IMPERIAL VALLEY COLLEGE

Basic Course Information

Semester:	**Fall 25**	Instructor Name:	**Jeffrey Burt**
Course Title & #:	**Math 240 – Discrete Math**	Email:	**Jeff.burt@imperial.edu**
CRN #:	**10066**	Webpage (optional):	**NA**
Classroom:	**2725**	Office #:	**2765**
Class Dates:	**8/11-12/6**	Office Hours:	**M/W 9:30-10, 12:45-1:15 T/TH 10:10-11:10**
Class Days:	**M/W**	Office Phone #:	**760-355-6489**
Class Times:	8:00am – 9:25 am	Emergency Contact:	**email**
Units:	3	Class Format/Modality:	**In person**

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.

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

Homework

Homework will be assigned at each class meeting. The pdf must be in the correct format and turned in on time to count for credit.

Updated 11/2024

Quizzes

A quiz may be given at any time during any class period. It may not be announced. The number of quizzes or group work in the semester will be instructor's discretion. The purpose is to provide a feedback on the learning outcomes. The lowest 2 scores will be dropped.

Tests

There will be four tests. The purpose of these tests is to check your understanding of the concepts covered in the course. Most of the questions on these tests will require showing a significant amount of work. A correct answer with insufficient work will receive partial credit or no credit.

Final Exam

At the end of the semester, a COMPREHENSIVE/CUMULATIVE Final Exam will be given. If you miss the final, it will be recorded as a zero.

Out of Class Assignments: The Department of Education policy states that one (1) credit hour is the amount of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement

Course Grading Based on Course Objectives

There will be 3 in class exams, each worth 20% of your grade. The final is comprehensive and is worth 25% of your grade. There are no make-ups for the exams or final. Plan to be here for the exam dates in the schedule, but also note that those dates can change, so make sure you are paying attention and staying up to date. Any missed exam will result in the grade of a '0'.

Grading: You need at least a total of 70% for a 'C' grade. It is broken down as follows

Quizzes	8%
HW	7%
Exams	60%
Final	25%
Total	100%

The grade categories are as follows: A 100%-90%, B 89.9%-80%, C 79.9%-70%, D 69.9%-60%, F 59.9%-0%

Attendance, class participation and a subjective instructor's interpretation of work may be used in assigning a final grade to borderline cases.

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.

Accessibility Statement

Imperial Valley College is committed to providing an accessible learning experience for all students, regardless of course modality. Every effort has been made to ensure that this course complies with all state and federal accessibility regulations, including Section 508 of the Rehabilitation Act, the Americans with Disabilities Act (ADA), and Title 5 of the California Code of Regulations. However, if you encounter any content that is not accessible, please contact your instructor or the area dean for assistance. If you have specific accommodations through *DSPS*, contact them for additional assistance.

We are here to support you and ensure that you have equal access to all course materials.

Course Policies

The goal of this course is for you to gain the necessary skills and knowledge to do well, and improve your mathematical abilities, so you are able to succeed in future courses. My responsibility is to help you in any way I can to accomplish these goals, however it is your responsibility to be committed to your own success and keep up with the pace of the class. To do so you need to complete assignments on time and please ask questions when you have them.

Out of Class Assignments: The Department of Education policy states that one (1) credit hour is the amount of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement. This means you should plan on 3 hours of class time, plus an additional 6 hours each week for working outside of class. This means you should spend at least 9 hours working on math each week.

Course Rules:
1) Late work is not accepted. If you are going to be gone, contact me before the absence to make arraignments.
2) There are no make up tests.
3) It is your responsibility to drop or withdraw the class. Failure to do so will result in a regular grade (most probably an F).
4) Regular attendance is recommended and expected. The instructor can drop you from the class if you have more than the allowed number of absences.
5) You need to ask questions whenever you have them. If not in class, please come to my office during office hours, call me, email me, go to the math lab, google it, YouTube it, etc.
6) It is your responsibility to make up the work you missed if you are absent. I highly recommend finding someone else to copy notes and material from that were covered in your absence.

Financial Aid

Your Grades Matter! In order to continue to receive financial aid, you must meet the Satisfactory Academic Progress (SAP) requirement. Makings SAP means that you are maintaining a 2.0 GPA, you have successfully completed 67% of your coursework, and you will graduate on time. If you do not maintain SAP, you may lose your financial aid. If you have questions, please contact financial aid at finaid@imperial.edu.

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.

Anticipated Class Schedule/Calendar

Week 1: Aug 11 - Aug 17	Introduction Chapter 1.1, 1.2
Week 2: Aug 18 - Aug 24	Chapter 1.3 Chapter 2.1, 2.2
Week 3: Aug 25 - Aug 31	Chapter 2.3 Chapter 3.1, 3.2
Week 4: Sep 1 - Sep 7	Holiday Chapter 3.3/Review
Week 5: Sep 8 - Sep 14	Exam 1 Chapter 3.3, 3.4
Week 6: Sep 15 - Sep 21	Chapter 3.4 Chapter 4.1, 4.2
Week 7: Sep 22 - Sep 28	Chapter 4.3 Chapter 4.4, 4.5
Week 8: Sep 29 - Oct 5	Chapter 4.6 Chapter 4.7, 4.8
Week 9: Oct 6 - Oct 12	Review Exam 2
Week 10: Oct 13 - Oct 19	Chapter 5.1, 5.2 Chapter 5.3, 5.4
Week 11: Oct 20 - Oct 26	Chapter 5.5, 5.6 Chapter 6.1, 6.2
Week 12: Oct 27 - Nov 2	Chapter 6.3, 6.4,7.1
Week 13: Nov 3 - Nov 9	Chapter 7.2,7.3
Week 14: Nov 10 - Nov 16	Holiday Chapter 8.1, 8.2
Week 15: Nov 17 - Nov 23	Review Exam 3
Week 16: Nov 24 - Nov 30	Thanksgiving Break
Week 17: Dec 1 – Dec 6	Review/Final

Subject to change without prior notice