

Description

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

Topics Covered

Here is a list of the main topics covered:

- An Introduction to Computer Science and Problem Solving
- Variables and Functions
- Program Flow
- Data Structures
- File I/O
- Exception Handling
- Searching and Sorting
- Recursion

Course Objectives

This course will teach you how to solve problems using computers. You will learn the fundamental concepts and control structures that are used to write computer programs. By the end of this course, you should be able to write computer programs from scratch to solve simple problems and to present the solutions to these problems through visual simulation. Although you will learn the Python language, the programming concepts carry over to nearly all other programming languages.

Textbook

Course textbook is [Learn Python the Hard Way](#) by Zed A. Shaw. Click the link for access to this free resource.

Laboratory Software

There are various computer laboratories in the Herzberg (HP) building that you may use for this course. Some of the labs require access cards (i.e., your campus/student ID card) and are meant for computer science students only. The main lab for use by COMP1005 students is in 3341HP which does not require card access. In addition, you may use the tutorial labs 3115HP and 4155HP when they are not being used for tutorials (i.e., usually late in the day or at night, but you will need to look at the schedule that is posted on the doors of those labs). Note however, that there are students in other courses who will also be making use of these labs, so they can get crowded at times. It is never a good idea to rely on machines being available close to the due dates of assignments. The lab hours are typically from Monday to Friday 8:00-23:00 and Saturday 8:00-17:00. Note that labs are closed on holidays!! For a complete schedule can be found on [the scs website](#). All labs are equipped with Windows PCs which are connected via a

network to printers and a file server. Printers are located in 4125HP and 3341HP but require a "campus card" with sufficient funds. However, you will NOT have to print your assignments out to hand them in. Since labs can get crowded and hot, we recommend that you work on your assignments from home or on your laptop (if possible). You will be programming using the Python language. Please go to python.org to download this free software on your machine.

Evaluation

Students will be evaluated in this course according to the following measures:

Component	Weight
Assignments	50%
Mid-term exam	15%
Final Exam	35%

Midterm

The midterm will be closed-book and will cover material discussed up to the lecture prior to the midterm. The date for the midterm is tentatively scheduled for October 22nd during regularly scheduled lecture. Your test must be handed back immediately when completed in order to be graded. You must attend and write the midterm. If sick, you must inform the instructor via email by the day before at the latest, and you will need official documentation as well. Exceptions are only granted at the discretion of the instructor.

Assignments

There will be 5 assignments in this course which will be available on the course web page. All assignments are counted towards the final grade. Assignments must be handed in before or on the due date and time. Late assignments will be penalized. You will be using Carleton's cuLearn system to submit your assignments and view your grades throughout the term. Always keep a backup of your work, perhaps on a USB flash drive or by sending yourself an email with your assignment attached. That way you can access your code from anywhere. You should take the time to ensure that assignments are neat, legible and easy to understand. Any instructions required by the teaching assistants (for example any assumptions you made about the assignment) should be clearly indicated on a separate README.TXT file, included with the assignment. Remember, it is YOUR responsibility to demonstrate that you have understood and completed the assignment. A portion of your grade for assignments will be given for the readability of them and for your demonstration that you have completed the assigned tasks. The cuLearn system also allows you to view your marks on-line. You should ensure that the posted marks are correct. Any complaints regarding assignment marks should be brought to the attention of the TA who marked it (only if the TA does not address the problem to your satisfaction should you bring the matter to the instructor). This should be done no later than two weeks after the assignment has been returned to you. After this time, no remarking will be done. Being "sick" on the day an assignment is due is not an excuse for not doing it. Last minute issues such as a home internet failure are not considered acceptable excuses. You will be given ample time to complete each assignment. Start early and keep submitting partially completed versions.

That way, if you get sick, your partially completed version will be marked, and you will not get 0. Late assignments may be marked at the instructor/TA's discretion with a penalty of 25% per day. DO NOT email your assignments to any TAs unless requested to do so. If ever you receive special permission to hand your assignment to the instructor directly, zip your code and email it to the instructor immediately. If you are sick for an extended period of time, please inform the instructor (not the TAs) immediately. You will need to have official documentation of illness. At this point, it will be up to the instructor's discretion as to how to handle the situation.

Collaboration Policy

Collaborating on assignments is strictly disallowed. You must complete the work by yourself. If you need help, please see a TA or your instructor. Posting assignment solutions on discussion boards before the due date and time is also prohibited.

SCS Computer Accounts

Any student taking an SCS course qualifies to have an SCS account. SCS accounts can be created at the following URL: <http://www.scs.carleton.ca/newacct>. SCS students can access one of the designated labs for your course. The labs are operational 7 days a week 24 hours per day, please be advised that the building will be closed overnight, Mon. - Fri. 23:00 - 8:00 and on weekends from 17:00 - 8:00. Technical support is available in room HP5161 Monday to Friday from 9:00 until 17:00. All SCS account related information is accessible at the following URL: <http://www.scs.carleton.ca/nethelp>.

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/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.

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 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.

Students with Disabilities Requiring Academic Accommodations

Register with the Paul Menton Centre for Students with Disabilities (PMC) for a formal evaluation of disability-related needs. Documented disabilities could include but are not limited to mobility/physical impairments, specific Learning Disabilities (LD), psychiatric/psychological disabilities, sensory disabilities, Attention Deficit Hyperactivity Disorder (ADHD), and chronic medical conditions. Registered PMC students are required to contact the PMC, 613-520-6608, every term to ensure that I receive your Letter of Accommodation, no later than two weeks before the first assignment is due or the first in-class test/midterm requiring accommodations. If you only require accommodations for your formally scheduled exam(s) in this course, please submit your request for accommodations to PMC by the deadlines published on the PMC website: <http://www.carleton.ca/pmc/new-and-current-students/dates-and-deadlines/>

Religious Obligation

Write to me concerning 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 <http://www.carleton.ca/equity/accommodation>

Pregnancy Obligation

Write to me concerning 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 <http://www.carleton.ca/equity/accommodation>

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>