



Course Introduction

CS 136L



UNIVERSITY OF
WATERLOO

FACULTY OF MATHEMATICS
DAVID R. CHERITON SCHOOL
OF COMPUTER SCIENCE

Introductions

- Take a minute to chat with your neighbour. Try to find a common hobby, favourite show, what program are they in etc.

Course Staff (Winter 2024)

- Instructors:
 - Carmen Bruni
 - Anton Mosunov
 - Nomair Naeem
 - Qianqiu Zhang
 - Olga Zorin
- ISA(s) (Undergrad coop):
 - Nils Emmenegger,
 - Michael Raad,
 - Arjun Sodhi
- IAs (Graduate Students):
 - Oluwaseun Cardoso
 - Mustafa Ege Ciklabakkal
 - Albert Ding
 - Avery Hiebert
 - Ryan Laube
 - James Riddell
 - Rui Ming Xiong
 - Ruixue Zhang
- ISC:
 - Dalibor Dvorski

About me

Course History

Main Topics

1. Linux Shell
2. More Linux Shell
3. Testing and Debugging
4. Shell Scripting
5. Integrated Development Environments
6. Version Control
7. The C/C++ Preprocessor
8. Memory Errors
9. Separate Compilation and Build Automation
10. Debugging

Relationship to CS136

- CS136L is taught **independently** from CS136 and has its own course staff
- CS136 and CS136L are corequisites
 - You cannot **add** one course without adding the other*
 - You cannot **drop** one course without dropping the other*
- You must pass both CS136 and CS136L to enroll in CS246

* If you previously passed one of the two courses you can add just the other one (you do not have to repeat the course you passed)

Course Online Resources

- <https://student.cs.uwaterloo.ca/~cs136l/>
 - Course website, checking your progress
- <https://online.cs.uwaterloo.ca/register>
 - Edx course registration link
- https://online.cs.uwaterloo.ca/courses/course-v1:UW+CS136L+2024_01/course/
 - CS 136L Winter 2024 EdX link

Flipped Classroom

https://online.cs.uwaterloo.ca/courses/course-v1:UW+CS136L+2024_01/course/

- What you need to do **before** coming to the class
 - **Readings**: read the next week's module ahead of time
 - **Quizzes**: complete the module's quiz
 - **Labs**: read the lab descriptions. Begin to attempt the lab questions
- What do we do in lectures?
 - Primarily used for helping students complete their labs
 - Think of them as large-scale office hours where you can get help right away
 - Depending on questions asked, some impromptu class discussions might take place.

Course Grade

- Assigned Readings
 - No marks for doing the readings
 - Contain concept check questions that must be answered
- Quizzes
 - The concept check questions in each module are called the module's quiz
 - Most of the questions have a **limited** number of attempts
 - Weekly deadline for quizzes is **Monday at 4pm**
 - You must correctly answer a specific number of questions by the deadline to **complete** the quiz
- Labs:
 - Labs contain a small number of problems
 - Answers are submitted to Marmoset for auto-grading
 - All Marmoset tests are public and an unlimited number of attempts are allowed
 - Weekly deadline for labs is **Friday at 4pm** (with one exception due to Good Friday)
 - Best way to complete a lab is to start early and finish it during your scheduled lab hours

Course Grade (contd.)

A Typical Module:

- Finish reading a module in the week it is released, say week X
- Complete quiz for this module by **Monday at 4pm** of week X+1
- Attend in-person lab on Tuesday or Thursday of week X+1
- Deadline to complete lab is **Friday at 4pm** of week X+1

Course flexibility

- Credit/No-credit course
- You must complete 7 out of 10 quizzes and 7 out of 10 labs
- What does **complete** mean?
 - For a quiz: you must correctly answer a percentage (usually between 60 to 70 percent) of the concept check questions in that module by the **completion deadline** (Monday at 4pm)
 - For a lab: your solution to each lab problem must pass a percentage (usually between 70 to 90 percent) of the Marmoset tests for that problem by the **completion deadline** (Friday at 4pm with one exception due to Good Friday)
 - Remember there are weekly deadlines for quiz and lab completion
- Gaming the course's flexibility:
 - The above would allow students to fully ignore 3 of the 10 course modules
 - We **will not** be accepting any 48 hour [self-declaration] absences, doctors notes etc.

