

Design and Analysis of Algorithms

Course Outline

Course Information

Classroom	Steacie Building 103 (map)
Class Times	Monday and Wednesday $10:05 \text{ am} - 11:25 \text{ am}$
Course Website	https://www.carleton.ca/culearn/
Course Discussion Group	https://www.carleton.ca/culearn/

Instructor



Alina Shaikhet AlinaShaikhet@cunet.carleton.ca Office Location: HP 5331 Office Hours: Monday, 11:30 am – 12:30 pm

Teaching Assistants

Name	email	Office Hours	Office Location
Fedor Ilitchev	fedorilitchev@cmail.carleton.ca	Thu. 2:00 pm – 3:30 pm	HP 5356
Jiawen Hou	jiawenhou@cmail.carleton.ca	Wed. $9:00 \text{ am} - 10:00 \text{ am}$	HP 5356
Xiaoying Liu	xiaoyingliu@cmail.carleton.ca	Thu. $5:00 \text{ pm} - 6:00 \text{ pm}$	HP 5356
Yunkai Wang	yunkaiwang@cmail.carleton.ca	Tue. 1:00 pm – 3:00 pm	HP 5356

Course Description:

This course is a course on the design and analysis of algorithms. Topics include: Basics of Algorithm Analysis, Algorithm Design Techniques (Greedy Algorithms, Divide-and-Conquer, Dynamic Programming), Graphs and Graph Algorithms, Linear Programming, NP-Completeness.

Prerequisite(s):

One of COMP 2402 or SYSC 2100, and either COMP 2804 or both of MATH 2007 and MATH 2108 or equivalents.

Recommended Reference Textbooks



All of the concepts taught in the class will also have many freely available online references.

Evaluation

25%	Three assignments (electronic submission via cuLearn)
5%	Participation
30%	Two in-class tests. Dates: February 4, March 11, 2019
40%	Final Exam (scheduled by the university)
100%	Total

Assignments: Submission is electronic. You can upload a scanned copy of your Assignment on cuLearn). It doesn't have to be typed as such. Use a good image capturing device and upload the **pdf** file.

Participation: Course participation will count for 5% of the final mark. This part of the grade is composed of attendance and participation in short polls and quizzes (both on-line and during the lectures) through PollEverywhere and cuLearn. You will be rewarded with a perfect score as long as you frequently come to class (at least 80% of class attendance) and answer correctly on at least 50% of the questions.

Grades: Marks will be posted on cuLearn.

Two in-class tests: The tests will take place on February 4 and March 11, 2019 during our regular class time (10:05 am - 11:25 am) in our regular classroom (Steacie Building 103). There will be no make-up tests. Only in very exceptional circumstances the weight of the test will be shifted towards the final exam.

To pass this course:

- You must secure at least 50% marks in the final exam.
- You must secure at least a total of 50% marks in the whole course.

Collaboration Policy

There is absolutely no collaborating allowed for the tests and final exam.

Collaboration on assignments is acceptable but only at the level of discussion. When writing down the solutions, please write them down on your own. If you need help, please see a TA or your instructor.

Posting assignment solutions on discussion boards before the due date and time is also prohibited.

Note: Even though each test will cover specific topics, they are also cumulative.

Undergraduate Academic Advisor

The Undergraduate Advisor for the School of Computer Science is available in Room 5302C HP, by telephone at 520-2600, ext. 4364 or by email at undergraduate_advisor@scs.carleton.ca.

The undergraduate advisor can assist with information about prerequisites and preclusions, course substitutions/equivalencies, understanding your academic audit and the remaining requirements for graduation. The undergraduate advisor will also refer students to appropriate resources such as the Science Student Success Centre, Learning Support Services and the Writing Tutorial Services.

Information on Academic Accommodations

Requests for Academic Accommodation

You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

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 the Equity Services website.

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 the Equity Services website.

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 where survivors are supported through academic accommodations as per Carletons 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

Accommodation for Student Activities

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. 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, see the policy.

For more information on academic accommodation, please contact the departmental administrator or visit: students.carleton.ca/course-outline