

*Carleton University School of Computer Science*  
**COMP 3804 / MATH 3804 / ISYS 5802 / Math 5802**  
 Design and Analysis of Algorithms I FALL

## Class Schedule

Classroom:	<b>Via Zoom and recorded for Brightspace</b>
Class Times:	<b>Days: Mondays Wednesdays Time: 10:05-11:25</b>
Link:	<p style="text-align: center;"><u>Zoomlink</u> to be communicated via Brightspace</p> <p style="text-align: center;"><b>The material will also be placed on Brightspace</b></p>

Prerequisite(s): ([COMP 2402](#) or [SYSC 2100](#)) and either [COMP 2804](#) or ([MATH 2007](#) and [MATH 2108](#)).

## Learning Modality

In Fall 2022, content for this course will be delivered online. The plan is to do ZOOM Live Stream from a set-up I created at my home that includes whiteboards. Students can tune into at the scheduled time (see the lecture schedule below). We will do interaction during these lectures to make it more interesting and engaging. The lectures will then be shared via Brightspace.

Again the Zoom link will be communicated to you via Brightspace.

## Office Hours TAs

TA	Office	Email	Office Hours
tbd	online online online		tbd

## Instructor Information

Professor	Office	Email	Office Hours
Dr. J.-R. Sack	online	sack@scs.carleton.ca	Wednesdays 14:00-15:00 or ask for an appointment via email

## 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. Also listed as [MATH 3804](#).

**Prerequisites** (COMP 2402 or SYSC 2100) and either COMP 2804 or (MATH 2007 and MATH 2108).

To help students achieve their individual objectives in this course, we will do an initial assessment test (anonymous) and provide students with three 30-minute background review sessions. Each session will be offered two times for your convenience. They are not mandatory.

**Background Review Sessions (attendance not mandatory, but highly recommended). Due to the traditional high failure rate, I am trying to help you to succeed. I will organize three different sessions. The sessions will get you ready for the course (as much as possible).**

## Tutorials

### Elementary Data Structures

Monday Sept. 12<sup>th</sup> 14:35-15:55 via Zoom

### Algorithms and Complexity

Monday Sept. 19<sup>th</sup> 14:35-15:55 via Zoom

### Counting and Recurrences

Monday Sept. 26<sup>th</sup> 14:35-15:55 via Zoom

## Textbook (s)

Introduction to Algorithms (4th Edition) by Thomas H. Cormen, Charles E. Leiserson, Ronald L.

Rivest and Clifford Stein (2022). ISBN 978026204630. Published by MIT Press.  
(Older versions, esp. 3<sup>rd</sup> edition are also fine.)

## Evaluation

Students will be evaluated in this course according to the following measures.

Component	Weight	Due Dates (estimated – final dates as per announcements)
Assignment 1	10%	Sunday, October 2 <sup>nd</sup> 23:59 online
Assignment 2	10%	Sunday, October 23 <sup>rd</sup> 23:59 online
Assignment 3	10%	Sunday, November 13 <sup>th</sup> 23:59 online
Test	20%	November 21 <sup>st</sup> online
Assignment 4	10%	Sunday, December 4 <sup>th</sup> 23:59 online
Final Exam	40%	by central scheduling

**Assignments will be submitted online in pdf via Brightspace (details to be provided by me or a TA). Typed assignments are preferred. Figures may be drawn and scanned in. It is your responsibility to ensure that the quality of the pdf is good so that the TAs can read them easily. Scanners are accessible in many locations on Campus. Pictures taken with mobile devices must be of top quality.**

### Final Exam Note

The final exam will be scheduled by the University.

### Assignments

Late assignments will not be accepted. Late is after the deadline specified.

### Collaboration Policy

Students are encouraged to collaborate on assignments, but at the level of discussion only. When writing down the solutions, students must do so in their own words.

## **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](mailto: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.

## **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](mailto:SCS.Tech.Support@cunet.carleton.ca).

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## **University Policies**

For information about Carleton's academic year, including registration and withdrawal dates, see [Carleton's Academic Calendar](#).

**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 <https://carleton.ca/equity/focus/discrimination-harassment/religious-spiritual-observances/>.

**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](mailto: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](http://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](#).

**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 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.

## Special Information

It is important to remember that COVID is still present in Ottawa. The situation can change at any time and the risks of new variants and outbreaks are very real. There are number of actions you can take to lower your risk and the risk you pose to those around you including being vaccinated, wearing a mask, staying home when you're sick, washing your hands and maintaining proper respiratory and cough etiquette.

**Feeling sick?** Remaining vigilant and not attending work or school when sick or with symptoms is critically important. If you feel ill or exhibit COVID-19 symptoms do not come to class or campus. If you feel ill or exhibit symptoms while on campus or in class, please leave campus immediately. In all situations, you must follow Carleton's symptom reporting protocols.

**Masks:** Carleton has paused the COVID-19 Mask policy, but continues to strongly recommend masking when indoors, particularly if physical distancing cannot be maintained. It may become necessary to quickly reinstate the mask requirement if pandemic circumstances were to change.

**Vaccines:** While proof of vaccination is no longer required as of May 1 to attend campus or in-person activity, it may become necessary for the University to bring back proof of vaccination requirements on short notice if the situation and public health advice changes. Students are strongly encouraged to get a full course of vaccination, including booster doses as soon as they are eligible, and submit their booster dose information in cuScreen as soon as possible. Please note that Carleton cannot guarantee that it will be able to offer virtual or hybrid learning options for those who are unable to attend the campus.

All members of the Carleton community are required to follow requirements and guidelines regarding health and safety which may change from time to time. For the most recent information about Carleton's COVID-19 website and review the Frequently Asked Questions (FAQs). Should you have additional questions after reviewing, please contact [covidinfo@carleton.ca](mailto:covidinfo@carleton.ca).

**Doctor's note or medical certificate:** in effect for Fall 2022 term. In place of a doctor's note or medical certificate, students are advised to complete the [self-declaration form](#) available on the Registrar's Office website to request academic accommodation for missed course work including exams and assignments. Students should also discuss with the course instructor the required accommodations arising from the COVID-19 situation.