CSCI-UA-0310 Basic Algorithms, Spring 2021

Warning: All times New York!!

Time	Tu,Th 8:00-9:15 a.m.
Place	Hyperspace
Instructor	Prof. Joel Spencer, ciww 829
email	spencer@cs.nyu.edu
Office Hours	Monday, 10:00-11:00 a.m.
Recitations	see main website
Text	Introduction to Algorithms by Cormen, Leiserson, Rivest, Stein
Midterm Exam	(in class)
Final Exam	Fri., May, 14, 2021 8:00am-9:50am ONLINE

There will generally be one assignment per week, made available electronically around the first class and due the following week before recitation. Submission of assignments (unless clearly marked otherwise) is *mandatory.*

Collaboration on the assignments is *encouraged.* Each student must hand in the assignment individually and should write out the solutions in their own words. At the end of the assignment the collaborations must be listed. E.g.: Collaboration with Alan Turing and William Gates.

The final grade will be based 60% on the Final Exam, 30% on the Midterm and 10% on the Homework. But grades are not determined by an algorithm, subjective factors such as class participation (in both lecture and recitation) are a "fudge factor" that can carry great weight.

On the next page is a *rough* outline of the course. We expect to cover these topics but not necessarily in the precise order indicated. In addition there is likely to be some material in class that is not in the text. Students are responsible for all such material.

Weekly Schedule

Note that this schedule may be adjusted during the term. Any such adjustments will be noted on the website. The Final Exam is Fri., May, 14, 2021 8:00am-9:50am.

CLASS	TOPIC	CHAPTER
Jan 28	Heaps	6
Feb 2,4	Heaps and Sorts	6, 7,8
Feb 9, 11	Θ, Ω, o and O	3
Feb 16	more asymptotics	4 and 2.3; 11
Feb 18	NO CLASS	NYU on Monday schedule!
Feb 23, 25	Divide and Conquer + Hashing	4 and 2.3; 11
Mar 2,4	Binary Search	12 (skip 12.4)
Mar 9,11	Dynamic Programming	15
Mar 16,18	Greed	16.1,16.3
Mar 23,25	FFT /MIDTERM	30.1-2
Mar 30, Apr 1	Graph Search	22
Apr 6,8	Min Spanning Trees	23
Apr 13,15	Number Theory	31
Apr 20,22	P, NP and all that	34
Apr 27 ,29	Shortest Paths	24.2,3
May 4,6	All-Pairs Shortest Path/Review –	25.1,2