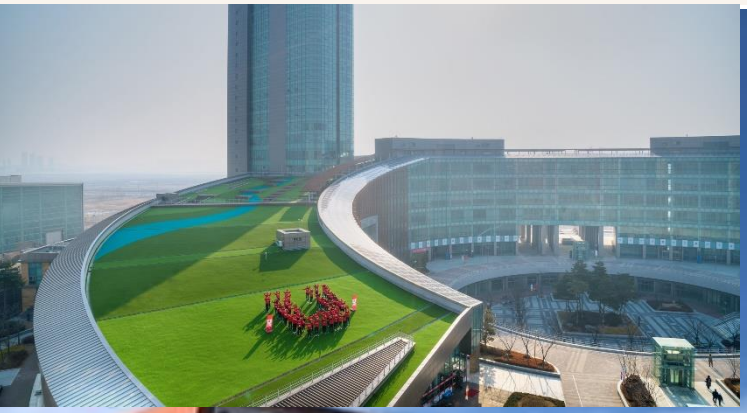
THE UNIVERSITY OF UTAH
ASIA CAMPUS
SOUTH KOREA

Habtamu Minassie Aycheh,PhD

Department of Electrical and Computer Engineering



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Department of Electrical and Computer Engineering
Spring 2022

Course Title: Introduction to Algorithms and Data Structure
Course Number: CS 2420

Instructor: Habtamu Minassie Aycheh
Email: habtamu.aycheh@utah.edu
Office : U759

Course Objective

- The course provides the basics of efficient computational problem solving techniques.
  - Algorithms for solving problems efficiently
  - Data structures for efficiently storing, accessing, and modifying data
  - Algorithms and data structures are two topics that are almost always taught together
    - Algorithms make use of data structures and data structures need algorithms to function

Syllabus

Week	Day	Date	Topic
1	Mon	21/02/2022	Introduction
	Wed	23/02/2022	C++ Quick Review I
2	Mon	~~28/02/202~~	Reading Day
	Wed	02/03/2022	C++ Quick Review II
3	Mon	07/03/2022	C++ Quick Review III
	Wed	~~09/03/2022~~	-Presidential Election day
4	Mon	14/03/2022	Computational complexity analysis
	Wed	16/03/2022	• Asymptotic Analysis • Algorithm Analysis
5	Mon	21/03/2022	Array
	Wed	23/03/2022	Sorting
6	Mon	28/03/2022	
	Wed	~~30/03/2022~~	Spring Recess
7	Mon	04/04/2022	**List** • Dynamic Array • Linked List
	Wed	06/04/2022	
8	Mon	11/04/04/2022	
	Wed	13/04/2022	

Mid Term Exam

Week	Day	Date	Topic
9	Mon	18/04/2022	**Stack**
	Wed	20/04/2022	
10	Mon	25/04/2022	**Queue**
	Wed	27/04/2022	
11	Mon	02/05/2022	Priority Queue
	Wed	04/05/2022	Binary Heap
12	Mon	~~09/05/2022~~	Buddha's Birthday
	Wed	11/05/2022	More on Binary Heap
13	Mon	16/05/2022	Heap Sort
	Wed	18/05/2022	Tree
14	Mon	23/05/2022	
	Wed	25/05/2022	Graph
15	Mon	30/05/2022	
	Wed	~~01/06/2022~~	Local Election Day
16	Mon	~~06/06/2022~~	Memorial Day
	Wed	08/06/2020	

Final Exam

Class Logistics

- Class
  - Time: Monday & Wednesday: 1:00pm – 2:20pm
  - Location:U302
- Lab
  - Time: Monday: 2:30pm – 3:20pm
  - Location:LAB507
- Office Hour
  - By appointment
- Course materials
  - Uploaded to Canvas
    - Please check canvas for lecture slides before class
    - quizzes, assignments, etc..
  - GitHub: https://github.com/habtamuMin/cs2420

Evaluation

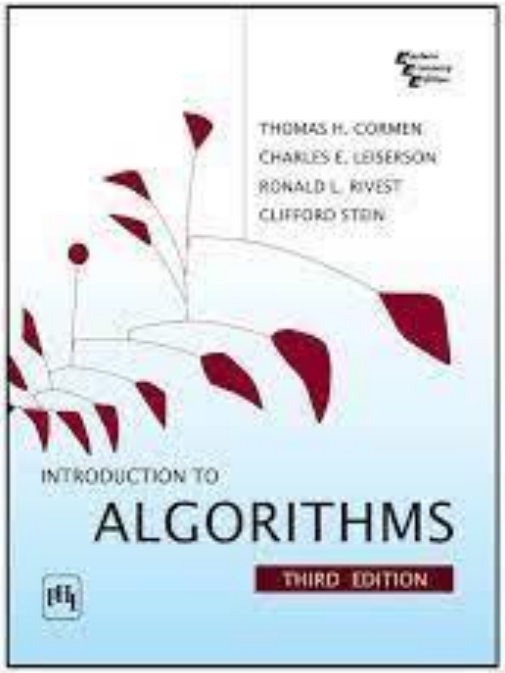
- Class activity: 10%
- Quiz : 10%
- Lab assignments : 30%
- Mid test : 25%
- Final test: 25%

Academic integrity

- You have to be honest in all your academic course work
- Violation will be recorded in your transcript
  - https://regulations.utah.edu/academics/6-400.php
- Submit assignment by the deadline
- You must attend classes and lab sessions to successfully complete the course. Note that labs are designed to help you get hands-on-practice!

Textbook

- Textbook: Introduction to Algorithms
  - 3rd Edition (The MIT Press)
  - This is the “bible” of algorithm book



- Problem Solving with Algorithms and Data Structures using C++

  https://runestone.academy/ns/books/published/cppds/index.html

Good luck and have a great semester!