CSCI 332: Design and Analysis of Algorithms

Tentative schedule: Updated 11/19/2022

Major updates in blue font

Notes:

1.) KT refers to the textbook, by Klein and Tardos

2.) The presence of a reading quiz on a particular day means that you are expected to have read all of the chapter by that day

3.) You can begin working on homework (HW) problems as early as you want, but I recommend beginning to work on them (roughly) on the day where they are "released" in the schedule below. The listed problems refer to those in the KT textbook, e.g., 2-3 refers to the 3rd problem in Chapter 2. *Reminder that you will not be asked to submit solutions for any of the homeworks – you will be evaluated with the quizzes*.

4.) I may revise this schedule to move due dates back a bit depending upon the progress of the class, but I will generally avoid moving them forward.

Tentative schedule

Day	Content	Assignment (due, start of class)
Aug. 29th	Class introduction	
Aug. 31st	GS Algorithm and Representative Problems	KT Ch. 1 Reading Quiz
Sept. 2nd	Representative Problems	HW #1 problems (but not due): 1-1,1-2,1-3,1-5b,2-1, 2-2,2-3,2-6,
Sept. 5th	Labor Day – no class	
Sept 7th	Intro Algorithm Analysis	KT Reading Quiz Ch. 2: on Ch. 2.1, 2.2, and 2.4
Sept. 9th	Intro Algorithm Analysis (Continued)	HW#1 Solutions Made Available (nothing due though)
Sept. 12th	Intro Algorithm Analysis (Continued)	
Sept. 14th	No lecture	HW#1 Quiz HW #2 Problems (but not due): 3-1, 3-2, 3-4, 3-5, 3-9
Sept. 16th	Intro Algorithm Analysis (review HW problem 2-6)	
Sept. 19th	Review of Data Structures	
Sept. 21st	Review of Data Structures, and Mathematical Induction	KT Reading Quiz Ch. 3: on Ch. 3.1 and 3.2 HW #2 Solutions Made Available (nothing due though)

Sept. 23rd	Intro to Graphs	
Sept. 26th	Jordan travel – no class	
Sept. 28th	Jordan travel – no class	
Sept 30th	Graphs (continued)	KT Reading Quiz Ch. 3: on Ch. 3.5 and 3.6
Oct. 3rd	HW #2 Quiz	HW #2 Quiz
Oct. 5th	Review Day	
Oct. 7th	Exam #1 (Chapters 1,2,3)	Exam #1 (Chapters 1,2,3)
Oct. 10th	Greedy Algorithms: Cashier's algo, intervals, minimizing lateness	HW #3 Problems (but not due): 4-2, 4-3, 4-8, 4-21,5-1,5-3 Reading Assignment: KT 4.1-4.7
Oct. 12th	Greedy Algorithms: minimizing lateness	KT Reading Quiz Ch. 4: 4.1 and 4.2
Oct. 14th	Greedy Algorithms: optimal caching, shortest path	
Oct 17th	Greedy Algorithms: shortest path, and review of exam #1 solutions.	
Oct. 19th	Greedy Algorithms: spanning trees and k-means	
Oct. 21st	Divide & Conquer: mergesort & counting inversions	HW #3 Solutions Made Available (nothing due though) Reading Assignment: KT 5.1-5.5
Oct. 24th	Divide & Conquer: finding closest points	KT Reading Quiz: Ch. 5.3 and 5.4, Software assignment #1 online
Oct. 26th	Divide & Conquer: integer multiplication & master algorithm	
Oct. 28th	Review of HW #3 solutions	
Oct. 31st	HW #3 Quiz	HW #3 Quiz. HW#4 problems: 6-2, 6-4. There will be no quiz on these problems.
Nov 2nd	Dynamic Programming	Reading Assignment: KT 6.1-6.6

Nov. 4th	Dynamic Programming	
Nov. 7th	Dynamic Programming	HW #4 Solutions Distributed
Nov. 9th	Dynamic Programming + Review Day	
Nov. 11th	Veteran's Day – No Class	
Nov. 14th	Exam #2: Chapters 4,5,6	
Nov. 16th	Network Flow	Reading Assignment: KT 7.1-7.3, 7.5-7.6
Nov. 18th	Network Flow	Software Assignment #1 Due. Software Assignment #2 Released. HW #5 problems: 7.1 – 7.6, **8.1-8.5**
Nov. 21st	Network Flow	Reading Assignment: KT 8.1-8.6
Nov. 23rd & 25th	Thanksgiving – no class	
Nov. 28th	Intractability	Reading Quiz: Ch. 8.1 & 8.2. HW #5 solutions available on Moodle.
Nov. 30th	Intractability	
Dec. 2nd	Intractability	
Dec. 5th	Deep Learning Intro + HW 5 Quiz	HW #5 Quiz
Dec. 7th	Review Day	
Dec. 9th	Exam #3	
Dec. 10th	No class – Software Assignment #2 Due	Software Assignment #2 Due (must submit by Dec. 14th, even if you use your free late submission)