Welcome to CSC 108!

Class will begin at 10 minutes past the hour
1998
CPU: 700 MHz
Memory: 512 MB
Price: 1300 USG

2004

2007
CPU: Dual Core
Memory: 512 MB
Price: 370 USD

2015
Bill Gates reportedly (but not really) compared the computer industry with the auto industry and stated "If GM had kept up with technology like the computer industry has, we would all be driving $25.00 cars that got 1,000 miles to the gallon."
If GM had developed technology like Microsoft, we would all be driving cars with the following characteristics:

- For no reason whatsoever, your car would crash twice a day.

- Every time they repainted the lines in the road, you would have to buy a new car.

- Occasionally your car would die on the freeway for no reason. You would have to pull over to the side of the road, close all of the windows, shut off the car, restart it, and reopen the windows before you could continue. For some reason you would simply accept this.

- Occasionally, executing a maneuver such as a left turn would cause your car to shut down and refuse to restart, in which case you would have to reinstall the engine.

- Macintosh would make a car that was powered by the sun, was reliable, five times as fast and twice as easy to drive - but would run on only five percent of the roads.
“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

UofT Hacks
http://uofthacks.com  @UofTHacks
“Ingenuity and endurance at UofT Hacks’ marathon”
# CSC108H: Introduction to Computer Programming

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Jacqueline Smith - Course Coordinator</td>
<td>(<a href="mailto:jsmith@cs.toronto.edu">jsmith@cs.toronto.edu</a>)</td>
</tr>
<tr>
<td>Eyal de Lara</td>
<td>(<a href="mailto:delara@cs.toronto.edu">delara@cs.toronto.edu</a>)</td>
</tr>
<tr>
<td>Paul Gries</td>
<td>(<a href="mailto:pgries@cs.toronto.edu">pgries@cs.toronto.edu</a>)</td>
</tr>
</tbody>
</table>
About Me

- I’m a Professor in the research stream
- What to call me: Eyal, Professor de Lara
- Been at U of T since 2002
- First time teaching CSC108
- Used to teach CSC309: Programming on the Web
- My first language was Pascal, then C++ (Python is way better to learn!)
- Things I like: dogs, cycling, binging on Netflix
Mobile COPD Monitoring

- COPD: Chronic Obstructive Pulmonary Disease
- Use wearable technology to monitor patients
- Coughing, heart rate, oxygen saturation, activity level

- Predict onset of exacerbation
About You

Every year we teach ~2000 students in CSC 108.

Here are some of the things we’ve learned from them:

• Varying levels of programming experience, but no experience is ok!
  - CSC108 assumes you have never programmed before

• Students do better in an inverted classroom
  - we’ll tell you more about that later

• Regular, shorter practice > long programming/cram sessions
  - hence weekly exercises to keep you on track
About You - Survey Results

From the Welcome survey you filled out over the weekend:

• 53% of you are new to Toronto

• Almost 70% of you are new to UofT (welcome!)

• About half the class are taking this course for a program other than CS, or as an elective

• By far the most common theme of what you were most worried about was lack of prior experience
About You - Survey Results

From the Welcome survey you filled out over the weekend:

How would you describe your prior experience with programming?

- 45.4%: I have never programmed before
- 29.3%: I have written a few lines of code, but don't really know much about programming
- 18.5%: I have written some small programs before
- 7.8%: I have more programming experience than described above
About You

Turn to your neighbour (or neighbours) and find out…

• what other courses they are taking this term
• what part of the city they live in
• what kind of study strategies they plan to use for CSC 108 (and future CS courses)
About the Course

