

CSE 374: Programming concepts and tools

Winter 2022

Instructor: Megan Hazen

You may use 'chat' to ask questions while we wait.

This course is scheduled to run synchronously at your scheduled class time. Most weeks we will be in CSE2 G01, but this week (and maybe others) we will be via Zoom.

Zoom class sessions will be recorded. The recording will capture the presenter's audio, video, and computer screen. Student audio and video will be recorded if they share their computer audio and video during the recorded session. The recordings will only be accessible to the students enrolled in the course to review materials. These recordings will not be shared with or accessible to the public.

The University and Zoom have FERPA-compliant agreements in place to protect the security and privacy of UW Zoom accounts. Students who do not wish to be recorded should (1) change their Zoom screen name to hide any personal identifying information such as their name or UW Net ID, and (2) not share their computer audio or video during the recorded Zoom sessions.

What is this course?

CSE 374 is a practical course about

- Command line tools and scripts to automate tasks
- C programming with explicit memory management
- Tools for programming
- Software engineering practice
- Basics of concurrency

374 is also

- An introduction about how to learn what you want to know to move forward.

Who are we?

Your instructor: Dr. Megan Hazen

Your TAs: Diana Dai, Yitian Hao,
Maxim Klyuchko, Mohit Sane, Dixon
Tirtayadi

Find contact information on the course webpage ...

Who are you?

~70-100 Students

What are your disciplines this quarter?

Declared Majors

When taking the course

41%	electrical engr
13%	mathematics
11%	pre science
8%	informatics
4%	comp fin & risk mgmt
4%	geography: data science
2%	acms (discrete math al)
1%	epidemiology
1%	pre major (a&s)

Today

My job:

- ❏ About this course
- ❏ Lecture Set-up
- ❏ Schedule and homeworks
- ❏ Resources
 - ❏ TAs
 - ❏ Links on homepage
 - ❏ EdStem Discussion
- ❏ Course Rules

Your job:

- ❏ Find your resources
- ❏ Work on getting technology sorted out
- ❏ Email CSE374_staff@cs.washington.edu for help

If you are looking at this slide during a live or recorded Zoom lecture...

