
Course Outline
Course Description:

A first course in programming emphasizing problem solving and computational thinking. Topics include pseudocode, variables, conditionals, iteration, arrays, objects, functions, sorting, searching, and simulation.

Learning Outcomes:

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

- Use a programming language to write computer programs (in the imperative paradigm)
- Explain the differences between algorithm design and implementation (i.e., programming)
- Apply different problem-solving heuristics (e.g., divide-and-conquer, abstraction, etc.)
- Explain the following topics:
 - data types, variable assignment, propositional logic, Boolean values
 - branching, repeating, and nested control structures (i.e., "if", "for", "while", etc.)
 - one-dimensional and multi-dimensional lists, other collections (dictionaries, etc.)
 - functions and recursion, objects for data storage, simulation
- Implement some basic searching and sorting algorithms

Course Information:

Instructor: Farah Chanchary (email: farahchanchary@cunet.carleton.ca, Office: HP5331)

Lecture Hours: Wednesdays and Fridays: 2:35 – 3:55 pm, UC 231

Office Hours: TBA in class

Course Website: <https://culearn.carleton.ca/moodle/course/view.php?id=137243>

Recommended Textbooks:

We do not have any required textbooks in this course. However, the following textbooks are highly recommended for students to use as supplementary materials to the course lectures, tutorials and assignments.

- Tony Gaddis - Starting Out with Python, 4th Edition
- How to think like a Computer Scientist, Interactive Edition (free, interactive text)

Assessment Scheme:

In this course students will be evaluated according to the following criteria.

Criteria	Frequency	Weight	Tentative dates*
Tutorials	10	10 x 1 = 10%	Weekly, beginning the week of January 13 th
Tests	2	2 x 10 = 20%	February 12 th and March 25 th
Assignments	5	5 x 6 = 30%	Biweekly
Final	1	40%	Scheduled by the Registrar

*Dates are subject to change. Announcements will be made in lecture and on the course website.

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Attendance is mandatory. You must attend the tutorial session in which you are registered. You may not work on an assignment during the tutorial, and anyone not working on the tutorial will be asked to leave and will receive zero. You must submit your completed work on culearn, in person, during your own scheduled tutorials. In order to receive full marks, you must complete the work and demonstrate your understanding of the topic to an attending TA before leaving. No late tutorials will be accepted.

Tests:

Tests are mandatory and will always be closed-book. There will be two tests held during the lecture time. You must attend, write, and submit your test immediately upon completion in order to be graded. If you are unable to attend the test due to extenuating circumstances, you must inform the instructor via email before the test begins. You may miss at most one (1) test. You will need to submit a doctor's note – a copy of the Carleton University Medical Certificate (http://carleton.ca/registrar/wp-content/uploads/med_cert.pdf) that has been completed and signed by a physician (or other equivalent documentation) to verify your condition. Doctor's notes must be submitted within one week of the listed accommodation date. Accommodations are granted at the discretion of the instructor. Failure to follow the above instructions will result in a grade of 0 for your missed test.

Graded tests will not be returned. TAs will hold graded tests for two weeks and you can contact the marking TA during this time to resolve your concerns or questions. After this time absolutely no remarking will be done.

Assignments:

Assignments are mandatory. All assignments will be made available on culearn and you will use cuLearn to submit your assignments. The assignment component of your final grade is computed from the score you receive on five (5) assignments. All assignments submissions must be your own individual and original work (see Plagiarism section below.)

You are expected to work on your assignments consistently once they are released (uploading your progress periodically). As a result, the instructor does not grant exemptions for the assignments due to sudden sickness, or any technical problems, for example, problems regarding internet connectivity or computer hardware and/or software. So if you wait until the last minute and then have issues with your connection, you will still receive a mark of zero. Consequently, you are advised to:

- periodically upload you progress (i.e., upload your progress at least daily)
- attempt to submit your final submission at least one hour in advance of the due date and time

Late assignments are never accepted for any reason. Assignments submissions are handled electronically (i.e., through cuLearn) and there is no "grace period" with respect to a deadline - an assignment submitted even one minute after the deadline is late and will receive a mark of zero.

For each assignment, you will be submitting one or more files that contain source code, and these files must be given the correct filename and be provided in the specified format. Assignments that are incorrectly named or in the incorrect format will be penalized and may receive a mark of zero.

If any of the source code files you submit does not run it will receive a mark of zero. Consequently, after you upload your submission to cuLearn you must re-download it immediately and ensure that:

- your submission is the correct type of file and has the correct filename
- each of your source code files can be viewed in a text editor and run

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You are expected to demonstrate good programming practices 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.

Grading and Appeal:

All assignments submitted through cuLearn will be graded by the TAs or the Instructor. It is your responsibility to ensure that your test, tutorial, and assignment marks posted to cuLearn are correct within **two weeks** of the date the marks were released. Concerns or complaints about the grading must be communicated first to the marking TA, then, if the result is unsatisfactory, to the instructor within that time. After those two weeks, all marks are considered final and will not be changed under any circumstances.

Please note that a student cannot, for any reason, be exempted from more than one (1) tutorial or more than one (1) assignment or more than one (1) test.

Final Exam

The time and place, as well as the format of the final exam will be announced later in the term. Attendance of this exam is mandatory. Do not make travel plans until the dates are known as no advance exams will be given. The exam period can be found at <http://carleton.ca/registrar/registration/dates-and-deadlines/>. The deferral process for formally scheduled exams is handled through the registrar's office, see the registrar's website for more details.

Additional Notes

In addition to the time spent attending lectures and completing tutorials, students can expect to spend at least nine (9) hours per week on this course. Students are responsible for all course materials, including lecture notes, tutorial exercises, 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 three business days of the time the message was received, unless the email requests information already posted on cuLearn or in the course outline. To ensure that all announcements are received, students are expected to check their email on a daily basis.

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

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 or equivalencies, understanding your academic audit and the remaining requirements

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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.

You must also read:

<http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/>

Plagiarism Policy

There is a separate plagiarism policy document for this course that is located on cuLearn. 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.

In the event that a student has been found to have committed an instructional offence, a penalty will be applied to that student's final grade. If the penalty applied by the Office of the Associate Dean is less than the total value of the assignment, the remaining weight is shifted onto the weight of the final exam. Consider the following example: if the course has an assignment worth 10% and a final worth 40% and a student plagiarizes and receives a 50% deduction to his or her assignment, their final exam would be worth 45% of the final mark and the plagiarized assignment would be worth nothing. To clarify, 50% of the 10% allocated to the assignment was lost and the remaining 50% of the 10% allocated to the assignment was shifted to the final.

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

University Policies

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:

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

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:

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

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.

<https://carleton.ca/pmc>

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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 its 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>

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>

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