DISCRETE COMPUTATIONAL STRUCTURES
CS310 – 002 · FALL SEMESTER 2019

INSTRUCTOR: ANDRÉ DOS SANTOS

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LECTURES: Tuesday and Thursday • 4:30 - 5:45pm • **CL317**

OFFICE HOURS: Monday and Wednesday • 10:00 - 11:30am • **CW308.3.1** or by appointment

TEXT: K. H. Rosen, *Discrete Mathematics and its Applications*, 8th Edition, McGraw Hill, 2019

PREREQUISITES: MATH 110 or 105, 122, 221 and CS 210

Overview

Finite and discrete algebraic structures relating to computers; sets, functions, relations. Machine-oriented logic. Combinatorial problems and algorithms. Finite automata and formal language theory.

Grading scheme

5 assignments	25%
1 midterm exam	25%
1 final exam	50%
Instructor Discretion	+5/-5%
Total	**100%**

Lecture Outline

I. Introduction
II. The foundations: Logic and Proofs
III. Basic Structures: Sets, Functions, Sequences, Sums, and Matrices
IV. Algorithms
V. Induction and Recursion
VI. Counting
VII. Discrete Probability
VIII. Advanced Counting Techniques
IX. Relations
X. Graphs
XI. Trees
XII. Probabilistic Graphical Models (as time permits)

Notes

1. Please read the sections of the 2018-2019 University of Regina General Calendar dealing with Academic Regulations.
2. Due dates for assignments will be given with the assignment. The assignment is due at the start of class on the due date. All assignments should be submitted to UR courses. Late assignments are not accepted.
3. All assignments should contain your name, student number, and assignment number on the first page.
4. Keep your marked assignments and midterm to verify the grader mark entry.
5. All exams are "closed book," with no additional material permitted. Coats, hats, books, pencil cases, and all other personal items shall be left at the front of the room during examination periods. Cellphones, smartwatches, and all other electronic devices shall be put in your personal bag or left with the instructor during exam. Cellphones and all other electronic devices must be turned off. Any student violating these rules may be charged with academic misconduct.
6. The instructor reserves the right to organize student seating before and during examinations.
7. CHEATING WILL NOT BE TOLERATED. Any close resemblances in the submitted assignments or exams will be assumed to be the result of cheating. Copying of assignment is plagiarism. Allowing your segments to be copied will be treated the same as copying. THE CONSEQUENCE OF PLAGIARISM OR ANY OTHER FORM OF CHEATING WILL RANGE FROM A ZERO GRADE, TO FAILURE IN THE CLASS, TO EXPULSION FROM THE UNIVERSITY. Please note that the dean of the faculty will be informed of any such incident, as per university regulations. Refer to the section on Academic Misconduct and Penalties in the General University Calendar.