Syllabus, CS 56515 (Introduction to Graduate Algorithms)
Fall 2020

Note: the syllabus and course schedule are subject to change. Any changes to the syllabus and/or course schedule after the semester begins will be relayed to the students on Canvas or Piazza.

Textbook

The required textbook is Algorithms by S. Dasgupta, C. Papadimitriou, and U. Vazirani. The textbook Algorithm Design by J. Kleinberg and E. Tardos is an excellent reference that you might consider looking at as well.

Grading

The breakdown of the grading will be as follows

  (i) Homework: 10%.

 (ii) Polls: 5%

(iii) Coding quizzes: 10%.

 (iv) Three exams: 25% each.

  (v) Final exam (optional).

Grade assignments

After *all* grades are in and all overall percentage scores for students have been computed using the weights described above, grades are assigned. The cutoffs will be as follows.

$$\text{A: } [85\%, 100\%] \quad \text{B: } [70\%, 85\%) \quad \text{C: } [50\%, 70\%) \quad \text{D: } [40\%, 50\%) \quad \text{F: } [0\%, 40\%)$$

So, to guarantee an A, get 85% or better overall (not 84.9)
To guarantee at least a B grade, get 70% or better overall, etc.

These cutoffs *might* be adjusted, but only in the downward direction (to make letter grades higher).

Homework

There will be 7-8 homeworks, with a week available to complete each. Submission will be through Gradescope, due at 8am EST on Mondays. There will be no extensions. The homeworks are excellent practice for the exams. Only two problems will be graded. This will be clearly marked on each homework. You may work with other people on the homework and you can look at any other references (including online). However you need to write up your solution from scratch as if you are in an exam (this is how you will learn the material). You need to cite your sources and collaborators at the top of your homework.

Quizzes

There will be three to four quizzes during the semester. Each quiz will be **one** coding problem. The problems on the quiz will be similar to the ones in the homework, you should consider it as a practical complement to your homework. You will have a week to complete each quiz. Details about the submission will be released via piazza and canvas.

<u>Exams</u>

Exams are administered through Honorlock. Exams are closed book, you cannot use any additional devices (no calculators, phones, etc. or other applications on your computer) and no additional references (no notes or books). The exam will typically be open for 3 to 4 days: starting on a Thursday or Friday morning and closing at 8am EST on Monday. You need to finish uploading your exam by 8am EST on Monday so plan your start time accordingly. There are no extensions. We suggest doing the exam at least 24 hours before the deadline.

We will release abundant information about the proctoring system before the exam but here are some things we suggest you to look into now:

- Please refer to this important Honorlock technical requirements.

- Students must have a broadband internet connection.

- Students must have a webcam and microphone.

- Students must have a secure, private location to take an exam.

- Students will be asked to provide a picture I.D. as part of the exam process.

- Honorlock is not compatible with Linux OS, Virtual Machines, tablets, or smartphones.

- Honorlock requires that you install the Honorlock Chrome extension into Google Chrome.

We will release more details about the proctoring of the exams the week of the first exam.

Final exam The final exam is optional and will substitute your lowest score out of the three exams, so you can only improve by taking the final. Final exam will be cumulative. Letter grades will be released at least one week before the final exam dates (see the schedule). Students with and A will not be allowed to take the final exam. We suggest to see if it i smathematically possible to improve your grade before taking the final.

<u>Gradescope</u>

Homeworks will be submitted through Gradescope. We will import your information into Gradescope which will create a Gradescope account for you; [**you are required to use this Gradescope account with the name and GTid that matches exactly with Canvas** (otherwise the systems won't sync and you won't get a grade). The default due date/time for all homeworks, exams and projects is Mondays at 8am; there are no extensions (so submit the day before in case of unexpected problems).

<u>Regrade policy</u>

Unnecessary regrades cause delays on many important tasks of the course, and they are also time consuming for us. If you are thinking of asking for a regrade you should be prepared to prove that your request is meaningful. In particular, you have to be capable of showing that your answer works, up to some relevant extent. Furthermore, we will have the power to penalize you if you ask for a regrade and we detect that you are not sufficiently prepare on the subject so you can lose points in the process.

<u>Students with Disabilities and/or in need of Special Accommodations</u>

If you have any accommodations you need to inform us as soon as possible, and provide us with the detailed accommodation approval letter from the GT Office of Disability Services. We will work as fast as possible to confirm that we can accommodate your requests.

<u>Waitlists, Registration, Permits, etc.</u>

I am forbidden from doing anything regarding class registration. I cannot issue permits, remove students from waitlists, etc. For guidelines on such matters, please consult https://math.gatech.edu/permits-and-waitlists.

<u>Cheating policy</u>

Plagiarism and cheating in any form is a violation of the GT honor code. Your homeworks and projects will be checked with auto-checkers to detect plagiarism. All violations will be reported to the GT Office of Student Integrity, and you will be given a 0 on that component of the grade (projects or homeworks) and your course grade will be dropped one letter down (OSI may impose stricter penalties, especially if you have prior offenses).