



ICS 141 – Discrete Mathematics for Computer Science I

3 Credits | CRN 63374
Distance Learning

INSTRUCTOR: Laura Sue
OFFICE: Hale Palanakila 119A
OFFICE HOURS: By appointment
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EFFECTIVE DATE: Fall 2022

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawai'i and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide the Ko'olau region of O'ahu and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

CATALOG DESCRIPTION

This course covers logic, sets, functions, matrices, algorithmic concepts, mathematical reasoning, recursion, counting techniques, and probability theory.

Prerequisites: Grade of “C” or better in MATH 103 or placement into MATH 135 or higher, or consent of instructor.

STUDENT LEARNING OUTCOMES

As a result of taking this course, students can expect to attain the following outcomes:

1. Analyze issues and apply mathematical problem solving skills to plan courses of action in decision-making situations.
2. Solve problems by using basic mathematical formal logic, proofs, recursion, analysis of algorithms, sets, combinatorics, relations, functions, matrices and probability.

COURSE TASKS AND STUDENT LEARNING OUTCOMES ALIGNMENT

Student Learning Outcomes	Homework Assignments	Chapter Exams	Final Exam
Analyze issues and apply mathematical problem solving skills to plan courses of action in decision-making situations.	x	x	x
Solve problems by using basic mathematical formal logic, proofs, recursion, analysis of algorithms, sets, combinatorics, relations, functions, matrices and probability.	x	x	x

ASSESSMENT TASKS AND GRADING

Homework Assignments: We will be using Cengage’s WebAssign as our digital textbook. The Homework Assignments for this class will mostly all be completed through WebAssign and will be worth 50% of your final grade. There will be a direct link to MindTap from our Laulima site. A score of 90% or higher (for the chapter) will earn you full credit for WebAssign Homework Assignments.

Chapter Exams: We will have three Chapter Exams that cover Chapters 1-3, 4-6, and 7-9. Each exam will be worth 10% of your final grade.

Final Exam: The Final Exam will be cumulative but will also focus on Chapters 10-12 since there isn’t going to be a separate Chapter Exam for those last three chapters. The Final Exam will be worth 20% of your final grade.

Assignment Breakdown:

Assignments	Percentage of Total
Homework Assignments	50%
Exam 1 (CH 1-3)	10%
Exam 2 (CH 4-6)	10%
Exam 3 (CH 7-9)	10%
Final Exam (CH 1-12)	20%
GRAND TOTAL	100%

Final grades for the course will be as follows:

- A 90-100% of possible points
- B 80-89% of possible points
- C 70-79% of possible points
- D 60-69% of possible points
- F 0-59% of possible points

LEARNING RESOURCES

- **Laulima:** <https://laulima.hawaii.edu>
- Interactive Textbook: *Discrete Mathematics with Applications* by Susanna S. Epp
- **Cengage WebAssign:** <https://www.webassign.net>

ADDITIONAL INFORMATION

Email: Please use your UH email address for this course. Any information regarding the class will be sent to your UH email address, so check your email frequently. Email is also the preferred method of contacting the instructor.

Business-like behavior: ICS courses at Windward Community College are part of the Business department. In order to fulfill the objectives of the Business department, students are expected to present business-like behavior. Business-like behavior includes:

Time-management: Since this is a distance learning class, it will be up to you to schedule enough time to complete the lessons each week. Don't wait until the last minute to complete assignments.

Turn in assignments on time: Start assignments well before the due date. If situations arise which prevent assignments from being completed on time, notify the instructor right away.

Ask for assistance: In a business, if you were uncertain about what to do, you would ask your boss for direction. In this class, ask the instructor if you have questions about the class or if anything is unclear.

ACADEMIC INTEGRITY

Work submitted by a student must be the student's own work. Academic dishonesty includes, but is not limited to, file sharing (giving or receiving files between students), more than one student working on the same file/assignment, and copying work in full or in part from another student or other sources such as the Internet. Any student caught cheating will automatically receive a 0 for the assignment. In addition, a report of the incidence will be filed, which may result in the student being expelled from the school. For more information, please see the college catalog for the school's policy on academic dishonesty.

