EECS 280 – Lecture 1

Introduction and Machine Model

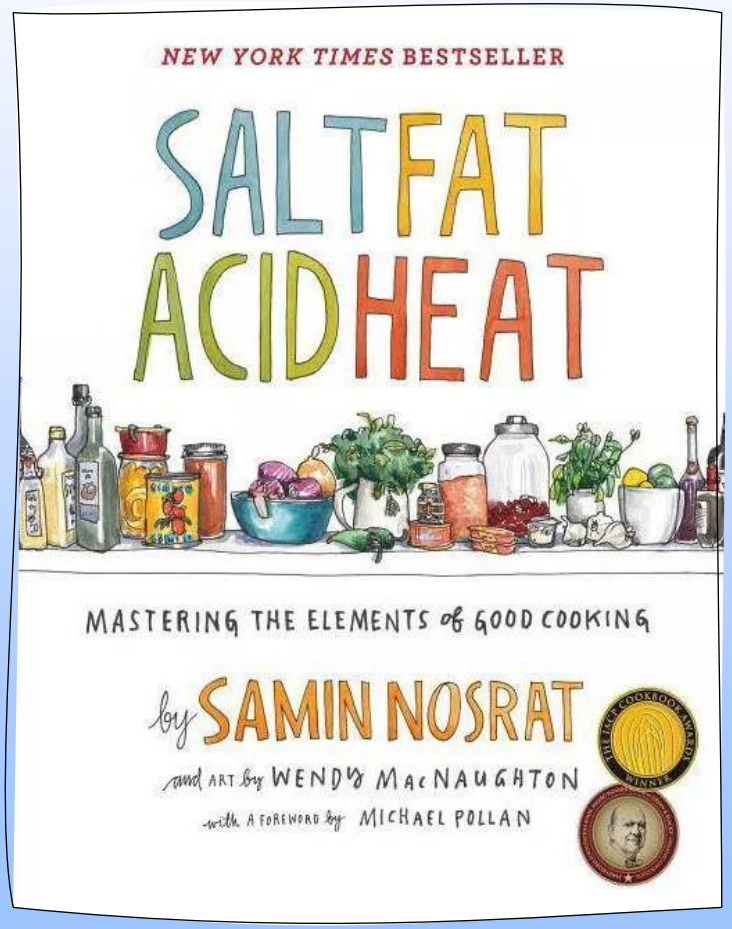
1/4/2022

eecs280.org

Read the week 1 announcements

What EECS 280 is about…

- **Generalizable** CS concepts



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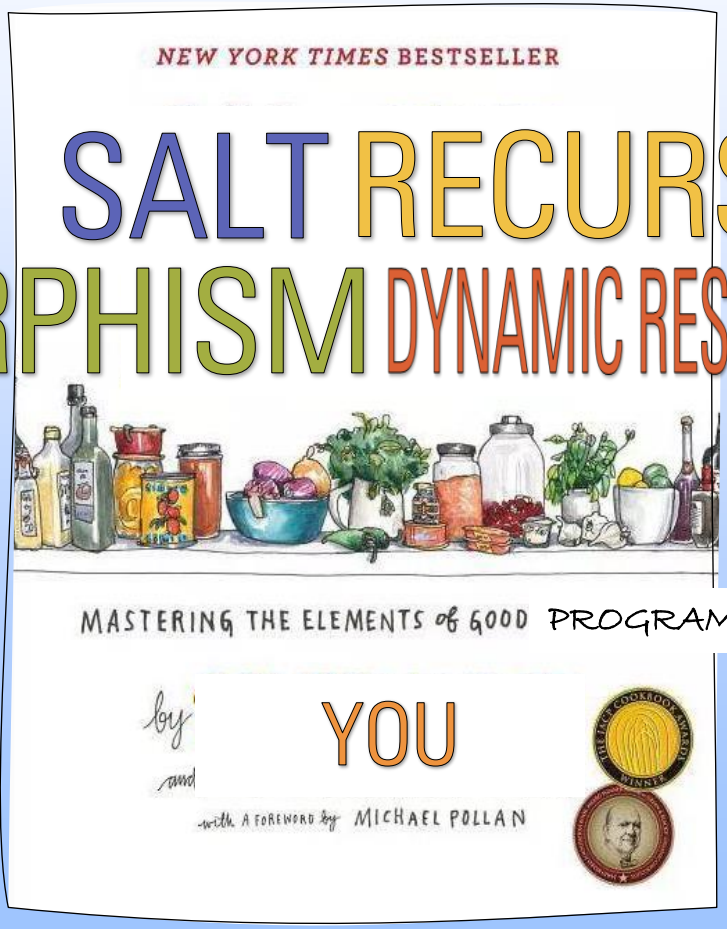


Check out our syllabus for a list of lots of these concepts!

What EECS 280 is about…

- **Generalizable** CS concepts
- Building programming skills

Projects – Learn By Doing

Project	Application	Concepts
1	Calculate Statistics	Procedural Abstraction
2	Image Processing	Memory and Pointers Data Abstraction
3	Game of Euchre	Classes and Inheritance Polymorphism Object-Oriented Programming
4	Office-Hours Queue Web Backend	Containers and Linked Structures Dynamic Resource Management Generic Programming
5	Intelligent Piazza Post Classifier	Recursion Complex Data Structures Functional Programming

What's the goal?

