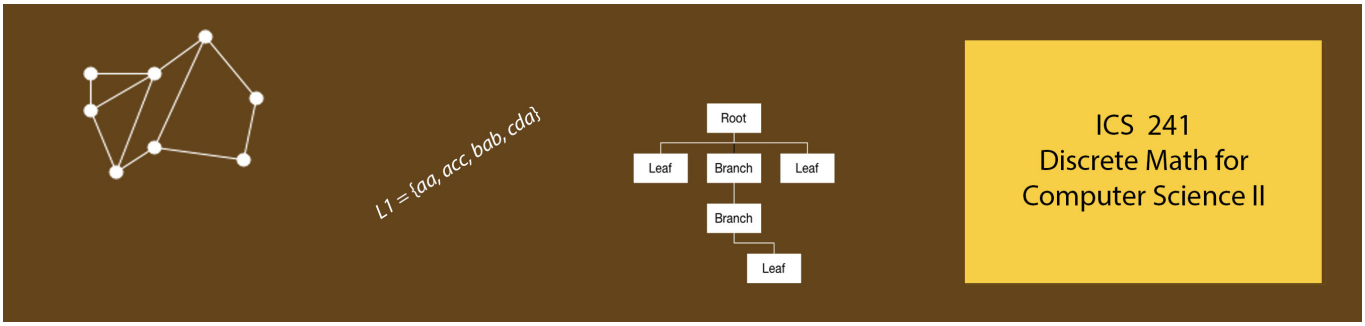

ICS 241 – Discrete Math for Computer Science II

Instructor Information

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Office hours: Online

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 O‘ahu’s Ko‘olau region and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

Catalog Description

Includes program correctness, recurrence relations and their solutions, divide and conquer relations, graph theory, trees and their applications, Boolean algebra, introduction to formal languages and automata theory.

Student Learning Outcomes

The Student Learning Outcomes for this course are:

- Analyze issues and apply more complex mathematical problem solving skills to plan courses of actions in high-level decision-making situations.
- Utilize such tools as graphs, trees, boolean algebra, and recurrence relations.
- Explain discrete math concepts such as formal languages, finite-state machines, and program correctness.

Student Learning Outcomes Alignment

Student Learning Outcome	Lessons and Assessments
Analyze issues and apply more complex mathematical problem solving skills to plan courses of actions in high-level decision-making situations.	Lessons 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 Assignments 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Utilize such tools as graphs, trees, boolean algebra, and recurrence relations.	Lessons 2, 5, 6, 7, 8 Assignments 2, 5, 6, 7, 8
Explain discrete math concepts such as formal languages, finite-state machines, and program correctness.	Lessons 12, 13 Assignments 12, 13

Course Content

Concepts	Skills
1. Graphs and Trees. 2. Boolean algebra. 3. Finite-state machines. 4. Formal languages. 5. Program correctness. 6. Solving recurrence relations.	Demonstrate mastery of: 1. Graphs and trees. 2. Boolean algebra. 3. Finite-state machines. 4. Formal languages 5. Program correctness. 6. Solving recurrence relations

Course Tasks

In this class, you must show mastery of each topic through a series of assignments.
Every assignment is worth 20.

To get the full 20 points, your solutions must be correct and you must show how you arrived at the solution. If there are errors, then I will specify what it is and return it to you. Note that I will not tell you how to correct the error, only what it is. You should then correct the assignment and resubmit it.

Each assignment will be due two weeks after submission. If an assignment is turned in after its due date there will be a 2 point penalty. Note that this penalty only applies to original submissions, not resubmissions. The final deadline for all assignments and resubmissions is May 6, 2015. No work will be accepted after that date. This is a firm deadline.

Assignment Tasks and Grading

Your letter grade will be determined by the number of points you earn. There are 13 assignments for a total of 260 points:

- A: 234 – 260 points
- B: 208 – 233 points
- C: 182 – 207 points
- D: 156 – 181 points
- F: 0 – 155 points

Learning Resources

Your textbook for this class is Epp's *Discrete Mathematics with Applications* (4^{th} edition) from Cengage.

We will use Laulima for submitting and returning all assignments. All grades will be posted in Laulima and you will be able to track your progress by utilizing the grade book. In addition, there will be discussion boards in Laulima where you may post or answer questions. Use the private message tool in Laulima to contact the instructor.

Other resources

- Tutoring may be available from the TRIO office in the Library on the WCC campus.
- All public computers at WCC have computers configured with all of the software needed for this class.

Policies

Disabilities Accommodation Statement
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 Disability Specialist Counselor to discuss reasonable accommodations that will help you succeed in this class. Ann Lemke can be reached by phone at 235-7448, by email at lemke@hawaii.edu, or by stopping by her office in Hale ʻAkoakoa 213 for more information.

Academic Dishonesty - Cheating and Plagiarism
You are responsible for the content and integrity of all work you submit. The guiding principle of academic integrity will be that all files, work, examinations, reports, and projects that you submit are your own work. See page 16 of the Windward Community College catalog for further clarification.

A Final Thought

A computer is a computing machine. Everything it does involves numbers and mathematics, even when it doesn't seem to (such as writing a paper). Discrete Mathematics gives a basic understanding of the most common mathematical concepts used to create professional programs. You will need to study and, possibly, go through a section more than once to understand most of these concepts. But if you stick with it and apply these concepts to your programs you will be rewarded with applica0ons that operate efficiently and correctly. Good luck!