
Course Outline

An introduction to computational thinking and its applications to the arts and social sciences. Students will gain computational thinking skills by exploring data representation, basic programming concepts, a selection of algorithms, and advanced usage of software packages for the arts and social sciences.

Course Information

Instructor Name

Dave McKenney

Instructor Email

david.mckenney@carleton.ca

Lecture Hours

Mondays and Wednesdays

11:35 – 12:55

Azrieli Theatre, Room 101

Office Hours

<https://www.carleton.ca/culearn/>

Course Website

<https://www.carleton.ca/culearn/>

Course Forum

<https://www.carleton.ca/culearn/>

Required Textbook

Readings will be assigned from the following online textbook:

http://do1.dr-chuck.com/pythonlearn/EN_us/pythonlearn.pdf

Assessment Scheme

Your performance in this course is assessed using several components. These include **five (5) assignments**, **one (1) in-class midterm** (date TBD), and a **final examination** (to be scheduled by the registrar). The grades you achieve on these components will be weighted with the following scheme.

Assignments (5 × 10% each) - 50%

Midterm - 20%

Final Examination - 30%

Assignments are mandatory and must be completed individually without the assistance of other students. You will use cuLearn to submit your assignments and **you must ensure that the marks posted to cuLearn are correct within one week** of the date the assignment grading was completed. Concerns or complaints about the grading of the assignments must be communicated to the teaching assistant who graded your assignment within that time – **after one week, no assignment remarking is possible.**

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Learning Outcomes

If a student attends every lecture and completes every assignment and practice problem, then by the end of this course that student should be able to:

- Understand what computer science is and identify how computer science can help solve problems
- Explain the difference between designing an algorithm and implementing an algorithm in source code
- Explain the following and use them to solve practical computing problems in the arts and social sciences:
 - data types, variable assignment, propositional logic, Boolean values
 - branching, repeating, and nested control structures, "if" statements, "for" and "while" loops
 - one-dimensional and multi-dimensional lists, dictionaries
 - functions
- Apply computational thinking skills when working with common software packages (e.g., Word, Excel)

Important Considerations

Late assignments are accepted for 8 hours after the posted deadline, but they incur a penalty of 2.5% / hour. Assignment submissions are handled electronically, so there is no "grace period" with respect to the deadline - 8 hours after the official submission deadline, you will not be able to submit your work.

Technical problems do not exempt you from this requirement, so if you wait until the last minute and then have issues with your connection, you will still receive a penalty. Consequently, you are advised to:

- periodically upload you progress (i.e., upload partially completed submissions)
- attempt to submit your final submission at least 30 minutes in advance of the due date and time
- download your submission and verify the contents after submitting

For each assignment, you will be submitting one or more files that contain source code. These files must be compressed into a "zip" file. If you do not compress your source code files or if you compress your files into another format (e.g., "rar", "tar", etc.), then your assignment will be rejected and will receive a mark of zero.

If a source code file you submit does not run it may receive a mark of zero. Consequently, after you upload your submission to cuLearn you should re-download it immediately and ensure that:

- your submission is a "zip" file that is not corrupt (i.e., it can be opened properly)
- each of your source code files can be run from a command line in Windows without error
- each of your source code files can be viewed in a text editor (for marking purposes)

You are expected to demonstrate good programming practices (which we will discuss in class) at all times and your code may be penalized if it is poorly written. You are also expected to do the necessary preparatory work (i.e., devising an algorithm) before you start coding. **You may be asked to present either pseudocode or a flowchart before you will receive any assistance from the instructor or a teaching assistant.**

Students with an **illness on the day of a midterm might be granted an exemption** if and only if they provide a **Carleton University Medical Certificate** (http://carleton.ca/registrar/wp-content/uploads/med_cert.pdf) that has been completed and signed by a physician. **There will be no make-up midterm but the weight of the midterm for students who receive accommodations will be moved to the final exam.** Since assignment specifications are

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posted well in advance of their due dates, **illness does not excuse a student from completing an assignment**. No provision is made for missed assignments, and **no extra credit assignments will be available**.

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. Some examples of offences are plagiarism and unauthorized co-operation or collaboration. Information on this policy may be found in the Undergraduate Calendar.

Plagiarism

As defined by the 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. carleton.ca/pmc

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: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

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: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

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 is 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

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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. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

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/form>

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

Additional Notes

Including the time spent attending lectures and completing practice problems/assignments, **students can expect to spend at least ten (10) hours per week on this course**. Students are responsible for all course materials, including lecture notes, practice problems, 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 cuLearn**; 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 email received within 48 hours** of the time the message was received, unless the email requests information already posted on cuLearn or in the course outline. All emails regarding the course should be sent from your Carleton email account. To ensure that all announcements are received, **students are expected to check their Carleton email on a daily basis**.

All materials created for this course (including, but not limited to, lecture notes, in-class examples, practice problems, 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.**

Plagiarism Policy

There is a separate plagiarism policy document for this course that is located on the main cuLearn page for the course. **Students must read this document thoroughly and must agree to adhere to this policy (and to all policies stated in this course outline) before the assignment resources will be made available.**

Students are invited to discuss any concerns with the instructor at the earliest opportunity.