

INTRODUCTION TO COMPUTER SCIENCE I
COMP 1405C

Course Outline (Fall 2020)

Instructor:	Connor Hillen	Time:	Mon. Wed. 10:05 – 11:25 EDT
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Website:	https://carleton.ca/culearn	TA Info:	Posted on course web page

1. About the Course

Course Calendar Description: A first course in programming for B.C.S. students emphasizing problem solving and computational thinking. Topics include pseudocode, variables, conditionals, iteration, arrays, objects, functions, sorting, searching, and simulation.

Textbooks and Other Resources: We will be making use of an free, interactive textbook for this course. You will be expected to create an account on the Runestone service and perform the readings when they are assigned. This links to the original book, though we will be working with a modified version (link to be posted to cuLearn).

- Multiple Contributors, *How to Think Like a Computer Scientist: Interactive Edition*
– <https://runestone.academy/runestone/books/published/thinkcspy/index.html>

Additional resources will be made available on the course web page. These includes a course calendar, additional readings, practice problems, discussion forums, and more.

Objectives: The goal of this course is to introduce you to **programming** and **computational thinking**. A student who completes all of the material in the course will learn about algorithms, be able to apply problem solving techniques to different problems, differentiate different data types, and be able to solve problems using the Python programming language. While this course uses Python, the concepts taught throughout this course can apply to many different programming languages.

Topics Covered: This course covers some problem solving, algorithms, and various programming topics. A detailed prospective calendar of lecture topics can be found on the course web page. Below is a list of topics we'll cover, and what a student that completes all coursework should be able to do with it:

- **Problem solving and Algorithms:** Describe algorithms without programming and use problem solving techniques to approach programming challenges with a plan
- **Variable data types:** Distinguish different types of data from each other
- **Conditional (If/Else), Looping:** Differentiate types of loops and write branching programs
- **File I/O:** Write programs which involve reading data from files and outputting to files
- **Functions and Scope:** Identify variable scope and write reusable functionality in Python
- **Lists and Collections:** Understand different ways of collecting data and how they differ
- **Searching and Sorting Algorithms:** Learn how to implement existing algorithms
- **Recursion:** Write programs that make use of powerful recursive techniques and gain an appreciation for recursion memes
- **Simulation:** Appreciate alternative applications of programming and the basics of simulation

2. Assessments

Grading: Your grade in this course is made up of various parts. There will be **5 assignments**, a **midterm** (in-class, date subject to change), **10 tutorials** (starting September 15), and a **final exam** (date scheduled later). In addition to this course work, there will also be **mandatory study groups**, with grades determined by participation. Students will be informed of due date changes with minimum two weeks notice.

Study Group Participation	5%
Assignments (5x8%)	40%
Midterm (During Class, October 21)	15%
Tutorials (1%x10, Starting September 15)	10%
Final Exam (Scheduled by registrar)	30%

Tutorials: Tutorial attendance is **mandatory** - students will be required to be available online during the scheduled tutorial times to work on the tutorials. Additional details will be made available about accessing the tutorials on cuLearn and during the first lecture. Students must **attend the tutorial they are registered in or you will not receive grades**.

Assignments: Completing assignments is **mandatory**. Assignments will be submitted on cuLearn. There will be no makeup assignments. Assignments must be completed individually. Once grades are released, students will have **one week to verify the correctness of their grades**. Students can email the TA within one week of receiving grades to seek a correction. Any requests made after one week will not be considered. **Late submissions will be accepted for up to 8 hours past the deadline, incurring a penalty of 2.5%/hour**. After this period, you will not be able to submit your work.

Double Pass Requirement: This course uses a "double pass" evaluation. **In order to pass this course students must** achieve a combined score of 50% or higher in *both* assigned work (assignments + tutorials) **and** in examinations (midterm + final exam). For example, if a student does not attend tutorials and receives a 50% on each assignment, their assigned work receives a mark of $(0.1 * 0) + (0.4 * 0.5) = 0.20$ or 20% of a possible 50%, and thus the student would receive an F in the course regardless of exam marks.

Collaboration Policy: All graded course work must be done individually unless otherwise specified. If you are unsure of what is expected of you, or are unsure of what constitutes inappropriate collaboration, please *ask the instructor*. Some students are confused as to what constitutes collaboration. This is because, especially as an introduction course, I feel the discovery of what works and what doesn't is critical to building a student's foundations in the discipline. To further clarify, on any graded item:

- **You may not** copy, use, or modify code obtained from other students, websites, or the course textbook
- **You may not** give out your code or any course materials to anyone, including students or websites
- **You may not** work on assignments with other students, friends, or family

Any collaboration on **non-graded** material is *encouraged*, such as discussing lectures, working on practice problems, or doing exam reviews.

Academic integrity offences are reported to the office of the Dean of Science. Penalties for such offences can be found on the ODS webpage [here](#). The new standard penalties are as follows:

- **First offence, first-year students (< 4.0 credits completed):** No credit for assessment(s) in question, or a final grade reduction of one full letter grade (e.g., A- becomes B-), whichever is a greater reduction
- **First offence (anyone else):** A grade of F in the course
- **Second offence (anyone):** A grade of F in the course and a one-term suspension from studies
- **Third offence:** Expulsion from the University

3. Course Modality

This is an online, blended course. Parts of the course are pre-recorded, and the lecture time will be used to live stream the recordings, perform live exercises, and take questions. You **will be required to attend some lecture periods**, such as during the midterm, the first lecture, and any other specified lecture.

