Introduction

Prof. Hakim Weatherspoon
CS 3410
Computer Science
Cornell University

[Weatherspoon, Bala, Bracy, and Sirer]
First Clicker Question!

How excited are you to take this class??

A. I’ve been waiting my whole life to take 3410. I couldn’t sleep last night I’m so excited.
B. I’m excited.
C. I’ve heard good things, but my excitement is on hold.
D. Excited, not sure. Anxious? Yes.
E. Help! I’m a CS minor trapped in this class. Please rescue me. (Seriously.)
Who am I?
Hakim Weatherspoon

Undergrad: Computer Engineering at University of Washington

PhD: Computer Science, Distributed Systems at University of California, Berkeley

Academia: Cornell
Taught 3410 and 4410 more than 10 times over 10 years!
Second Clicker Question!

Who are you?

A. Freshman
B. Sophomore
C. Junior
D. Senior
E. Other
“Sometimes it is the people that no one imagines anything of who do the things that no one can imagine”

--quote from the movie The Imitation Game
“Can machines think?”

-- Alan Turing, 1950 Computing Machinery and Intelligence
Enigma machine
Used by the Germans during World War II to encrypt and exchange secret messages

The Bombe used by the Allies to break the German Enigma machine during World War II
Turing Machine
1936

= abstract model for CPU that can simulate any algorithm
Course Objective

• Bridge the gap between hardware and software
  • How a processor works
  • How a computer is organized

• Establish a foundation for building higher-level applications
  • How to understand program performance
  • How to understand where the world is going
How class is organized

- Before you take this class…
- Lecture
- Lab Sections
- Office Hours
- Online Tools
- Grading
- Who’s Who
Pre-requisites and scheduling

- **CS 2110 required** (OO Programming & Data Structures)
  - Must have satisfactorily completed CS 2110
  - *Cannot take CS 2110 concurrently with CS 3410*

- **CS 3420 (ECE 3140) (Embedded Systems)**
  - Take either CS 3410 *or* CS 3420
    - both satisfy CS and ECE requirements
  - *However, Need ENGRD 2300 to take CS 3420*

- **CS 3110 (Data Structures and Functional Programming)**
  - Not advised to take CS 3110 and 3410 together
  - Lectures scheduled at the same time so you can’t
Pre-requisites and scheduling

• CS 2043 (UNIX Tools and Scripting)
  • 2-credit course will greatly help with CS 3410.
  • Spring only

• CS 2024 (C++)
  • 1 to 2-credit course will greatly help with CS 3410

• ECE 2400 (Computer Systems Programming)
  • New course started last semester
  • Lot of overlap with 2110, 2043, 2024, and 3410
Required Textbook

• Computer Organization and Design RISC-V Edition
• 1st Edition
C Resources (Optional)
Lectures

- Tuesday & Thursday  10:10-11:25
- 155 Olin Hall

- iClicker: Bring to every Lecture
  (starting today!)
- missing a few times is okay
- No cell phones (except for Reef Polling)
- No Laptops
Active Learning

- Interactive Textbook
- Clickers
- Activity Sheets
- Classroom DJ, Breaks
- Autograders
- Lab Sections
- You ask Questions
- I ask Questions
How class is organized

• Before you take this class…
• Lecture
• Lab Sections
• Office Hours
• Online Tools
• Grading
• Who’s Who
Lab Sections Start this Week!

<table>
<thead>
<tr>
<th>Section</th>
<th>Day</th>
<th>Time</th>
<th>Location</th>
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<tr>
<td>214</td>
<td>Tuesday</td>
<td>1:25pm - 2:40pm</td>
<td>Carpenter Hall 104 blue</td>
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<tr>
<td>201</td>
<td></td>
<td>2:55pm - 4:10pm</td>
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<td>208</td>
<td>Wednesday</td>
<td>11:40am - 12:55pm</td>
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<td>Thursday</td>
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<td></td>
<td>2:55pm - 4:10pm</td>
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<tr>
<td>209</td>
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<tr>
<td>213</td>
<td></td>
<td>1:25pm - 2:40pm</td>
<td>Phillips Hall 318</td>
</tr>
</tbody>
</table>
Office Hours

My Office Hours:
• Mondays 1:15-2:15pm, Tuesday 1:15-2:15pm

TA Office Hours:
• Always in Rhodes Hall, Rooms 400 & 402
• Every day of the week
• See Google Calendar on course website
• Start Sunday

Awesome Course Staff on the website
Communication

Website
• http://www.cs.cornell.edu/courses/cs3410/2018sp

Email
• cs3410-prof@cornell.edu
• The email alias goes to me, or come to my office hours

Assignments
• CMS: http://cmsx.csuglab.cornell.edu

Newsgroup
• http://www.piazza.com/cornell/spring2019/cs3410
• For students

iClicker
• http://atcsupport.cit.cornell.edu/pollsrvc/
Personal Emergencies

- Please email cs3410-prof@cornell.edu
- Get Help
- Get Documentation
- The earlier the better
Online Tools

- Office Hours / Consulting Hours
- Lecture slides, schedule, and Logisim
- CSUG lab access (esp. second half of course)
- Finalized Schedule will be up by next lecture (readings by Friday)
- Submit to CMS.

- This class is relentless.
- Stay on top of it!
Course Management

- Github for assignment dissemination
- CMS for submissions & grades
Labs and Projects

• Labs Assignments
  • Weekly
  • To be done in lab

• Projects
  • 2 Individual Projects: you work alone
  • 4 Pair Projects: you work in pairs
  • Partners will be assigned
Exams

- Two Prelims
  - March 5 and May 2

Administrative Assistant
- Corey Torres <ct365@cornell.edu>, Gates 401
- Please give accommodation letters to her within the first 2 weeks
Grading

• Approximately:

• Practicum ~50%
  • Labs 10%
  • Projects 40%
• Lecture ~50%
  • Prelims 35%
  • Zybook 10%
  • Participation 5%
Grading

• Regrade policy
  • Within 1 week of the assignment (or exam)’s return

• Late Policy
  • Each person has a total of 5 “Slip days”
  • **Max of 2 slip days** for any project
  • Cannot ever submit later than 48 hours late
  • Handled by CMS, need to check implementation
    - For pair projects, slip days deducted from all partners
    - 25% deducted per day late after slip days are exhausted
  • Cannot use on Labs. (Lowest 2 lab scores will be dropped.)
Nice *and* a vertebrate:

- **Piazza posts** about course material *very welcome*
- Visits to my office hours *very welcome*

- Correspondence about use of slip days, your alarm clock, your all-nighters, your alcohol intake, your car battery, *etc. etc. not welcome*

- No exceptions
- Deadlines are firm
Academic Integrity

- All submitted work must be your own
  - OK to study together, but do not share solutions
  - Cite your sources
- Project groups submit joint work
  - Same rules apply to projects at the group level
  - Cannot use someone else’s solution

- Stressed? Tempted? Lost?
  - Come see us before due date!

Plagiarism in any form will not be tolerated
Academic Integrity Rules of Thumb

1. Looking at code that we didn’t give you?
   **STOP**
   - Protect yourself. Solutions are hard to un-see

2. White board rule of collaboration
   - Work on white board, take no notes
   - Erase, go home, watch an episode of Stranger Things
   - Code up by yourself
Questions so far?