CSC108H: Introduction to Computer Programming

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L5101, R 6-9 in BA1170
This Course

Teaches the basics of programming in Python

Is intended for students with no programming experience

3 lecture hours per week
Everybody Stand Up
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Sit down if you have completed any programming course (for example, in high school) in any programming language.
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Sit down if you know how to write a program that sorts a list (or array) of numbers.

Sit down if you have written any programs at all.
We assume that students in CSC108 have never programmed before!

Classroom rule: when the instructor poses a question, if you knew the answer before taking this course, do not answer the question.
What’s CSC108H about?

At the end of this course, you will

- know most Python instructions
- be able to take human problems and write Python programs that solve them
- have a sense of what computer scientists do

```python
def first_even(items):
    """ (list of int) -> int
    Return the first even number from items. Return -1 if items contains no even numbers.
    
    >>> first_even([5, 8, 3, 2])
    8
    >>> first_even([7, 1])
    -1
    """
```
“U of T’s best program remains computer science, which landed in 10th spot among some of the best universities in the world.”

- Toronto Star
Outstanding Research

“Google acquires U of T neural networks company”

“Bianca Schroeder: creating more efficient, reliable data centres”

“U of T spinoff company launches tiny, smarter keyboard”

“Raptor ball according to computer scientist Richard Zemel”
Outstanding Teaching

“Celebrating great teaching at U of T”

“Top U of T teachers recognized by president, provost”

"Engaged students, higher marks on finals: benefits of the inverted classroom"
Outstanding Students

“Undergrad research opportunities: designing video games, challenging seniors”

Computer Science Student Union
http://cssu.cdf.toronto.edu/ @cssu
Syllabus + Course Website

The syllabus has all the key administrative details.

The course website is here:

http://www.cdf.toronto.edu/~csc108h/summer/
## Coursework Overview

<table>
<thead>
<tr>
<th>Work</th>
<th>Weight</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepare Exercises (11)</td>
<td>5%</td>
<td>Watch videos and complete problems. Weeks 2-12. 0.5% each, best 10 of 11 weeks.</td>
</tr>
<tr>
<td>Perform Exercises (10)</td>
<td>9%</td>
<td>Weeks 2-5, 7-12 1% each, best 9 of 10 weeks.</td>
</tr>
</tbody>
</table>
| Assignments (3)           | 21%    | A1: 5%  
A2: 8%  
A3: 8%                                                                 |
| Midterm test              | 15%    | During lecture time, but in a different room.                           |
| Final exam                | 50%    | You must get ≥ 40% on the final exam to pass CSC108!                    |
Inverted Classroom

**Prepare**: watch lecture videos and complete an exercise.

**Rehearse**: apply the concepts covered in the lecture videos by completing activities of various kinds and working through more complex examples with the support of your instructor and TAs.

**Perform**: demonstrate your understanding of the material by completing an exercise.

Due Wednesdays by 10pm
Completed in lecture

Completed online

Due Tuesdays by 8pm
Completed online
PCRS

The weekly Prepare and Perform coursework will be completed using an online tool called the PCRS (Programming Course Resource System).

You will login to the PCRS using your UTORid and password.
Assignments

Due on Wednesdays before 10:00 pm (sharp)

Handouts will be posted on course website.

Submitted electronically using MarkUs

Assignment 1 must be completed individually.

Assignments 2 and 3 solo or with a partner:

Lecture and the discussion board are great for meeting people.

Late Policy:

5% per hour for the first 5 hours, 15% per hour for any additional hour
No other late coursework accepted

No other late assignments will be accepted.

No late exercises will be accepted.

If you can’t finish an assignment, you can earn part marks for a good partial solution.

Of course, illness and other disasters are another matter; contact your instructor as soon as possible if you run into this sort of trouble.
Midterm Test

During lecture time

Location will be posted on the course website

No partners for tests!
Final Exam

Scheduled by the Faculty of Arts and Science

Exam schedule will be posted here:

http://www.artsci.utoronto.ca/current/undergraduate/exams

We can’t change it or allow you to write it at a different time!