Teaches the basics of programming in Python

Is intended for students with no programming experience

3 lecture hours per week

(L9901 is fully online, except the final exam, so there are no lectures for that section.)
We assume that students in CSC108 have never programmed before!
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
```

Syllabus + Course Website

The syllabus has all the key administrative details.

The course website is here:

http://www.teach.cs.toronto.edu/~csc108h/fall/

Both are required reading.
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 Sundays by 9pm
Completed online

Rehearse
Completed in lecture

Perform
Due Friday by 6pm
Completed online
Coursework Overview (On-Campus)

<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. At start of Weeks 2-12. 0.5% each, best 10 of 11 weeks.</td>
</tr>
<tr>
<td>Perform Exercises (10)</td>
<td>9%</td>
<td>By end of Weeks 2-5, 7-12 1% each, best 9 of 10 weeks.</td>
</tr>
<tr>
<td>Assignments (3)</td>
<td>21%</td>
<td>A1: 5% (on own) A2: 8% (one partner allowed) A3: 8% (one partner allowed)</td>
</tr>
<tr>
<td>Midterm Test</td>
<td>15%</td>
<td>During lecture time, but in a different room.</td>
</tr>
<tr>
<td>Final Exam</td>
<td>50%</td>
<td>You must get $\geq 40%$ on the final exam to pass CSC108!</td>
</tr>
</tbody>
</table>
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.

Each week:

- **Prepare** - released Thursdays at noon, due Sundays at 9pm
- **Perform** - released Saturdays at noon, due Fridays at 6pm
- You have as many attempts as you want, whatever your final answer is at the due date is what your mark is based on
- After the due date, you can repeat the exercises for practice
Assignments

Due on Tuesdays before 9:00 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:

Pick anyone in any of the five St. George campus lecture sections.

Lecture and the discussion boards are great for meeting people.

Late Policy:

1 hour grace period, then 5% per hour for the next 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 emergencies are another matter; contact the Course Coordinator 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 exam, we can’t waive it for you.
Doing Your Work

Our labs: CS Teaching Labs

Bahen Centre for Information Technology:

BA3175, BA3185, BA3195, BA3200,

BA2200, BA2210, BA2220, BA2240, BA2270

You have 24/7 access using your T-card to these rooms (with some exceptions).

Use your Teaching Labs username to log into the lab computers:

http://www.teach.cs.toronto.edu/resources/cdf_username_lookup.html
Laptops

• You do not need a laptop for this course
  • We will provide materials for you to work on every class
    - all you need is a pencil or pen
• Even if you have a laptop and plan to do your coursework on it, we encourage you to work on paper during class
  • Exams are written on paper
  • Writing on paper helps you better understand your code
• You can use a laptop in class, but be respectful of those around you
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 (two formats: in person and online)

108 Office Hours (usually in BA 2230)

First Year Course Office Hours (also BA 2230)

CSC Help Centre (also BA 2230)

Textbook

Piazza (online discussion forum)

The schedule is posted here:

http://www.teach.cs.toronto.edu/~csc108h/fall/gethelp.shtml
Office Hours and CSC Help Centre

Drop by the 108 and First Year Office Hours 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 is also a general CSC Help Centre M-Th 4-6pm (starts week 2)

Anyone in any CSC class can go ask questions.

Warning: it gets busy!
Office Hours and CSC Help Centre

• Most office hours will begin in Week 2 - check the calendar for times and locations

• This week, there will be some TA office hours to help you get Python3 and Wing101 installed on your own computer

• Again, you can find the times and location on the calendar on the course website
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 UofT bookstore, amazon.ca, etc.
Discussion Forums: Piazza

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

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!

piazza.com/utoronto.ca/fall2016/csc108h
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. (There are hundreds of you and some even have the same name!)
Plagiarism

Melania Trump
RNC speech | July 18, 2016

“From a young age, my parents impressed on me the values that you work hard for what you want in life, that your word is your bond and you do what you say and keep your promise, that you treat people with respect. They taught and showed me values and morals in their daily lives. That is a lesson that I continue to pass along to our son,” Trump said.

And we need to pass those lessons on to the many generations to follow. Because we want our children in this nation to know that the only limit to your achievements is the strength of your dreams and your willingness to work for them.”

Michelle Obama
DNC speech | August 25, 2008

“And Barack and I were raised with so many of the same values: that you work hard for what you want in life; that your word is your bond and you do what you say you’re going to do; that you treat people with dignity and respect, even if you don’t know them, and even if you don’t agree with them.

And Barack and I set out to build lives guided by these values, and to pass them on to the next generation. Because we want our children -- and all children in this nation -- to know that the only limit to the height of your achievements is the reach of your dreams and your willingness to work for them.”
Academic Offenses

All of the work you submit must be your own…

Not the work of another student from this term, a student from a previous term, a friend, a tutor, an online source, etc…

… and your work must not be submitted by someone else (except your assignment partner)

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

To avoid plagiarism:

Never look at another assignment solution - this includes going looking for one online!

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 office hour TAs, and the course instructors
Expectations of Me

• Be organized in my lectures
  • Post all electronic materials from lecture on the course website

• Provide resources for help (instructor & TA office hours, discussion forum, etc)

• Be respectful of you, your time, and your questions

• Do my best to make lectures clear and interesting

• Will try to keep up with emails
Expectations of You

• Be respectful of me, TAs, and other teaching staff
• Be respectful of your classmates and their learning (laptops!)
• Try exercises first …
• … but ask for help as soon as you need it - don’t isolate yourself from the course
• Keep up with course resources: website, syllabus, announcements, etc
• Don’t cheat/copy/plagiarize
• Laugh at all my jokes
Tips for Success in 108

• Make good use of your class time - worksheets are to help you learn!
  • Ask instructor or TAs… that’s what we’re here for!
• Take advantage of office hours and the Help Centre
• Ask for help *as soon as you get stuck*
  • Instructor or TAs in class
  • Office hours/ Help Centre
• Practice! Try things out, see if they work or not.
What to do by 9pm Sunday

1. Read the syllabus

2. Bookmark the course website

3. Log in to Blackboard portal

4. If you plan to use your own computer, install Python 3 & Wing 101
   • Instructions can be found on the course website under “Software Installation”
   • For help with software installation, visit Office Hours (hours on course website)

5. Complete the Week 1 Prepare & Perform Exercises (for practice)

6. Complete the Week 2 Prepare exercise on the PCRS (for marks, available by Thursday 15 September at noon, due Sunday 18 September by 9pm)
FIRST-YEAR ORIENTATION

Monday, September 12, 2016
11:00 AM to 1:00 PM - Drop in event
BA3200

You made it! Welcome to first-year computer science at U of T! Join us to meet with faculty and students, where we will answer frequently asked questions about CS courses and programs. Learn about opportunities to take your undergrad experience up a notch by getting involved in clubs, hackathons, research, and more.