

# EECS 398 :: 002, 003

## Computing for Computer Scientists



# What this class is about

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- This is not "Tools for Computer Scientists"
- Though, we will cover a lot of cool tools
- The goal is to give you the ability to pick up, learn, and use tools effectively

# This class is NOT a set of tutorials

1. Log in to a CAEN machine in Linux
2. Press the "windows" key to open the application launcher and then type "gedit"
3. Now copy-paste the following block of code into the window:

```
#include <stdio.h>
int main() { printf("Hello World\n"); return 0; }
```

4. Type "Ctrl-s" or click the "save" icon, save the file as "myprogram.c" in your home directory.
5. Press the "windows" key again and type "terminal"
6. In the window that appears, type "gcc myprogram.c -o myprogram"
7. Now type "myprogram"

1. Open your favorite text editor and write a basic "Hello World" program
2. Compile and run your program

# Lectures give you the "what" and the "why", homeworks are a self-guided tour on the "how"

- Lectures are designed to be interactive
- Lots of live coding, lots of mistakes!
- **Bring your laptop to every class**

This is a *very* individual class

Nothing in this class is hard...

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The second time you do it



# Collaboration

## Less than you're used to

- The goal is to build your *individual* skills
- You will get the most benefit doing assignments on your own

## "The 15 Minute Rule"

- A little frustration is a good thing, a lot is a bad thing
  - Try to solve a problem on your own for 15 minutes before asking for help
  - After 15 minutes, ask for help!
  - Good rule of thumb outside of this class too



# Course Resources

<https://c4cs.github.io>

- The course homepage. Everything is here or linked from here.
  - Homework assignments
  - Lecture materials
  - Syllabus, schedule, etc
- You can also get here from [canvas](#)

## Piazza

- Essentially high-latency digital office hours
  - All questions *private* by default

## Gradescope

- Homework submission
  - Warning, their clocks are unsympathetic
- Entry code 9D87R9 (also on course homepage)

# Course Meeting Times and Locations

- **Section 002** 1670 BBB, Wednesday 1:30-3:00
- **Section 003** 1670 BBB, Friday 1:30-3:00

In general, you may attend any section, however if the classroom becomes overfull, we will have to ask that you attend the section you are officially registered for.

	Mon 9/5	Tue 9/6	Wed 9/7	Thu 9/8	Fri 9/9
all-day			Intro/Unix I (P/D)		Intro/Unix I (P/D)
10am					
11am					
12pm					11:30 - 1:30 OH: Matt 1695 BBB (use <a href="https://eecs.help">https://eecs.help</a> )
1pm					
2pm	1:30 - 2:30 OH: Alex 1695 BBB		1:30 - 3:00 C4CS Lecture @1670 BBB 1670 BBB		1:30 - 3:00 C4CS Lecture @1670 BBB 1670 BBB
3pm		3:00 - 4:00 OH: Alex or Matt 1695 BBB		3:00 - 5:00 OH: Alex UGLI Basement by the CAEN Computers	3:00 - 4:00 OH: Alex 1695 BBB
4pm		4:00 - 5:00 Staff Meeting 2901 BBB			
5pm		5:00 - 6:00 OH: Matt 1695 BBB (use			
6pm			5:30 - 6:30 OH: Matt 1695 BBB (use		
7pm					

# Work and Expectations

## This is a 1-credit course

- 1 credit = 4 hours of your life / week
  - 1.5 hours in lecture
  - 1.5 hours of homework
  - 3 times this semester: 2-3 hours of "advanced exercises"

## Grading

### 40% Homework

- One homework every week except the last week
- (Yes there is homework this week)
- Due at 10PM every Saturday

### 30% Attendance & Participation

- 12 weeks not counting the first week (or Thanksgiving)
- We'll take attendance every week, somehow

### 30% Advanced Exercises

- Explore a topic in more depth
- Two week window to turn them in
- *Must be turned in at office hours*

# You need will need your own computer for this class

CAEN machines are NOT sufficient for this class

If you don't have your own computer...

- Dog ate it
- TSA confiscated it on your flight to Michigan
- Drunk roommate confused it for a frisbee

The CSE department has some loaner laptops available for the semester<sup>†</sup>

- Contact Don Winsor: [don@umich.edu](mailto:don@umich.edu)

<sup>†</sup>For people with genuine need, please don't abuse this

# Course staff

## Course Staff

For general issues, e-mail the course staff at [c4cs-staff@umich.edu](mailto:c4cs-staff@umich.edu). For sensitive issues, please e-mail Pat and Marcus directly.



Pat Pannuto

[ppannuto@umich.edu](mailto:ppannuto@umich.edu)



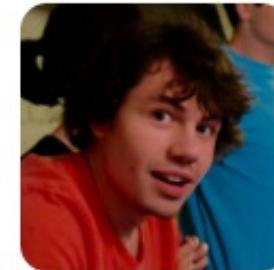
Marcus Darden

[mmdarden@umich.edu](mailto:mmdarden@umich.edu)



Matt Terwilliger

[mterwil@umich.edu](mailto:mterwil@umich.edu)



Alex Chojnacki

[thealex@umich.edu](mailto:thealex@umich.edu)

^another screenshot of [c4cs.github.io](https://c4cs.github.io)

```
</administrivia>
```

# Take A Break

1. Take a selfie
2. E-mail [c4cs-photos@umich.edu](mailto:c4cs-photos@umich.edu) with...
  - Your name
  - Your picture
  - One thing you want to get out of this course
  - Anything else you want us to know about you
    - Preferred nickname
    - Special considerations
    - Awesome trivia
3. Meet a stranger
  - Preferably not the person right or left, maybe turn around behind you?



<class>



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Having something Unix-like on your machine will make your CS life at Michigan much more pleasant

- This not because Unix is "better"
- This does not mean you cannot use Windows

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Having something Unix-like on your machine will make your CS life at Michigan much more pleasant

- This not because Unix is "better"
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Come October-ish this is going to be a lot easier

- OS X has it built in
- [Linux subsystem for Windows](#) in the "Windows 10 Anniversary Update"

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## What is a "Virtual Machine"

How might we make one?

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And a common platform for teaching

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For Homework 1, you'll install a VM to use this term

# Live exercises in a Unix environment

- What's a shell?
- Why learn this stuff in 2016?
- The critical basics:
  - Where am I?
  - What's nearby?
- What commands have you seen before?



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- |                       |          |
|-----------------------|----------|
| • cat                 | • ls     |
| • cd                  | • man    |
| • chmod/chown/chgrp   | • mkdir  |
| • clear               | • mv     |
| • cp                  | • pwd    |
| • diff                | • rm     |
| • echo                | • sleep  |
| • fg/bg/jobs [ctrl-z] | • tail   |
| • grep                | • touch  |
| • help                | • true   |
| • kill                | • whoami |

# Welcome to C4CS

Looking forward to a great semester!