

# CSE 374: Programming concepts and tools

Spring 2020

Instructor: Megan Hazen



# 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: Andrew Hu, Cynthia Zhang, Sujie Zhou, Dixon Tirtayadi, Keith Jiang, Simon McFarlane

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# Who are you?

100 Students

What are your disciplines?

*Mostly EE, Math, sciences*

*Mostly Juniors*

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# Today

My job:

- ❑ About this course
- ❑ Zoom 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](mailto:CSE374_staff@cs.washington.edu) for help

# If you are still trying to add the course:

Come to class

Keep an eye on the roster for changes this week

Watch Zoom video: Please email

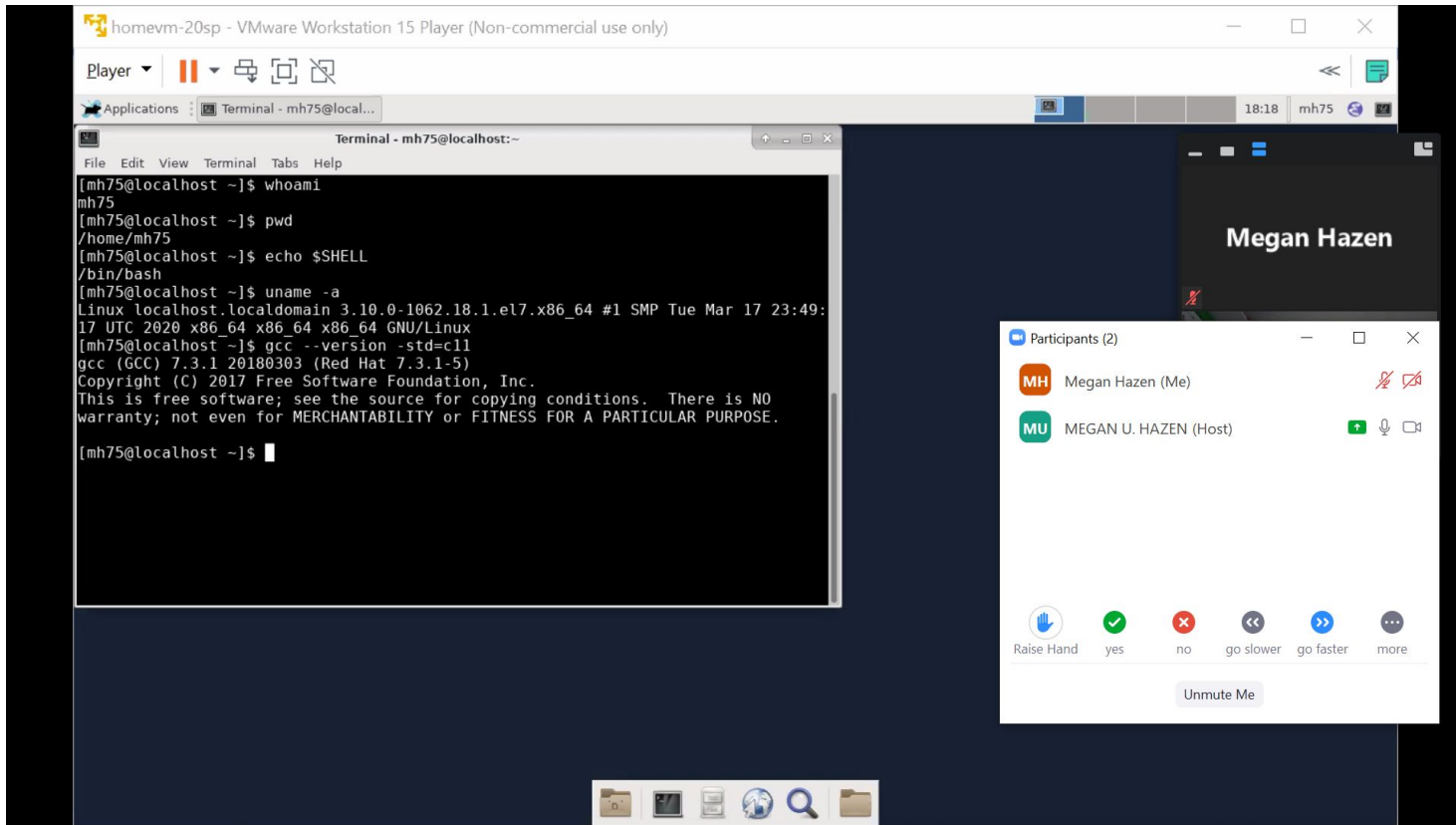
[cse374-staff@cs.washington.edu](mailto:cse374-staff@cs.washington.edu) for details