All exceptions must be handled through Office of the Faculty Registrar: we can’t set a makeup test, we can’t waive it for you.
Doing Your Work

Our labs: the Computing Discipline Facility (CDF)

Bahen Centre for Information Technology:

BA2210, BA2220, BA2240, BA2270

You should have 24/7 access to all of the above lab rooms, unless they are reserved for a course.

We’ve reserved BA2220, BA2240 and BA2270 for CSC108 for:

- Mondays 3-5 and Tuesdays 3-4

Use your CDF username to log into the lab computers:

http://www.cdf.toronto.edu/resources/cdf_account_management.html
Working on your own computer

You can install Python 3 (not 2!) on your own computer.

You can also install Wing IDE 101, the application we’ll use to write Python programs.

Instructions for both are on the course website.
Getting Help

Don’t spin your wheels, ask for help!

Instructor Office Hours

108 Drop-in Centre

CSC Help Centre

Textbook

Piazza (online discussion forum)

Instructor Email

The schedule is posted here:

http://www.cdf.toronto.edu/~csc108h/summer/gethelp.shtml
108 Drop-in and CSC Help Centres

Drop by the 108 Drop-in Centre to get help with the current exercise, assignment, or general course topics.

This should be the first place you go for exercise help.

Exercise-related questions have priority over other questions, but feel free to ask for help with other course material, and the TA will help if they can.

There will be 1 TA managing the drop-in centre during a given time-slot.

There is also a general CSC Help Centre (usually* M-Th 4-6pm)

Anyone in any CSC class can go ask questions.

Warning: it gets busy!
Textbook

Be sure to get the 2nd edition!

eBook: $25 USD

Formats: PDF, ePub, mobi

If you buy the eBook, you can have it right away.


Paper version: ~$45 CAD

Sold at amazon.ca, UofT bookstore etc
Discussion Forums: Piazza

Discussion forums are available for you to post questions about the course material.

http://piazza.com/utoronto.ca/summer2015/csc108

Ask questions if you’re confused!

Provide answers if you know them!

Please don’t post solutions (or partial solutions or incorrect solutions) about any coursework until after the due date. Even then, ask your instructor first!

Be respectful!

Use descriptive names for your questions. Don’t name a question “Question”.
Email

It really, really helps us if you start email subjects with “108: ”

Please read announcements on Blackboard before sending email

Use a good subject, such as “108: missing test with doctors note”

Sign your full name and include your student number.
Academic Offences

All of the work you submit must be your own and your work must not be submitted by someone else (except your assignment partner for A2, A3)

The department uses software that compares programs for evidence of similar code
How to be good

To avoid plagiarism:

Never look at another team’s assignment work

Never show another team your work

Applies even to drafts and to incomplete solutions

Discuss how to solve an assignment only with the Help Centre TAs, the course TAs, and Myrto, the course instructor
Good Practices

Lectures

- Come to lectures and participate
- Ask questions => no such thing as a stupid question!
- Answer my questions :) See it as a small challenge!

Myrto’s Office Hours

- Please come! Bring a list of questions or the work you’ve done.
- “I don’t understand topic X” is fine too! :) I am there for you to explain it again!
Good Practices - cont’d

Practice!

- The effort you put into the class will reflect what you get out of it :)

- Remember: programming is a skill-set! It can be learned. That’s what we’re here for!

- The material is cumulative. So do something every week.

- Looking at someone else’s code (or my solutions in class) and understanding it is very very very different than writing the code yourself from scratch.

- Keep a log/journal of common mistakes you might do! Makes you aware of any issues!
Good Practices - cont’d

Take advantage of:

- Piazza Discussion Forum
- 108 Drop-In Centre Hours
- CSC Help-Centre Hours

Communicate any issues:

- Use the Anonymous Feedback Form
The key is

To be willing and curious to learn :)  

It’s not about:

“Tell me what the error is and fix it for me”  \(\leq\) simply a patch; won’t hold

but rather:

“Help me learn how I can figure out the error on my code and fix it myself.”  \(\leq\) This is learning. We’re teaching you a skill-set!

Let’s start programming!

But first this for inspiration:  https://www.youtube.com/watch?v=nKlu9yen5nc