COMP3804A (Fall 2025) Design and Analysis of Algorithms I Course Outline



We, the people of the Faculty of Science at Carleton University, acknowledge that our campus is located on the traditional, unceded territories of the Algonquin Anishinabeg people. We are grateful for this land, the air that we breathe, and the water that sustains us all, as well as for the animals, plants, and other living beings: these enable us to research, teach, mentor, support, study, and learn. We recognize our responsibility to our natural environment and to reconciliation with Indigenous peoples.

Course Description: An introduction to the design and analysis of algorithms. Topics include: divide-and-conquer, dynamic programming, linear programming, greedy algorithms, graph algorithms, NP-completeness.

Prerequisite(s): COMP 2402 and one of

(COMP2804 or MATH 3855 or MATH 3825 or COMP 3805).

Instructor: Farah Chanchary (she/her)

Email: farahchanchary@cunet.carleton.ca

Lectures: Monday/Wednesday: 14:35 – 15:55. Check Carleton Central for location.

Course Website: All course materials and resources will be available on Brightspace https://brightspace.carleton.ca.

Learning Modality:

- Lectures will be synchronous. All lectures will be recorded and posted in Brightspace.
- Tutorials are weekly workshops where you may work on classwork and get TA assistance. This is also where you will write your tests. Check Carleton Central for the location.
- Assignments are to be used as study tools. Solutions will be given, but there are no assignment marks.
- Tests will be held during the tutorial session on the dates indicated in the calendar (available on Brightspace). The test content will be based on the assignments.
- TA office hours will be posted on Brightspace once finalized.
- In addition to office hours, questions pertaining to lectures, quizzes, and general course material can be asked/answered on Brightspace.
- The final exam will be an in-person exam scheduled by the registrar.

Reference Textbook

- Lecture notes.
- Algorithms, by Sanjoy Dasgupta, Christos Papadimitriou, and Umesh Vazirani.
- Students are not required to purchase textbooks or other learning materials for this course.

Assessment Scheme:

Final grades will be determined using the scheme described below, and no extra credit assignments will be provided under any circumstances. See the **Course Calendar** posted to Brightspace for the test dates.

Criteria	Frequency	Total %
Tests	4	60%
Final Exam	1	40%

Important dates and deadlines can be found here: https://calendar.carleton.ca/academicyear/#fall2025

Collaboration is NOT allowed on tests. Collaboration on assignments is encouraged.

Academic Integrity

- Assignments are for learning, not for marks. You may use any resource that helps you learn for an assignment.
- Sharing assignment or quiz specifications or posting them online (to sites like Chegg, CourseHero, OneClass, etc.) is ALWAYS considered academic misconduct. You are NEVER permitted to post, share, or upload course materials without explicit permission from your instructor. Academic integrity offences are reported to the office of the Dean of Science. Information, process, and penalties for such offences can be found on the ODS webpage: https://science.carleton.ca/students/academicintegrity/
- If you are unsure of the expectations regarding academic integrity, then you must ASK your instructor.

Late and Missed Work Policies: If you miss a test for any reason, the weight of that test will be moved to the final exam. You may miss at most one test. Subsequent missed tests will receive a mark of 0.

It is **your responsibility** to ensure that your assignment and test marks posted to Brightspace are correct within one week of the date the marks were released. Concerns or complaints about grading must be communicated (first to the teaching assistant, then, if the result is unsatisfactory, to the instructor) within that time. After one week, all marks are considered final and will not be changed under any circumstances.

SCS Computer Laboratory: Students taking a COMP course can access the SCS computer labs. The lab schedule and location can be found here. All SCS computer lab and technical support information can be found here. Technical support staff may be contacted in person or virtually; see this page for details.

Additional Notes:

In addition to the time spent attending lectures, students can expect to spend **between nine and twelve (9-12) hours per week** on this course. Students are responsible for all course materials, including lecture notes, and all materials discussed in class and on any of the official discussion boards.

Students are asked to pose all questions related to course content using **the official discussion boards on Brightspace**; students should not email the instructor directly unless the question contains **confidential information** or is of a personal nature.

The instructor will attempt to answer every student's email received **within three business days** of the time the message was received, unless the email requests information already posted on Brightspace or in the course outline. To ensure that all announcements are received, students are expected to check their email on a daily basis.

All materials created for this course (including, but not limited to, lecture notes, in-class examples, assignments, examinations, and posted solutions) **remain the intellectual property of the instructor**. These materials are intended for the personal and non-transferable use of students registered in the current offering of the course. **Reposting, reproducing, or redistributing any course materials**, in part or in whole, without the written consent of the instructor, **is strictly prohibited**.

SCS Computer Laboratory

SCS students can access one of the designated labs for your course. The lab schedule can be found at: https://carleton.ca/scs/tech-support/computer-laboratories. All SCS computer lab and technical support information can be found at: https://carleton.ca/scs/technical-support. Technical support is available in room HP5161 Monday to Friday from 9:00 until 17:00 or by emailing SCS.Tech.Support@cunet.carleton.ca.

Undergraduate Academic Advisor

The Undergraduate Advisor for the School of Computer Science is available in Room 5302C HP; or by email at scs.ug.advisor@cunet.carleton.ca. The undergraduate advisors can assist with information about prerequisites and preclusions, course substitutions/equivalencies, understanding your academic audit, and the remaining requirements for graduation. The undergraduate advisors will also refer students to appropriate resources such as the Science Student Success Centre, Learning Support Services, and Writing Tutorial Services.

 University Policies	
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For information about Carleton's academic year, including registration and withdrawal dates, see <u>Carleton's Academic Calendar</u>.

Pregnancy Obligation. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit Equity Services.

Religious Obligation. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit Equity Services.

Academic Accommodations for Students with Disabilities If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if

applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. For more details, visit the Paul Menton Centre website.

Survivors of Sexual Violence. As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: carleton.ca/sexual-violence-support

Student Academic Integrity Policy. Every student should be familiar with the Carleton University student academic integrity policy. A student found in violation of academic integrity standards may be awarded penalties which range from a reprimand to receiving a grade of *F* in the course or even being expelled from the program or University. Examples of punishable offences include: plagiarism and unauthorized co-operation or collaboration. Information on this policy may be found here.

Plagiarism. As defined by Senate, "plagiarism is presenting, whether intentional or not, the ideas, expression of ideas or work of others as one's own". Such reported offences will be reviewed by the office of the Dean of Science. Standard penalty guidelines can be found here.

Unauthorized Co-operation or Collaboration. Senate policy states that "to ensure fairness and equity in the assessment of term work, students shall not co-operate or collaborate in the completion of an academic assignment, in whole or in part, when the instructor has indicated that the assignment is to be completed on an individual basis". Please refer to the course outline statement or the instructor concerning this issue.