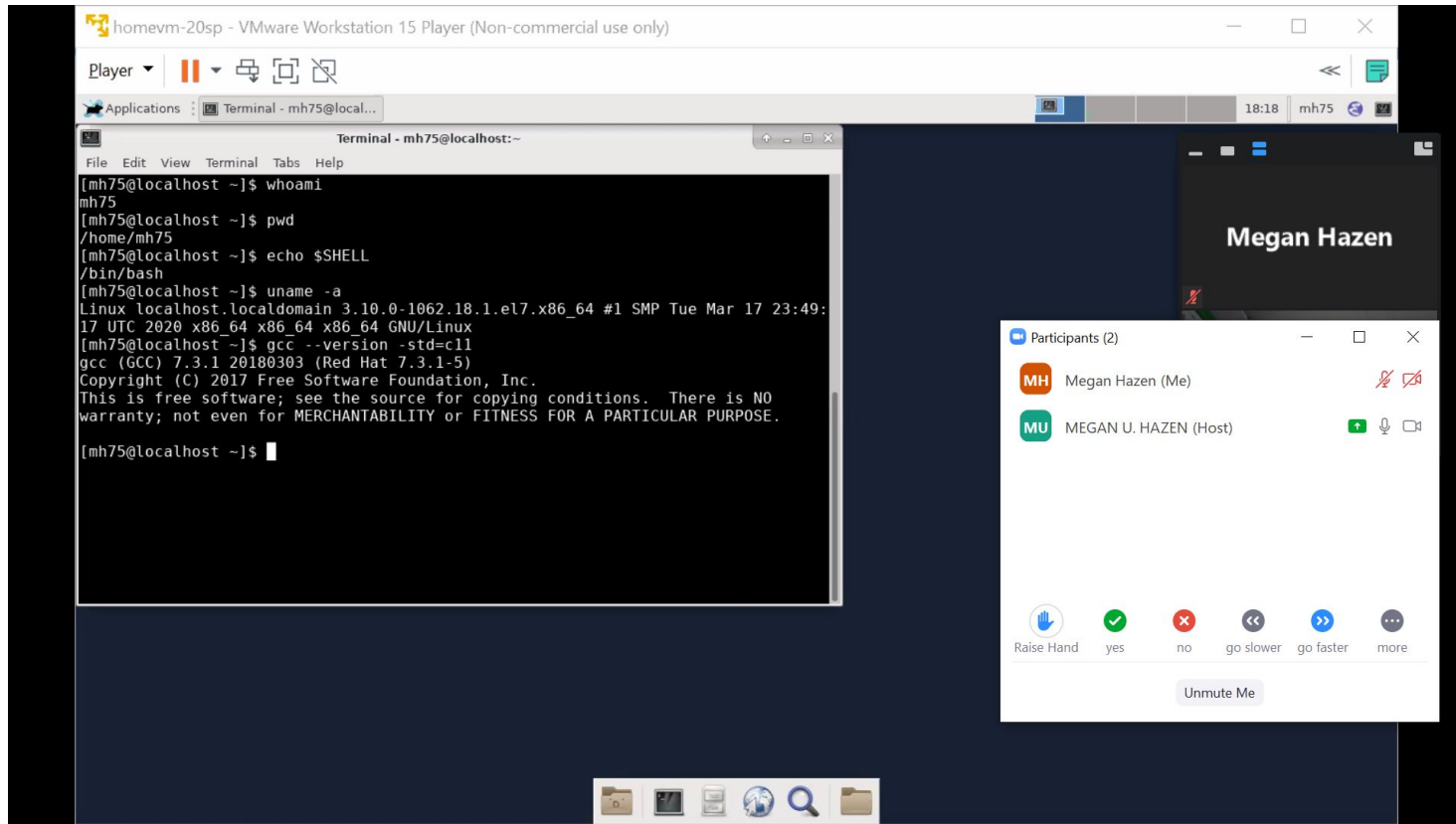
GOOD NEWS

You have figured out how to reach materials via Zoom! If you are viewing this slide as a PDF, please make sure you can use Zoom now.

Still having trouble? Check out the EdStem discussion on remote learning, or email cse374-staff@cs for help.

In the spirit of Adventure

We'll likely have this slide next week during our live lecture in CSE2 G01, and using Panopto to record lectures....



You will likely be muted by default. Choose 'Participants' from your zoom controls, and 'raise hand' to alert your professor that you'd like to speak.

The screenshot displays a Zoom meeting interface. At the top, a toolbar includes buttons for 'Join Audio', 'Start Video', 'Manage Participants', 'New Share', 'Pause Share', 'Annotate', and 'More'. Below this, a status bar shows 'ID: 890-436-891' and a 'Stop Share' button. The main window is a 'VMware Workstation 15 Player' running a terminal. The terminal output shows a user logging in as 'mh75' and running several commands: 'whoami' (returns 'mh75'), 'pwd' (returns '/home/mh75'), 'echo \$SHELL' (returns '/bin/bash'), and 'uname -a' (returns system information). A chat window is open on the right, displaying 'Zoom Group Chat' and a message from 'Everyone' saying 'Ask questions here!'. A menu overlay is visible on the right side of the chat window, listing various options such as 'Chat', 'Breakout Rooms', 'Invite', 'Record on this Computer', 'Record to the Cloud', 'Disable participants annotation', 'Show Names of Annotators', 'Hide Floating Meeting Controls', 'Share computer sound', 'Optimize Share for Full-screen Video Clip', and 'End Meeting'. The bottom of the screen shows a taskbar with icons for applications and a system tray with a clock showing 8:21 PM on 3/29/2020.

homevm-20sp - VMware Workstation 15 Player (Non-commercial use only)

Player ▾

Applications ▾ Terminal - mh75@local...

Terminal - mh75@localhost:~

```
File Edit View Terminal Tabs Help
[mh75@localhost ~]$ whoami
mh75
[mh75@localhost ~]$ pwd
/home/mh75
[mh75@localhost ~]$ echo $SHELL
/bin/bash
[mh75@localhost ~]$ uname -a
Linux localhost.localdomain 3.10.0-1062.18.1.el7.x86_64 #1 SMP Tue Mar 17 23:49:
17 UTC 2020 x86_64 x86_64 x86_64 GNU/Linux
[mh75@localhost ~]$ gcc --version -std=c11
gcc (GCC) 7.3.1 20180303 (Red Hat 7.3.1-5)
Copyright (C) 2017 Free Software Foundation, Inc.
This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

[mh75@localhost ~]$
```

Zoom Group Chat

From Me to Everyone:
Ask questions here!

