

Syllabus, CS 6515 (Introduction to Graduate Algorithms)

Gerandy Brito, Summer 2022

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 EdDiscussions.

Course Communication

The course staff will communicate with students via Canvas announcements, pinned staff announcements on Ed Discussions (including all updates), personal feedback for graded assignments on Gradescope, and emails to GATech email accounts. Students are expected to read all official course communication in a timely manner (within 24hrs).

Students may officially communicate with course staff via Ed Discussions (public or private posts), regrade requests via Gradescope (in compliance with regrade policies), and emails to GATech email accounts (use as directed). Canvas is not monitored for course communication from students.

Students may communicate privately with each other on any medium (in compliance with collaboration policies). Note that there are popular unofficial and public communication platforms (such as Slack). Students may not discuss the content of graded assignments, quizzes, projects, or exams on public platforms. Course staff may participate on these platforms, but students should not expect course staff availability on these platforms.

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) Coding quizzes: 9%.
- (iii) Polls: 6%.
- (iv) Exams: 75% (three total).

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.

A: [85%, 100%] B: [70%, 85%) C: [50%, 70%) D: [40%, 50%) 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). The final curve depends on the performance of the class and aim to address any borderline case. If a curve is applied, no further rounding will be considered.

Homework

There will be 6 homeworks, with a week available to complete each. Submissions will be through Gradescope, due at 8am EST on Mondays. There will be no extensions (except for appropriate emergency situations coordinated through the Office of the Dean of Students - see <https://studentlife.gatech.edu/> and click the "Get Help Now" button). The homeworks are excellent practice for 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, your solution must be completely written from scratch in your own words as if you are in an exam (this is how you will learn the material). You also need to cite all sources used or referenced, and list all collaborators at the top of your homework. Failure to comply with these requirements may result in heavy penalties or stricter sanctions.

Quizzes

There will be 7-8 quizzes on the lecture material, with a week available to complete each. Quizzes will be multiple choice/short answer and administered on Canvas. Quizzes are untimed and open book/open note. There are no extensions. Collaboration and discussion of quiz content prior to the end of the open window is strictly prohibited and is considered an academic integrity violation.

Coding projects

There will be three small coding projects during the semester. The projects 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 project. Details about the submission will be released via Ed Discussions. Code or solution sharing and the use of a solution found online is strictly prohibited. High level discussions of the problem as well as sharing test cases and test suites is allowed.

Exams

Exams are administered on Canvas, 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 4 days: starting on a Thursday 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, **including a practice exam for you to set the technical part, and get familiar with the exact format you will see on exams.**

Gradescope

All assignments will be graded on 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).

Regrade policy

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 prepared on the subject so you can **lose points** in the process. The regrade process will be covered in more detail in Ed Discussions.

Students with Disabilities and/or in need of Special Accommodations

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.

Waitlists, Registration, Permits, etc.

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>.

Academic Integrity policy

Plagiarism, unauthorized collaboration, cheating in any form, and sharing course assignments outside of class are considered to be academic integrity violations and in violation of the GT honor code. Your homeworks and projects are subject to checks to ensure academic integrity. 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 (OSI may impose stricter penalties, especially if you have prior offenses).