



IMPERIAL VALLEY COLLEGE

### Basic Course Information

Semester:	Fall 2025	Instructor Name:	Juan Andres Noguez
Course Title & #:	Discrete Structures	Email:	<a href="mailto:juan.noguez@imperial.edu">juan.noguez@imperial.edu</a>
CRN #:	10961	Webpage (optional):	N/A
Classroom:	2725	Office #:	2724
Class Dates:	8/11-12/06	Office Hours:	M/W 3pm-3:30pm, Thu 4pm-4:30pm, Fridays 1pm-3:30pm
Class Days:	MW	Office Phone #:	TBA
Class Times:	4:20pm-5:45pm	Emergency Contact:	Silvia Murray ( <a href="mailto:silvia.murray@imperial.edu">silvia.murray@imperial.edu</a> )
Units:	3	Class Format/Modality:	In Person

### Course Description

This course is an introduction to the discrete structures used in Computer Science with an emphasis on their applications. Topics covered include Functions, Relations and Sets; Basic Logic; Proof Techniques; Basics of Counting; Graphs and Trees; and Discrete Probability.

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

CS 221 and MATH 192 - with grades 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. Demonstrate problem-solving strategies by identifying an appropriate method to solve a given problem, correctly set up the problem, perform the appropriate analysis and computation, and share their interpretation of the conclusion or the outcome, using correct grammar or in an oral presentation.

### Course Objectives

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

1. Describe how formal tools of symbolic logic are used to model real-life situations, including those arising in computing contexts such as program correctness, database queries, and algorithms.
2. Relate the ideas of mathematical induction to recursion and recursively defined structures.
3. Analyze a problem to create relevant recurrence equations.
4. Demonstrate different traversal methods for trees and graphs.
5. Apply the binomial theorem to independent events and Bayes' theorem to dependent events.

### Textbooks & Other Resources or Links

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

WebAssign will be used to assign homework.



## Course Requirements and Instructional Methods

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 arrangements.
- 2) There are no make-up tests or quizzes.
- 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 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, or email me.
- 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.

## Course Grading Based on Course Objectives

There will be 3 in class exams, each exam is worth 20% of your grade. There are no make-ups for the exams. If an exam is missed, then you will receive a 0% and that 0% will be replaced with the final exam percentage score. The final exam is comprehensive and is worth 25% of your grade. There is no make-up for the final exam, if the final exam is missed, then you will receive a zero. Plan to be here for the exam dates in the schedule but also note that those dates can change so make sure you are attending class, paying attention and staying up to date.

The combined total of your homework is worth 10% of your grade. The combined total of your quizzes is worth 5% of your grade. There are no make-up quizzes.

All Grades will be shown on Canvas. Your grade will be weighted as summarized below:

Homework 10% of grade  
Quizzes 5% of grade  
Exams 60% of grade  
Final 25% of grade

## 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

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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

### Classroom Policy

- Arrive to class on time.
- Academic integrity is expected; any cheating will result in a 0 on that particular assignment and notification of academic dishonesty to the college.
- Be civil, respectful, and cordial to fellow classmates and instructor. Inappropriate behavior will be documented, and student will be subjected to disciplinary action.
- Any student engaging in disruptive behavior will be subject to disciplinary action. Disruptive behavior consists of (but it's not limited to) behavior that interferes with the learning of fellow classmates or distractive behavior to the instructor.
- Cellphones must be either turned off or on silent mode during class time. If you need to take a call, then you must leave the classroom without disrupting others (do not answer the phone inside the classroom!).
- Cell phones, computers, tablets, any other electronic device or any additional materials are not allowed during quizzes and exams. Using such tools will result in a grade of 0 for said quiz or exam.

### Attendance Policy

- Students who miss the first day of class will be dropped by the instructor.
- Regular attendance is expected of all students. Students with unexcused absences exceeding the number of hours the class is scheduled to meet per week may be dropped.
- If you miss a class, you are expected to get caught up with the material you missed.

### Email Policy

- You are expected to check Canvas Inbox daily for updates regarding our class. I will be communicating with the class through Canvas. You are also expected to check daily IVC email.
- If you need to contact me, I strongly recommend you do so through Canvas Inbox or IVC email. When emailing me, be sure to email from your IVC email, I will not respond to emails from personal email accounts such as gmail.com or outlook.com.

### Math Help

- My office hours are MW 3pm-3:30pm, Thursdays 4pm-4:30pm, and Fridays 1pm-3:30pm in room 2724. Please feel free to stop by if you have any questions or need help with homework.
- IVC also offers tutoring services, I strongly recommend using such services as well.

## Financial Aid

Your Grades Matter! In order to continue to receive financial aid, you must meet the Satisfactory Academic Progress (SAP) requirement. Making 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](mailto: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

Date or Week	Activity, Assignment, and/or Topic
Week 1	Syllabus & Introduction. Sections: 2.1, 2.2, 2.3
Week 2	Sections: 2.3, 3.1, 3.2
Week 3	Sections: 3.3, Review
Week 4	<b>(Monday September 1<sup>st</sup> : No Class due to holiday)</b> <b>Exam 1 (CH 2 and CH 3) (Wednesday September 3<sup>rd</sup>)</b>
Week 5	Sections: 4.1, 4.2, 4.3
Week 6	Sections: 4.3, 4.4, 4.5
Week 7	Sections: 4.5, 4.7
Week 8	Review <b>Exam 2 (CH 4) (Wednesday October 1<sup>st</sup>)</b>
Week 9	Sections: 9.1, 9.2, 9.3
Week 10	Sections: 9.3, 9.5, 9.6
Week 11	Sections: 9.6, 9.7, 10.1
Week 12	Sections: 10.1, 10.2, 10.3
Week 13	Sections: 10.3, 10.4, 10.5
Week 14	<b>(Monday November 10<sup>th</sup>: No Class due to holiday)</b> Sections: 10.6
Week 15	Review <b>Exam 3 (CH 9 and CH 10) (Wednesday November 19<sup>th</sup>)</b>
<b>Thanksgiving Break</b>	<b>Thanksgiving Break (No classes this week)</b>
Week 16	Catch up if needed and review. Final Exam Wednesday December 3 <sup>rd</sup>

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