

# COMP 1405D: Introduction to Computer Science Fall 2022

## Contact

Instructor: Dr. David Mould  
Email: mould@scs.carleton.ca  
Office: 5346 Herzberg

## Nature of the Course

Course calendar description: *Introduction to computer science and programming, for computer science students. Topics include: algorithm design; control structures; variables and types; linear collections; functions; debugging and testing. Special attention is given to procedural programming in a modern language, computational thinking skills, and problem decomposition.*

This is your first programming course, and there are no formal prerequisites beyond being enrolled in the program. However, we do expect that everyone brings a keen mind, an interest in the material, and a willingness to invest time.

This section will employ a *creative coding* ethos. We will use visual examples and build small interactive toys. We will use Processing, a creative coding environment based on Java.

You are expected to have **your own laptop**. More information can be found here:

<https://carleton.ca/scs/scs-laptop-requirement/>

## Topics

The course's main topics include the following:

- Programming and problem solving
- Drawing and interacting within Processing
- Variables and state
- Program building blocks: conditionals, iteration, functions.
- Testing and debugging
- Data structures: arrays and objects
- Data processing: visualization, synthesis, searching and sorting

## Language

We will be using *Processing*, an environment for Java particularly oriented towards creating interactive visual applications. You can download Processing from [processing.org](http://processing.org). We will use Processing 3.5.4 in this offering.

## Resources and Help

At minimum, you should be aware of these major resources:

- [processing.org](http://processing.org), which has a wealth of information in addition to letting you download the Processing software itself.
- the textbook: *Processing*, by Nyhoff and Nyhoff.
- the online course materials: examples, discussion forums, and ongoing news about the course as we progress through the term, accessible through Brightspace.

The School of Computer Science offers additional support. 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.

Further, as an SCS student, you 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).

## Tutorials

Tutorials run weekly from September 12 to December 9. In each tutorial, you will have a small exercise or series of exercises to be done during the tutorial period. Attendance at your scheduled tutorial is mandatory.

## Grading scheme

The marking breakdown is as follows:

- 10% total for tutorial exercises
- 40% total for weekly homework assignments
- 20% for two midterm exams (10% each)
- 30% for final exam

## Passing the course

This course has a “double pass” requirement, meaning that you must receive 50% or higher in both the exam portion (both midterms+final exam) and the exercise portion (homework assignments+tutorial exercises). If either of these components is below 50%, you will receive a grade of F for the course.

Many computer science courses require a minimum grade of C- (60%) in the prerequisite, so do aim higher than a bare pass.

## On Collaboration

You are expected to do all assignments, exercises, and exams individually. This does not mean that you cannot talk to your classmates, though.

It is OK to:

- Discuss possible approaches to and interpretations of an assigned exercise.
- Help debug another student’s program.
- Post questions on the class forums.
- Answer questions on the forums (without posting solutions).

It is NOT OK to:

- Share working code or code fragments.
- Write code in groups and then share the finished code.
- Post questions on forums besides our Brightspace or Discord forums.
- Post complete or partial assignment solutions on the forums before the due date.
- Claim credit for another student’s work.

## Important dates

- Sep 7: Classes begin.
- Sep 14: Labs begin.
- Oct 19: First midterm.
- Oct 25-28: Fall break, no classes.
- Nov 11: Second midterm.
- Dec 9: Last day of classes; classes follow a Monday schedule.
- Dec ??: Final exam, scheduled centrally by the University; exact date not known at the time of writing. May be as late as Dec 22.

## **University Policies**

Full academic regulations are found in the University's calendar: [calendar.carleton.ca](http://calendar.carleton.ca). Some key information is excerpted below.

## **Requests for Academic Accommodation**

You may need special arrangements to meet your academic obligations during the term. For details on the processes for academic accommodation requests, visit the following link:

<https://students.carleton.ca/course-outline/>

## **Academic Integrity**

Academic integrity is central to the University's mission. Allegations of academic dishonesty are taken seriously and in this course will be handled by the Office of the Dean of Science. A finding of academic dishonesty will result in sanctions, ranging from a grade of zero on the affected assignment or exam, to a failing grade in the course, and even suspension or expulsion from the university.

You can read about the policies of the Faculty of Science here:

<https://science.carleton.ca/academic-integrity/>

Additional information about academic integrity can be found here:

<https://carleton.ca/registrar/academic-integrity/>

## COVID Statement

The following is the University's pandemic statement for course outlines.

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 a 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: Further, 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 response and health and safety requirements please see the University'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).