

Syllabus, CS 6515 (Introduction to Graduate Algorithms)

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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: 25%.
- (ii) Coding quizzes: 12%.
- (iii) Polls: 3%.
- (iv) Exams: each 20% (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.

Homework

There will be approximately 6-8 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. 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.

Coding quizzes

There will be three coding quizzes, each worth 4%. Quizzes will be implementation of material covered in lecture or problems from the homework. This are meant as a relatively simple way to complement the theoretical content this course offers.

Polls

Every week (except those where an exam is taking place) a poll will be open on canvas. Polls will have the same format as the multiple choices type of questions that will appear in your exam. Polls should help you get familiar with the type of question you will see in the exams and will be a way to point to important topics covered that week.

Exams

Exams are administered through Proctortrack. 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). You will be given a blank template the evening before the exam window begins. You print this out and keep it blank (you need to show it at the exam and any additional markings on it will qualify as cheating). 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 often delays due to Proctortrack). There are no extensions. We suggest doing the exam at least 24 hours before the deadline in case of potential problems with Proctortrack.

Scanner: At the conclusion of the exam while Proctortrack is still running you will scan your exam (within view of your computer's camera), and then upload your exam to Gradescope. You can use your phone. You need to have a high-quality scanner or phone+app that will allow you do the scanning reasonably quickly and that produces images of high enough quality that the PDF is easily legible.

Closer to the exams we will share more about the proctoring requirements.

Gradescope

Homeworks and exams 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).

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 prepare on the subject so you can **lose points** in the process.

Students with Disabilities and/or in need of Special Accommodations

If you have any accommodations you need to inform us during the first week of classes, and provide us with the detailed accommodation approval letter from the GT Office of Disability Services. We need to confirm during the first week of classes (by the first Friday at 4pm) that we can accommodate your requests. If you don't get approval from us by the first Friday at 4pm then we cannot 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>.

Cheating policy

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).