**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](mailto:cse374-staff@cs) for help.*



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 image shows a Zoom meeting interface. At the top, there is a navigation bar with icons for Join Audio, Start Video, Manage Participants, New Share, Pause Share, Annotate, and More. Below this, a browser address bar shows the Zoom URL: zoom.us/s/890436891?sharestatus=success. A red banner indicates the meeting ID: 890-436-891 and a Stop Share button. The main content area is split into two windows. The left window is a terminal window titled "Terminal - mh75@localhost:~" showing the following commands and output:

```
[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 ~]$
```

The right window is the Zoom Group Chat, titled "Zoom Group Chat". It contains the message: "From Me to Everyone: Ask questions here!". Below the message is a text input field with "Type message here..." and a "To: Everyone" dropdown menu. A "Help" button is visible at the bottom right of the chat window. A system tray at the bottom right shows the time as 8:21 PM on 3/29/2020 and a notification icon with a '1'.

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

# Important Privacy Information

This course is scheduled to run synchronously at your scheduled class time via Zoom. These 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 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:

- Change their Zoom screen name to hide any personal identifying information such as their name or UW Net ID, and
- Not share their computer audio or video during their Zoom sessions.

# Office Hours via Zoom

A little different ....

- Expect a 'waiting room' to control how many students a TA works with at once
- Expect to share your screen to share code
- These will NOT be recorded

# Course requirements

Lecture Monday, Wed., Friday 9:30-10:20

~ 8 homework assignments

~ 3 on shells and scripting

~3 on C programming

1 is a team project

Weekly check-in quizzes

1 final exam

Extra credit: minimal, but exists for more challenge

## What to expect

**You are responsible for material on Canvas.**

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)

## Course website

<https://courses.cs.washington.edu/courses/cse374/20sp>

## 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

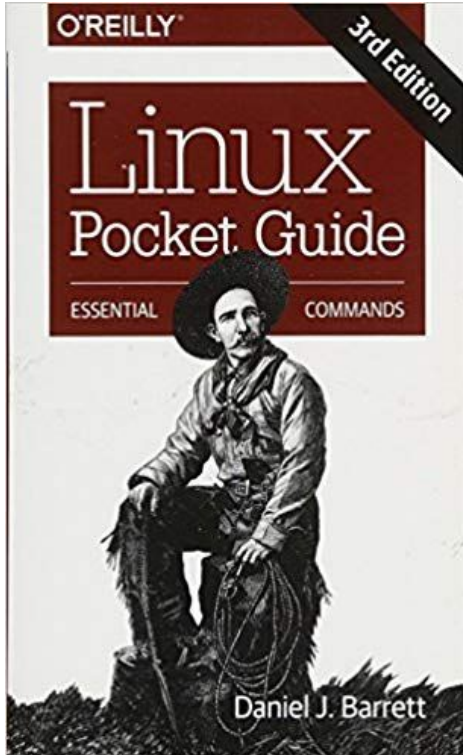
Jot down key words and ideas to look up later

Advice: plan to be an active learner

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

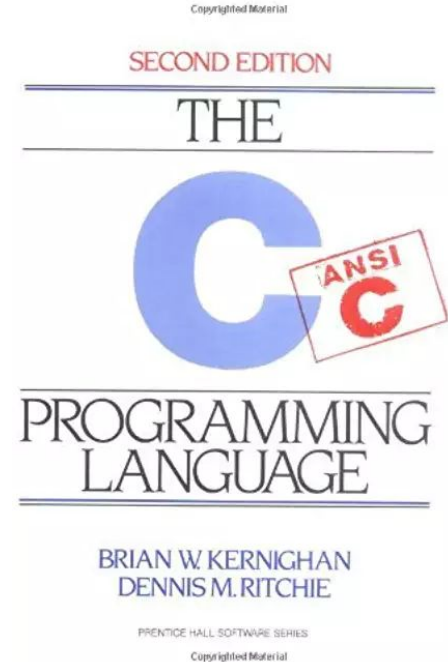
ask questions early and often

# 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

# Late Policy

Turn things in on time  
Plan ahead

Due Dates are not suggestions, they are strict deadlines.

However, you may submit a late assignment for partial credit - details are included in the syllabus.

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

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# 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: Canvas is the best starting place
- Answer the survey
- Stay in touch - let us know how its going
- Deep breaths