To: Everyone ▾

Type message here...

Help

Show all

Chat
Breakout Rooms
Invite
Record on this Computer
Record to the Cloud
Disable participants annotation
Show Names of Annotators
Hide Floating Meeting Controls
Share computer sound
Optimize Share for Full-screen Video Clip
End Meeting

8:21 PM
3/29/2020

Use the chat window to ask questions while the lecture is running.

Office Hours Schedule

We are still working on this. There will be some regular times, and also some ability to schedule ad hoc meetings. Office hours will be a mix of remote (via Zoom) and in-person.

← → # courses.cs.washington.edu/courses/cse374/22wi/schedule/

CSE 374: Programming Concepts and Tools

Home Syllabus Assignments Exams Resources Schedule

Schedule

Subscribe to this calendar (google, iCal, etc.)

Monday	Tuesday	Wednesday	Thursday	Friday
10:30-11:20 Lecture CSE2 G01 Orientation Slides	03 19:30-16:30 OH Diana Zoom	04 10:30-11:20 Lecture CSE2 G01 Using Linux 13:30-14:30 OH Dixon Zoom	05 13:30-14:30 OH Maxim Zoom	06 10:30-11:20 Lecture CSE2 G01 I/O Redirection and Scripts
10:30-11:20 Lecture CSE2 G01 Flipped Classroom HW0 23:00 HW0 due; HW0 Spec	11 10:30-11:20 Lecture CSE2 G01 Shell Variables and RegEx	12	13	10:30-11:20 Lecture CSE2 G01 RegEx, Grep, & HW1
Martin Luther King Jr. Day	17	18 Test 1: Linux and Shells 10:30-11:20 Lecture CSE2 G01 Regex and sed	19	20 10:30-11:20 Lecture CSE2 G01 Introduction to C
10:30-11:20 Lecture CSE2 G01 C: control, declarations, preprocessor	24	25 10:30-11:20 Lecture CSE2 G01 C: More pointers	26	27 10:30-11:20 Lecture CSE2 G01 C: Memory allocation & deallocation

W
canvas

Account

Dashboard

Courses

Calendar

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History

Help

Today ← → January 2022

SUN	MON	TUE	WED
26	27	28	29
2	3 10:30a CSE 374 A	4 3:30p CSE 374 A	5 10:30a CSE 374 A
9			
16			
23			

CSE 374 A Wi 22: Intermediate Programming Concepts And Tools

Jan 4, 3:30pm - 4:30pm

Calendar CSE 374 A Wi 22: Intermediate Programming Concepts And Tools

Location Zoom Online Meeting

Details [Click here to join Zoom Meeting:953 9530 5920](#)

Course requirements

Lecture Monday, Wed., Friday

10:30-11:20am

~ 8 homework assignments

~ 3 on shells and scripting

~3 on C programming

Five small tests

Extra credit: minimal, but exists for more challenge

What to expect

**You are responsible for material on Canvas.
Follow links for more information.**

Assignments may be more open ended than you are used to - you'll need to figure out whether you are doing the right thing.

Learning how to learn is part of the plan

- Get used to looking at documentation and searching for answers
- Plan to understand, not just re-create
- Tinker -expertise comes from experience

Course Resources

Instructor and TAs

Office hours TBD, but frequently.

Use office hours to get ‘unstuck’

Edstem Discussion Group

For each assignment plus more!

Communications: Email [cse374-staff@cs](mailto:cse374-staff@cs.washington.edu)

Course website

<https://courses.cs.washington.edu/courses/cse374/22wi>

Books, ‘man’ pages, Google

Use Google as a starting place, be sure you understand

Recreate on your own; don’t just cut-and-paste

Tinker

Try things, experiment with new tools

Ask questions early and often!

Lectures

Log in to pay attention - Review for details.

