

ITEC 5010 W/B (0.5/1 credit)
Applied Programming
Fall 2022

Instructor: Mehdi Niknam
Office: AP 230 L
Office Hours: Fridays 10 – 11 AM
Lecture: Thursdays & Fridays 8:35 – 9:55 AM
Location: Thursdays AP 236 & Fridays Tory Building (TR) 206
Tutorial/Lab: Fridays 11:35 AM – 2:25 AM
Location: AP 236
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TA: TBA

Course Description:

Algorithm design and computer programming with practical industry problems in information technology. Topics include algorithms and pseudocode, programming fundamentals, memory operations, data structures, object-oriented programming, program design, testing and debugging.

Course Objectives/Learning Outcomes:

By the end of this class, successful students should be able to:

1. Recall the basic design of a modern computer and the interaction between hardware and software
2. Recall Python syntax
3. Understand basic programming concepts including variable types, loops, function, structures, classes, and objects
4. Apply basic programming concepts
5. Create solutions to complex programs using computer programming

Textbook/Equipment/Material:

There is no required textbook for the course.

Recommended Textbook - Python Programming: An Introduction to Computer Science, Third Edition by John Zelle (ISBN-10: 1590282752, ISBN-13: 978-1590282755)

Python version: 3.6.X

Grading Scheme:

Item	Due Date	%
Weekly Online Homework Quizzes	Every Sundays at 11:55 PM	20
Weekly Lab Assignments	Every Friday during tutorial	40
Final Project	December 14, 2022	40
Total		100

Course Policies:

The quizzes will be administered online in Brightspace. Late quiz submissions will not be allowed unless a legitimate reason (as detailed in the Academic Accommodation section below) is presented 24 hours after the quiz deadline has passed. If a quiz is missed and a legitimate reason is presented, then the weight of the quiz will be transferred between the other quizzes.

Lab assignments and the course project are mandatory for this course. All assignments will be submitted online. If assignments are missed for a legitimate reason, an extension or alternative assignment will be provided. Students are encouraged to email the instructor ahead of time if they have concerns about completing assignments to ensure that reasonable accommodations can be made.

Course Schedule/List of Topics by Week:

While every attempt will be made to keep to the schedule listed below, circumstances may necessitate modifications throughout the semester.

Week	Due Date	Topics / Teaching Activities	Assignment Deadlines
1		Course Outline Computers and Programs Writing Simple Programs	Quiz 1: Sunday Sep 11
2		Computing with Numbers	Quiz 2: Sunday Sep 18
3		Object-Oriented Design and Graphics	Lab 1: Friday Sep 23 Quiz 3: Sunday Sep 25
4		Sequences: Strings and Lists	Lab 2: Friday Sep 30 Quiz 4: Sunday Oct 2
5		Files and Functions	Lab 3: Friday Oct 7 Quiz 5: Sunday Oct 9
6		Decision Structures	Lab 4: Friday Oct 14 Quiz 6: Sunday Oct 16
7		Booleans and Loop Structures	Lab 5: Friday Oct 21 Quiz 7: Sunday Oct 23
8		Fall Break (Oct 24-28)	
9		Simulation and Design	Lab 6: Friday Nov 4 Quiz 8: Sunday Nov 6 Final Project Proposal, Sunday Nov 6
10		Defining Classes	Lab 7: Friday Nov 11 Quiz 9: Sunday Nov 13
11		Data Collections	Lab 7: Friday Nov 18 Quiz 9: Sunday Nov 20

12		Algorithms	Lab 9: Friday Dec 2
13		Machine Learning/Wrap-up	Lab 10: Friday Dec 9
14		Final Project	Final Project, Wednesday Dec 14

Pandemic Measures

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 should follow Carleton's [symptom reporting protocols](#).

Masks: Masks are no longer mandatory in university buildings and facilities. However, we continue to recommend masking when indoors, particularly if physical distancing cannot be maintained. We are aware that personal preferences regarding optional mask use will vary greatly, and we ask that we all show consideration and care for each other during this transition.

Vaccines: While proof of vaccination is no longer required to access campus or participate in in-person Carleton activities, 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.

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 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 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. For more details, visit the Paul Menton website carleton.ca/pmc.

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 where 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.

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. For more details, visit <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

ACADEMIC INTEGRITY

The University Senate defines plagiarism in the regulations on instructional offenses as "to use and pass off as one's own idea or product work of another without expressly giving credit to another."

Borrowing someone else's answers, unauthorized possession of tests or answers to tests, or possession of material designed in answering exam questions, are also subject to university policy regarding instructional offences. **Students who post their code online are making themselves a potential party to plagiarism and are subject to the consequences.** For more information on Carleton University's Academic Integrity Policy, consult <https://carleton.ca/registrar/wp-content/uploads/Academic-Integrity-policy-June-2021.pdf>

COURSE COPYRIGHT

Student or professor materials created for this course (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the author(s). They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author(s).

IMPORTANT DATES TO REMEMBER – Academic Year 2022-2023

WITHDRAWALS

The last day to withdraw from fall term courses with a full fee adjustment is **September 30, 2022**. Withdrawals after this date will create no financial change to winter term fees and will result in a permanent notation of WDN appearing on your official transcript.

The last day to withdraw from fall term courses is **November 15, 2022**.

OFFICIAL FINAL EXAMINATION PERIOD

Winter term: **December 10-22, 2022** – Examinations are normally held all seven days of the week.

For a complete listing of academic and financial dates and deadlines for the 2022/2023 academic year, please visit <https://carleton.ca/registrar/registration/dates/academic-dates/>.