Carleton University School of Computer Science

COMP 1005A/1405A – Introduction to Computer Science I

Course Information:

Lecture: Tuesday & Thursday, 18:05 - 20:55
Tutorial: Wednesday, 18:05 - 20:55
Location: Please check on Carleton Central for the room location
Course Website: Please check on Brightspace for more details.
Date Range: May 06, 2024 - June 18, 2024
Section Type: In-Person

Instructor: Yanan Mao (She/Her/Hers)
Email: yananmao@cunet.carleton.ca

Lab/Course Coordinator: Leila Chinaei
Email: leilachinaei@cunet.carleton.ca

Teaching Assistants:

Once available, TAs' contact information and office hours will be posted on Brightspace.

Course Description:

The first course in programming emphasizes problem-solving and computational thinking. 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.

Prerequisite(s): A laptop is required for all first-year in-person courses

Postrequisite(s): Earn a C- or better is a must to take some required 2^{nd}/ 3^{rd} year courses.

Required Textbook:

Sweigart, A. (2017). Automate the Boring Stuff with Python, 2nd Edition.

Available to read for free online:**https://automatetheboringstuff.com/**

Topics Covered

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:

- Design and express simple algorithms using flowcharts and pseudocode.
- Implement simple algorithms using the Python 3 programming language.
- Create expressions with arithmetic, logical, and comparative operations.
- Create branching and repeating control structures, with and without nesting.
- Explain variable assignment, primitive data types, and the basics of computer memory.
- Design and implement functions and explain function scope and recursion.
- Create, access, and manipulate linear, multi-dimensional, and associative collections.
- Implement and discuss the efficiency of some basic sorting and searching algorithms.

Laptop Requirement (School of Computer Science):

A **laptop** is required for every student enrolled in a 1000-level (i.e., first-year) course offered by the School of Computer Science after the 2020/2021 school year. For more information, please visit https://carleton.ca/scs/scs-laptop-requirement/ and then review the requirements at https://carleton.ca/scs/scslaptop-requirement/laptop-specs/.

Course Evaluation

Component	Weight	Details	Due Date (EST)
Tutorials	20%	4% each, best 5/6	Weekly, Wed 11:59 pm
Assignments	30%	6% each, best 5/6	Biweekly, Tue 11:59 pm
Quiz	30%	15% each, Online During the class time	Quiz 1: May 23rd. Quiz 2: June 13th.
Final Exam	20%	In-Person, Formal Exam	To Be Announced

Assignments:
Assignments will be announced and available on Brightspace. They must be submitted electronically before the due date. Make sure you submit your assignment ahead of the deadline in case of a problem with Brightspace. You have multiple chances to resubmit the work, and the latest one will be for marks. Once you submit an assignment, download it to a new directory and test the code. This will ensure that you upload the correct solution to the assignment. **No late submissions will be accepted.**

Tutorials:
The tutorials provide you with time to gain experience with the material learned in class (ask questions if you need help understanding the material). You are required to attend the tutorial session and stay to complete the tasks. Attendance and submission all matter to the marks for tutorials.

Marking Issues:
It is your responsibility to ensure that your quiz, tutorial, and assignment marks posted to Brightspace are correct, and you must do so within **one week** of the date the marks were released. Concerns or complaints about the grading must be communicated (first to the teaching assistant, then, if the result is unsatisfactory, to the instructor) within that one-week period after the release of the marks. **After that one week**, no further consideration will be offered, and any student requests to correct or revise marks will not be accepted.

Important Considerations

As the course is conducted in person, no recordings will be posted to Brightspace.
The grading scheme will remain unchanged under any circumstances, which means I cannot shift the weights of quizzes, tutorials, or assignments. No make-up assignments or tests will be provided. Students are invited to **discuss any concerns with the instructor at the earliest opportunity.**

For each assignment/tutorial, you will be submitting files containing source code, which must have the correct filenames and the specified format. If any source code files you submit do not run, they will receive a zero mark. Consequently, after you upload your submission, you are required to re-download it immediately and ensure that:

- Your submission was the correct type of file and had the correct filename
- Each of your source code files can be executed in Python 3.11

You are expected to demonstrate good programming practices at all times. You are always required to observe file name and format requirements, use meaningful variable names and type-hinting, and thoroughly comment on your code. Please also note that your code will be penalized if poorly written, and a functional but poorly designed solution will not receive full marks.

You are also expected to do the necessary preparatory work before you begin programming. You may be asked to present either pseudocode or a flowchart before you receive assistance from the instructor or a teaching assistant.
Students can expect to spend at least 5 more hours per week on this course, excluding the lectures and tutorials.

Students are responsible for all course materials. 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 course offering. Reposting, reproducing, or redistributing any course materials, in part or in whole, without the written consent of the instructor is strictly prohibited.

Students are asked to pose all questions related to course content using the official discussion boards; students must avoid emailing the instructor directly unless the question contains confidential or personal information. The instructor will attempt to answer every student's email received **within three business days** of receiving the message unless the email requests information already posted on the official discussion boards or in the course outline. To ensure that all announcements are received, **students are expected to check their email on a daily basis.**

If you need clarification on the expectations regarding academic integrity (e.g., how to use and cite references, whether lab collaboration or classmates is permitted (and, if so, to what degree), you must ask your instructor.

Sharing assignment or quiz specifications or posting them online (to sites like Chegg, CourseHero, OneClass, etc.) is always considered academic misconduct (at any time, even after the course has concluded). You are only permitted to post, share, or upload course materials (even for portfolio purposes) if you receive explicit permission from your instructor. Academic integrity offenses are reported to the office of the Dean of Science. Information, processes, and penalties for such offenses can be found on the ODS webpage: https://science.carleton.ca/students/academic-integrity/

Students must read this document thoroughly and agree to adhere to this policy. (and all policies stated in this course outline) before any resources are available.

In the event that a student has been **found to have committed an instructional offense,** 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.

University Policies:

Collaboration: **Assignments and tutorials must be done individually** and should be your own work. For assignments, you are encouraged to discuss your thoughts and ideas with classmates during and outside tutorials. However, you cannot share code with classmates or submit anything except your own work.

Cheating: Cheating is strictly prohibited during an exam. It includes copying another person's work, sharing your work with another person, or in any way conspiring to dishonestly get a grade.

Plagiarism: All cases of plagiarism or cheating will be pursued through official university channels. Academic integrity offenses are reported to the office of the Dean of Science. Penalties for such offenses can be found on the academic integrity webpage. If you need clarification on the expectations regarding academic integrity, please ask your TAs or instructor. For more details, please visit: https://science.carleton.ca/students/academic-integrity/

Academic Calendar: Carleton's academic year, including registration and withdrawal dates, see Carleton's Academic Calendar at: https://calendar.carleton.ca/academicyear/

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: https://carleton.ca/pmc

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:
https://carleton.ca/womensstudies/resources-and-links/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/

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, please visit: https://carleton.ca/sexual-violence-support

Student Academic Integrity Policy
Every student should be familiar with the Carleton University student academic integrity policy. A student in violation of academic integrity standards may be awarded penalties ranging from a reprimand to receiving an F grade in the course or even being expelled from the program or university. For more information, please visit: https://carleton.ca/registrar/academic-integrity/

University Policies Accommodation for Student Activities
Carleton University recognizes the substantial benefits to the individual student and the university resulting from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform nationally or internationally. 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 at: https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf.