Basic Algorithms (CSCI-UA.0310-005)

Spring 2022

Instructor:	Hossein Mojarrad	**Time:**	MW 3:30 – 4:45 PM
Email:	sn2854@nyu.edu	**Office Hours:**	TBA
Recitation:	Xinyi Zhao	**Time:**	T 4:55 – 6:10 PM
Email:	xz2833@nyu.edu	**Place:**	Online
Office Hours:	TBA		
Recitation:	Yifan Jin	**Time:**	T 4:55 – 6:10 PM
Email:	yj2063@nyu.edu	**Place:**	GCASL 475
Office Hours:	TBA		
Tutoring:	Charlie Chen	**Time:**	TBA
Email:	zc2157@nyu.edu	**Place:**	TBA
Tutoring:	Jaya Mundra	**Time:**	TBA
Email:	jm8834@nyu.edu	**Place:**	TBA

Campuswire: Use this link and code "2750" to get access to the course page on Campuswire.

Questions: If you have any questions, please try to first use the course page on Campuswire to ask your questions or attend the tutoring sessions or the office hours mentioned above. Please send an email to the recitation leaders only as a last resort. The instructor will not be able to respond to general emails regarding the course.

Reference: *Introduction to Algorithms* by Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, and Cliff Stein

Prerequisites: *Data Structures* (CSCI-UA 102) and *Discrete Mathematics* (MATH-UA 120), and either *Calculus I* (MATH-UA 121) or *Mathematics for Economics I* (MATH-UA 211).

Grading Policy (tentative):

Participation	5%
Homework	20%
Midterm exam	30%
Final exam	45%

Homework Policy:

- There will be generally one assignment per week that you can have access to via Gradescope with due date specified. It is ***mandatory*** for the students to submit assignments (unless clearly marked otherwise).
- You are encouraged to discuss general approaches to solving homework problems with your peers. The final solutions are expected to be written individually in your own words. You must list all discussions you had and also acknowledge anything you use from other sources (web, etc.). You should not consult class submissions (assignments, codes, etc.) from previous years' students. Failure to do any of these will result in a zero grade for the submitted work and, except in cases of obvious mistakes, a University investigation.

- Late submission for homework is allowed unless specified otherwise at the beginning of the homework. A late submission will be penalized 10% per day; no submission will be accepted if submitted later than two days after the specified deadline.

Participation:

- Students are expected to attend all class meetings. Students are also expected to participate in class discussions.
- Please note that bonus problems will occasionally be presented during class and recitation sessions. Please come prepared! Participation in class, discussions, and bonus problems will be taken into account as *participation points* in the final grade.

Tentative Course Outline: The course outline is subject to change. Please check for any new updates during the semester. We expect to cover these topics but not necessarily in the precise order indicated. The corresponding chapters from the reference book are marked.

Growth of Functions	CLRS §3
Sorting	CLRS §2, 7
Medians & Order Statistics	CLRS §9
Divide & Conquer	CLRS §4
Linear Sorting	CLRS §8
Dynamic Programming	CLRS §15
Topics: Geometry & String Matching	CLRS §32, 33
Greedy	CLRS §16
Min Spanning Trees	CLRS §23
Graph Traversal & Applications	CLRS §22
Shortest Paths	CLRS §24-25
P vs NP	CLRS §34

Academic Honesty: We value integrity and do not tolerate academic dishonesty. You are expected to uphold academic integrity as specified by the department and CAS.

Special Needs or Circumstances: Please feel free to contact your instructor if you have any special needs, including need for accommodation of any religious or ethnic holidays.

Disability Disclosure Statement: Academic accommodations are available for students with disabilities. The Moses Center website is `www.nyu.edu/csd`. Please contact the Moses Center for Students with Disabilities (mosescsd@nyu.edu) for further information. Students who are requesting academic accommodations are advised to reach out to the Moses Center as early as possible in the semester for assistance.