Note: Some lectures may not have pre-recorded material and will only be streamed live; you are expected to either attend these or watch the lecture recording as soon as possible. Any lecture without streamed content will be noted in the course calendar and have an announcement post.

First Lecture: The first lecture will be held on Zoom, with a meeting link posted to cuLearn ahead of the lecture. Attendance is required to ask questions and get a better understanding of the course structure.

Pre-Recorded Material: If you are attending the scheduled lectures, the pre-recorded materials are not mandatory viewing. The lecture will be broken up into shorter videos that will be posted to cuLearn in advance of the scheduled lecture. If you choose to engage with the course exclusively through pre-recorded lectures, you will be expected to keep up-to-date with the course via announcements, watching parts of the scheduled lecture recording, and engaging in the forums. You are still expected to keep up to date with the scheduled lectures, such as by watching parts of the recorded stream.

Scheduled Lectures: The lectures will take place on Zoom with the links posted to cuLearn ahead of class (note: the conference tool is subject to change). Attending the scheduled lectures is highly recommended, though not mandatory if you are otherwise able to keep up with the course through the recorded lectures and recorded material. During the scheduled lectures, the pre-recorded material will be streamed. During these streams, students are free to ask the instructor questions, there will be activities to work on, and there will be live demonstrations of the material that is not otherwise available. The start and end of lectures will likely be the earliest communication for updates in the course. The lectures will be recorded and made available online shortly after the lecture period. Even if you are not attending the lectures live, you are still encouraged to watch portions of the lecture to keep up to date and engage with examples.

4. Communication Policy

The move to all courses being online has strained the communication for the term. Due to a very high volume of email traffic, emails sent directly to instructors and TAs should be kept to a minimum. **The only emails sent directly to TAs and the instructor should require the confidentiality of direct email.** In order to receive timely responses, follow these rules:

1. Any **private emails** (eg. grades, accommodations) must include [COMP 1405C] in the subject line
2. **Assignment questions** should *first* be dealt with during TA office hours
3. **Course material assistance** is handled during the instructor office hours
4. **For technical issues** first look on the course website, then the SCS [technical support page](#), then inquire with the teaching assistants who may forward your concern to the instructor.
5. **Students must behave in a professional manner** in all communications. Any communication that is seen as discourteous and unprofessional may be moderated, ignored, or in the worst case reported to the university.

Students are expected to check their Carleton email addresses daily for updates and keep up to date with the cuLearn forums. For convenience, you can set up your cuLearn notifications to reduce email volume. Note that you should **not expect responses outside of business hours (8:30AM - 5:30PM, Monday-Friday)**. Plan ahead and try to ask questions before the weekend or evenings. Anyone not following the communication guidelines risks having their communication go ignored or redirected, so please make an effort to follow the guidelines as best as you can.

5. Important Considerations

Technical issues will not exempt you from assignment deadlines. You are expected to submit your assignment well in advance of the submission time and no additional grace period beyond the 8 hour cutoff will be provided. You are advised to periodically submit your assignment as you progress (i.e. partially completed submissions) and submit well in advance of the final submission time (minimum 30 minutes).

Not following submission guidelines is grounds for a zero. If your submission does not match the submission requirements exactly (which are clearly posted on each assignment), your submission may receive a zero. Make sure to double check the submission guidelines before and after submitting your assignments online. If the requirements are unclear or you are otherwise incapable of meeting them, meet with a TA during office hours, post to cuLearn, or finally contact the instructor.

If your submitted code does not run for any reason, it may receive a mark of zero. It is recommended that as soon as you upload your assignment, you should download and run it again to make sure everything was submitted correctly.

Your code may be penalized if it is poor quality. You are expected to use the tools and techniques discussed in class, do the necessary problem solving preparatory work before coding, and practice good coding practice where possible. **You may be asked to present (or do) your preparatory work** before a TA will offer support.

Your primary source of asking questions is the cuLearn forums. Due to a high volume of emails, the cuLearn forums are the first place to ask any question that does not contain confidential information. The idea is that any question you might have, another student might *also* have. By asking on the cuLearn forums, you may receive support from other students very quickly, or you might assist other students by allowing the TA or instructor to respond to the question publicly for all students to see the answer. Specific help with assignments is best served by TA office hours.

Study groups will be graded. More details about the study groups will be coming soon, and will be posted to cuLearn. For now, know that these are officially recognized study groups to help keep up to date on course material and meet with other students in your first year. You will also get a chance to meet and chat with an upper year student!

The double pass requirement does not include study groups. Instead, if adding the study group grade (0-5%) to a section of the double pass (either assigned material or examinations) would mean the difference between a student passing or failing, the study group grade will be added as necessary to pass.

6. SCS Support

SCS Computer Accounts: Any student taking an SCS course qualifies to have an SCS account. SCS accounts can be created at the following URL: <https://www.scs.carleton.ca/newacct>. Technical support is available in room HP5161 Monday to Friday from 9:00 until 17:00 or by emailing support@scs.carleton.ca. Additional support information and all SCS account related information is accessible at the following URL: <https://www.scs.carleton.ca/technical-support>.

Undergraduate Academic Advisor: The Undergraduate Advisor for the School of Computer Science is available 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.

7. University Policies

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.

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.

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](#).

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](#).

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](#).

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: <https://carleton.ca/sexual-violence-support>

Medical Certificate: The following is a link to the official medical certificate accepted by Carleton University for the deferral of final examinations or assignments in undergraduate courses. To access the form, please go to <http://www.carleton.ca/registrar/forms>