Plan to learn big picture approaches and concepts

Jot down key words and ideas to look up later

Advice: plan to be an active learner

review notes, look up documentation, **try ideas in the same day**

ask questions early and often

'Flipped' classes

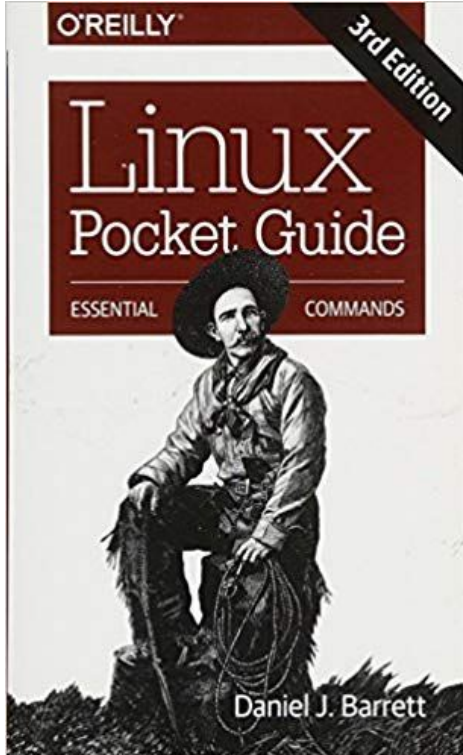
During lecture, but will have time to work on exercises.

Review materials BEFORE class.

[Subscribe to this calendar \(google, iCal, etc.\)](#)

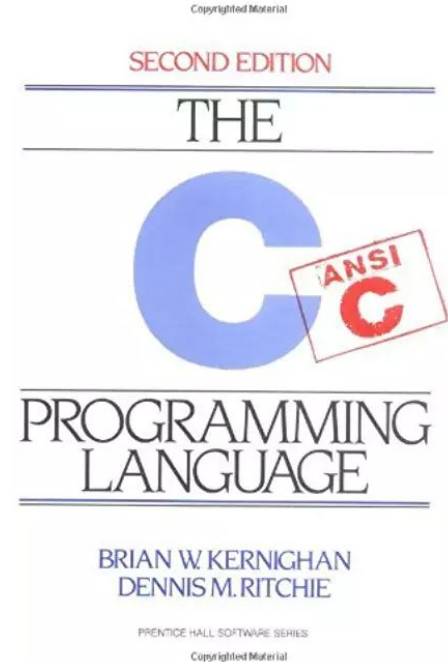
March						
	Monday	Tuesday	Wednesday	Thursday	Friday	
28	10:30-11:20 Lecture ** <i>Orientation & Distance Learning</i> Slides	30	10:30-11:20 Lecture ** <i>Using Linux</i> Slides	01	10:30-11:20 Lecture ** <i>Flipped Classroom HWO</i> <i>Look here for resources</i> Emacs motivation	02

Books



Web searches provide great starting places, and good short reminders

For context and understanding nothing beats a book



Academic Integrity

<https://cs.washington.edu/academics/misconduct>

Policy on the course webpage

Do your own work, be ready to explain it

Integrity is everything - have high standards

Unless otherwise specified all work in this course is independent

Do not share code; discuss approach

When in doubt - ask and be honest

Academic Integrity

<https://cs.washington.edu/academics/misconduct>

Rule 1: You must indicate on your submission any assistance you received.
Comment in code!

Rule 2: You must not share actual program code with other students.

Rule 3: You must not look at solution sets or program code from other years, nor should you make your own solutions publicly available even after the due date.

Rule 4: You must be prepared to explain any program code you submit.

Rule 5: Modifying code or other artifacts does not make it your own.

Late Policy (tests)

Turn things in on time
Plan ahead

Due Dates are not suggestions, they are strict deadlines.

There will be no late submissions graded for the tests. (But you may drop one test to account for emergencies.)

(Contact instructor for truly exceptional circumstances; before deadline if possible.)

Late Policy (Hws)

Turn things in on time
Plan ahead

Due Dates are not suggestions, if you fall behind on homework it can be hard to catch up.

You may turn each homework in for up-to one week after the due date. (yes, for real - that's like 50 possible unquestioned 'late days')

Homeworks turned in early may be resubmitted for a better grade. (No re-submissions after initial due date.)

(Contact instructor for truly exceptional circumstances; before deadline if possible.)

Major Ideas of 374

1. Command line and scripting tools
 - a. Linux, Bash, automation
2. C programming and memory management
 - a. Lower level than Java
3. Tools for programming
 - a. Compilers, debuggers
4. Software development and testing
 - a. Software specs, tests, and teamwork
5. Concurrency
 - a. Using multiple processors at once

Your job

- Explore the syllabus and tools
 - Look forward at the due dates
 - Hint: Try looking around the course webpage
- Go to EdStem and participate in the first discussion
- Stay in touch - let us know how its going
- Deep breaths