, writing, or quantitative reasoning goes against both our mission and academic honesty policy and will be considered academic dishonesty, or plagiarism unless you have been instructed to do so by your instructor. In case of any uncertainty regarding the ethical use of AI tools, students are encouraged to reach out to their instructors for clarification.

Course Policies

1. Form study groups.

2. Become a family.

3. Apply to be a part of our new MESA (Mathematics, Engineering and Science Achievement) center.

4. If you are not admitted to MESA (for not meeting the state defined qualifications), our MESA director provides a different acronym for you: (ASEM – Achievement in Science, Engineering and Mathematics) for you and you are all part of the same extended family.

5. Don’t cheat.

6. Cell phones are only allowed for taking pictures of the work on the board. We will have a productive couple of hours with our math family.

Other Course Information

1. During exams there are no restroom breaks.

2. There are no make-up tests. Every person in the class is provided the opportunity to show me what they didn’t learn on a challenging end of the year test the week before finals.

IVC Student Resources

IVC wants you to be successful in all aspects of your education. For help, resources, services, and an explanation of policies, visit http://www.imperial.edu/studentresources or click the heart icon in Canvas.

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Date or Week	Activity, Assignment, and/or Topic	
August 12 August 14	Introduction Chapter 1.1, 1.2	
August 19 August 21	Chapter 1.3 (Zoom) Chapter 2.1, 2.2 (Zoom)	
August 26 August 28	No Class – outside assignment (Chapter 2.3) Chapter 3.1, 3.2	
Sept 2 Sept 4	Holiday: September 2 Chapter 3.3/Review	
Sept 9 Sept 11	Exam 1 Chapter 3.3, 3.4	
Sept 16 Sept 18	Chapter 3.4 Chapter 4.1, 4.2	
Sept 23 Sept 25	Chapter 4.3 Chapter 4.4, 4.5	
Sept 30 October 2	Chapter 4.6 Chapter 4.7, 4.8	
October 7 October 9	Review Exam 2	
October 14 October 16	Chapter 5.1, 5.2 Chapter 5.3, 5.4	
October 21 October 23	Chapter 5.5, 5.6 Chapter 6.1, 6.2	
October 28 October 30	Chapter 6.3, 6.4 7.1/Review	
November 4 November 6	Exam 3 Chapter 7.2,7.3	
November 11 November 13	Holiday Chapter 8.1, 8.2	
November 18 November 20	Review Exam 4	

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Date or Week	Activity, Assignment, and/or Topic	
Thanksgiving Recess		
December 4 December 6	Review Final Exam	

*****Subject to change without prior notice*****