COMP 1005: Introduction to Computer Science I
Course Outline for Fall 2013 (subject to change, last updated September 9 2013)

Course Details

1:05 pm - 2:25 pm
Tuesdays and Thursdays
Minto Centre 2000

No class on October 3 due to a conference, or October 29/31 for Fall Break.

https://culearn.carleton.ca/moodle/course/view.php?id=28522

Instructor

Gail Carmichael
Office: 5326 HP
gail_c@scs.carleton.ca

Office hours:
3:00 pm - 4:30 pm
Tuesdays and Thursdays
5326 HP

Teaching Assistants

<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
<th>Office Hours</th>
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<tbody>
<tr>
<td>Babak Salimi</td>
<td><a href="mailto:BabakSalimi2@cmail.carleton.ca">BabakSalimi2@cmail.carleton.ca</a></td>
<td>Wednesday 2:00-4:30pm</td>
</tr>
<tr>
<td>Hala Assal</td>
<td><a href="mailto:halaassal@cmail.carleton.ca">halaassal@cmail.carleton.ca</a></td>
<td>Thursday 10:00-11:30am</td>
</tr>
<tr>
<td>Hendrik Knoetze</td>
<td><a href="mailto:HenriKnoetze@cmail.carleton.ca">HenriKnoetze@cmail.carleton.ca</a></td>
<td>&lt;none&gt;</td>
</tr>
<tr>
<td>Howard Needham</td>
<td><a href="mailto:HowardNeedham@cmail.carleton.ca">HowardNeedham@cmail.carleton.ca</a></td>
<td>&lt;none&gt;</td>
</tr>
<tr>
<td>Leah Zhang-Kennedy</td>
<td><a href="mailto:LeahZhang@cmail.carleton.ca">LeahZhang@cmail.carleton.ca</a></td>
<td>Tuesday 10:00am-1:00pm</td>
</tr>
<tr>
<td>Name</td>
<td>Email</td>
<td>Office Hours</td>
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<tr>
<td>Matthew Pacitto</td>
<td><a href="mailto:MatthewPacitto@cmail.carleton.ca">MatthewPacitto@cmail.carleton.ca</a></td>
<td>Friday 1:00pm-2:30pm</td>
</tr>
<tr>
<td>Sana Masqood</td>
<td><a href="mailto:sanamaqsood@cmail.carleton.ca">sanamaqsood@cmail.carleton.ca</a></td>
<td>Monday 1:00-2:30pm</td>
</tr>
<tr>
<td>Siyang Tian</td>
<td><a href="mailto:TianSiyangTian@cmail.carleton.ca">TianSiyangTian@cmail.carleton.ca</a></td>
<td>Wednesday 12:00-1:30pm</td>
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**Computer Science Tutorial Assistance Centre (CSTAC)**

Be sure to frequent CSTAC, where your TA’s will hold office hours and general TA’s will be able to help you. Your TA’s are available at the hours above, and general TA’s are available non-stop on Tuesdays, Wednesdays and Thursdays, from 1:00pm to 5:30pm, beginning on September 24 and running through to December 5, excluding the week of the fall break. The CSTAC website can be found here: [http://www.scs.carleton.ca/cstac/](http://www.scs.carleton.ca/cstac/)

**Course Description**

This course will introduce you to problem solving in computer science. You will learn to program in Processing, a free Java-based language used to make visual programs. We will use at least 8 specific software problems as context during lectures, and you will see many more in tutorials and assignments. In addition to live coding during lectures, we will make use of Poll Everywhere questions and peer instruction to ensure you understand each concept before moving on.

Learning to program can be challenging, but there is every reason to believe that you can succeed.

**Learning Objectives**

By the end of the course, you will be able to:
- Understand what computer science is, and how it can help you solve problems in your field.
- Learn how to use Processing to create visual programs of varying types.
- Explain these basic concepts of programming to somebody who has never programmed before:
  - data types (numbers, Strings, etc)
  - variables
  - functions
  - Booleans and if statements
  - loops
  - arrays
  - objects
Solve basic programming problems by working with:
  ○ searching and sorting algorithms
  ○ shared data
  ○ recursion

Develop good programming practices in the areas of:
  ○ breaking a problem down into smaller pieces
  ○ testing
  ○ debugging
  ○ code reuse

Learn to approach programming problems with the following values:
  ○ a desire to experiment
  ○ the confidence to make mistakes and try again
  ○ the instinct to consult documentation and seek solutions yourself before asking for help

Assessment

You must pass both the midterm and the final in order to pass the course.

<table>
<thead>
<tr>
<th>Assignments</th>
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<tbody>
<tr>
<td>(best 8 of 9)</td>
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<tr>
<td><strong>Tutorials</strong></td>
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<td>(best 10 of 11)</td>
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<tr>
<td><strong>Midterm</strong></td>
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<td>(in class October 24)</td>
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<td><strong>Final Exam</strong></td>
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<td>(date usually announced in October)</td>
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**Assignments**

Assignments will generally ask you to answer some written conceptual questions, as well as solve some problems by programming in Processing. You may work together at the conceptual level, but you **must work independently when writing code**.

**Late policy**: Late assignments will not be accepted. The lowest assignment mark will be dropped, allowing you to miss an assignment without penalty. If you must miss more than one assignment for a documented medical reason, please get in touch with me.
Tutorials

Tutorials begin on September 13 and end on December 2.

During each tutorial, you will be given a set of problems to work on. You are not expected to complete all problems, though you must complete some (the minimum number will depend on that week’s problems).

At the end of each tutorial, you will be asked to complete a quiz in cuLearn that gives you a chance to reflect and report on what you are still finding challenging. This quiz will also be used to record your attendance at the tutorial, as it can only be completed from inside the labs.

Final Exam

The time and place as well as the format of the final exam will be announced later in the term. Do not make travel plans until the dates are known as no advance exams will be given.

Textbooks

There are no required textbooks for this course. In addition to course notes and freely available online resources, however, some students might find the following book useful:


Some students might also enjoy Think Like A Programmer (Amazon). Although this book uses C++ to teach how to problem solve, the discussions are general enough to apply to many languages.

Software and Hardware Requirements

We will be using Processing 2.0 for this course, which is freely available. All SCS lab machines have version 2.0b7 installed.

We will also use of Poll Everywhere in class. This software works a bit like clickers, but does not require a dedicated clicker device. Instead, you only need a mobile device or laptop. You can submit your responses via text message or through the web interface. Please bring your device of choice to class.
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
Unauthorized Co-operation or Collaboration

You may collaborate at the conceptual / problem-solving level of assignments and tutorials, but collaboration is strictly prohibited when writing code, which must always be your own.

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

The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision.

If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and 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 me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (if applicable) at http://www2.carleton.ca/pmc/new-and-current-students/dates-and-deadlines

Religious Obligation

Write to me 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: http://www2.carleton.ca/equity/

Pregnancy Obligation

Write to me 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: http://www2.carleton.ca/equity/
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