Course Credit

Recap

- You must **complete** 7 out of 10 quizzes by their completion deadline
- You must **complete** 7 out of 10 labs by their completion deadline

Additional Course Credit Requirement

- You must **pass** 10 out of 10 labs by their **pass deadline**
- The first 5 labs have a pass deadline which is the **Monday after reading week**
- The last 5 labs have a pass deadline which is the **last day of lectures**

What does **pass** mean?

- By the pass deadline, reach a percentage (usually between 40 to 60 percent) of correct Marmoset tests per lab question
- If you have **completed** a lab, you have already **passed** it, i.e. passing has a lower threshold than completion.

Course Grade Summary

Do good work on time.

Lab Attendance

- Lab attendance is not mandatory.
- If you have **completed the lab** before your in-person lab time, you are **free to skip** this week's lab.
- In case you have not completed the lab by your in-person lab time OR if the lab is taking you an excessive amount of time, we highly recommend that you come to the scheduled lab time and complete the lab then.

Office Hours

- In-person lab time is essentially all office hours (instructor, ISA/IA present to answer questions)
- Additional office hours for Carmen:
Thursday 730pm to 930pm online over teams
- Other instructors and ISAs also have on-person and online office hours (check course information module on EdX)
- You can attend any office hour that suits your schedule

Piazza

<https://piazza.com/uwaterloo.ca/winter2024/cs136l>

- Rule 1: Piazza is not Reddit. Be courteous.
- Rule 2: Post questions in the appropriate folders.
- Rule 3: Read first, search second, post last
- Rule 4: Use private posts if you are discussing your answers

Academic Integrity

- All quizzes and labs must be done individually
- You may ask course staff for help with lab questions
- You may research topics online. If you find any information that is useful, you must cite the source
- While you may orally and at a high level, discuss solutions to lab problems with other students, you may not look at other students' solutions
- You may not use any LLMs in the hope of getting a solution
- See the course information module for more details

Today's Goal: SSH

Make sure you can connect to the Linux Student Environment!

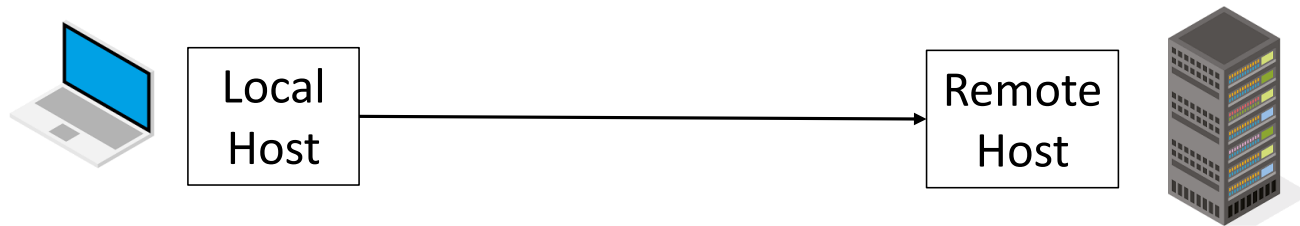
- Check in **Module 0.1** for detailed instructions.
- First set up a CS account if you haven't already:

<https://www.student.cs.uwaterloo.ca/password>

SSH - Windows

- Install OpenSSH on Win 10 (version 1809 or newer) or Win 11:
 - Select Settings -> Apps -> Optional Features (+ view features if on Win 11)
 - Win 10: if OpenSSH is not present in the list, select Add a Feature and then find and install OpenSSH Client
 - Win 11: Search for OpenSSH Client, select the appropriate checkbox, press Next and then select Install
- If neither of the above applies to you or you like other options
 - Git Bash <https://git-scm.com/downloads>
 - Putty <https://www.putty.org/>
 - MobaXterm <https://mobaxterm.mobatek.net/>
 - Xshell <https://www.netsarang.com/en/free-for-home-school/>
 - Openssh <https://www.openssh.com/>
 - Powershell <https://learn.microsoft.com/en-us/powershell/>
 - WSL (<https://learn.microsoft.com/en-us/windows/wsl/install>)
 - Dual booting with Linux

SSH



- Open a terminal (or search for cmd on a Windows machine) and type
`ssh <user_id>@linux.student.cs.uwaterloo.ca`
where you replace `<user_id>` with your personal id, e.g., cbruni
`ssh cbruni@linux.student.cs.uwaterloo.ca`
- Note that the angled brackets are removed
- Note also, use the prompt exactly even if you are not in CS.