STAR-BALANCE

At Windward Community College we want every student to be successful. Star-Balance is a system-wide service that allows instructors to refer students to specific services such as tutoring, the writing center, or advising. It also allows instructors to send kudos to students who are doing well. At this time, I am only able to provide feedback through Star-Balance for students whose home campus is Windward Community College. The purpose of this system is to help students be successful in the class, so if I do refer you for any services, please know that I am doing so in an effort to help you, as your success is important to me.

DISABILITIES ACCOMMODATIONS

If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Accessibility Counselor to discuss reasonable accommodations that will help you succeed in this class. Jodi Asato can be reached at (808) 235-7472, jodiaka@hawaii.edu, or you may stop by Hale Kāko'o 105 for more information.

SEX DISCRIMINATION AND GENDER-BASED VIOLENCE RESOURCES (TITLE IX)

Windward Community College is committed to providing a learning, working, and living environment that promotes personal integrity, civility, and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking.

If you or someone you know is experiencing any of these, WCC has staff and resources to support and assist you. To report an incident of sex discrimination or gender-based violence, as well as receive information and support, please contact one of the following:

Desrae Kahale, Confidential Resource
808-235-7393
dkahale3@hawaii.edu

Jojo Miller, Confidential Campus Advocate
808-348-0663
jojo.miller@hawaii.edu

Leslie Cabingabang, Senior Confidential Advocate
808-348-0432
leslie.cabingabang@hawaii.edu

To file a report online: <https://report.system.hawaii.edu/student>

As a member of the University faculty, I am required to immediately report any incident of sex discrimination or gender-based violence to the campus Title IX Coordinator. Although the Title IX Coordinator and I cannot guarantee confidentiality, you will still have options about how your case will be handled. My goal is to make sure you are aware of the range of options available to you and have access to the resources and support you need.

For more information regarding sex discrimination and gender-based violence, the University's Title IX resources and the University's Policy, Interim EP 1.204, go to manoa.hawaii.edu/titleix/

BASIC NEEDS STATEMENT

Basic needs include food and housing, childcare, mental health, financial resources and transportation, among others. Student basic needs security is critical for ensuring strong academic performance, persistence and graduation and overall student well being. If you or someone you know are experiencing basic needs insecurity, please see the following resources:

UH System Student Basic Needs: <https://www.hawaii.edu/student-basic-needs/>

WCC Student Basic Needs: <https://www.hawaii.edu/student-basic-needs/resources/windward/>

ALTERNATE CONTACT INFORMATION

If you are unable to contact the instructor, have questions that your instructor cannot answer, or for any other issues, please contact the Academic Affairs Office:

- Location: Alaka'i 121
- Phone: (808) 235-7422

TENTATIVE SCHEDULE

Week	Topic	Due Dates
Week 1 8/22/2022	Introduction to ICS 141 Chapter 1 – Speaking Mathematically	
Week 2 8/29/2022	Chapter 2 – The Logic of Compound Statements	
Week 3 9/5/2022	Chapter 3 – The Logic of Quantified Statements	
Week 4 9/12/2022	Exam 1 – Chapters 1 through 3	Chapters 1 through 3 Sun 9/18/2022
Week 5 9/19/2022	Chapter 4 – Elementary Number Theory and Methods of Proof	
Week 6 9/26/2022	Chapter 5 – Sequences, Mathematical Induction, and Recursion	
Week 7 10/3/2022	Chapter 6 – Set Theory	
Week 8 10/10/2022	Exam 2 – Chapters 4 through 6	Chapters 4 through 6 Sun 10/16/2022
Week 9 10/17/2022	Chapter 7 – Properties of Functions	
Week 10 10/24/2022	Chapter 8 – Properties of Relations	
Week 11 10/31/2022	Chapter 9 – Counting and Probability	
Week 12 11/7/2022	Exam 3 – Chapters 7 through 9	Chapters 7 through 9 Sun 11/13/2022
Week 13 11/14/2022	Chapter 10 – Theory of Graphs and Trees	
Week 14 11/21/2022	Chapter 11 – Analysis of Algorithm Efficiency	
Week 15 11/28/2022	Chapter 12 – Regular Expressions and Finite-State Automata	
Week 16 12/5/2022	Review	Chapters 10 through 12 Thurs 12/8/2022
Finals Week 12/12/2022	Final Exam	Fri 12/16/2022

Please note that the schedule may change as necessary