- One of the best ways to learn how to program is to write programs.
- But the programs aren't the end goal.

You are!

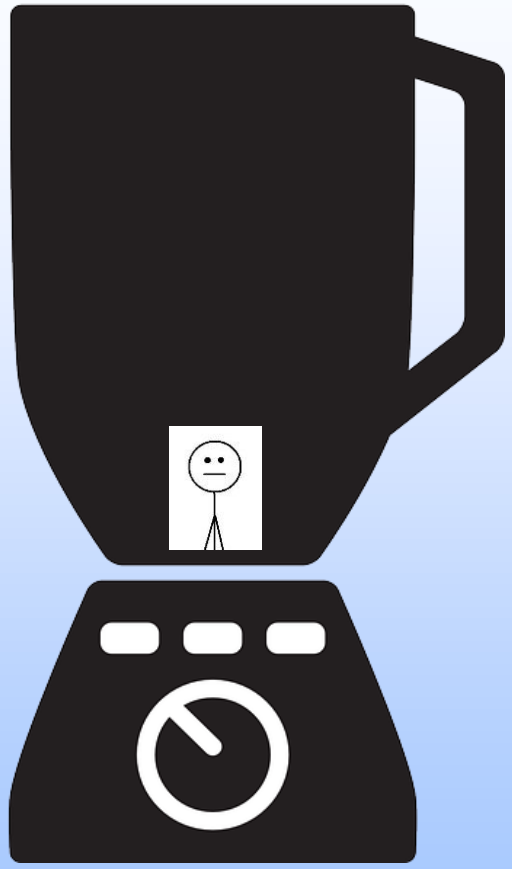
What EECS 280 is about…

- Generalizable CS concepts
- Building programming skills
- Building our CS community

Diversion!

http://bit.ly/3o2LB4Y

- Imagine you are shrunk down to the size of a nickel and placed in a blender.
- The blender will turn on in 30 seconds. How do you escape?
- Note: You are not an actual nickel.



blender
blades
jump
blade
side
try
stand
knock
bottom
climb
hide
option
run
Tip
clothes
handle
wait
dont
onto
edge
able
escape
use
just
size
middle
strength
take
center
chopped
slide
height
higher
high
unscrew
rope
central
enough
Hold
assume
assuming
make
back
walk
top
square
wall
cube
nickel
shimmy
probably
avoid
let
go
flat
get
since
part
shrunk
current
proportionally
push
pull
spinning
leaks
mass
one
law
also
lay
fly
like
sit

Resources

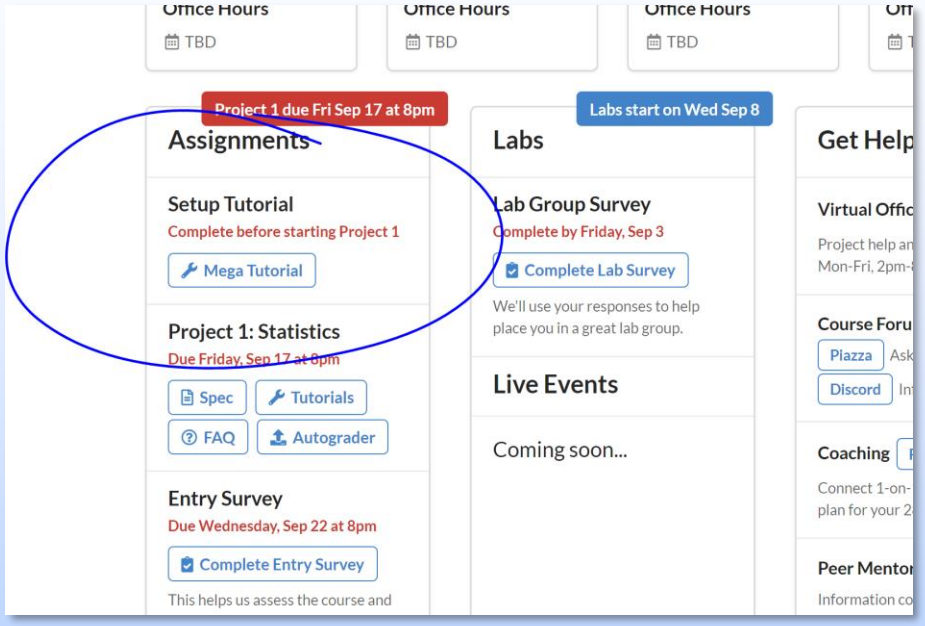
All linked from eecs280.org

Course Notes	Textbook
Canvas	Announcements and Grades
Piazza	Lecture, Lab, Project Q/A
Gradescope	Turn in Lab Worksheets
autograder.io	Turn in Projects
eecsoh.org	Sign up for office hours
Discord	Informal Course Community

Where to start?

- eecs280.org
  Project 1 Setup Tutorial

- Walks you through setting up your computer for C++ development!



- If you get stuck, that's ok! We're glad to help in office hours.

Lectures and "Proffice Hours"

Jon Beaumont

Lecture

Wed 1/5 on Zoom

M & W 12-1:30pm
220 Chrysler

M & W 3-4:30pm
1013 DOW

Office Hours

TBD

Ashley Carroll

Lecture

Wed 1/5 on Zoom

M & W 4-5:30pm
AUD 4 MLB

Office Hours

TBD

James Juett

Lecture

Wed 1/5 on Zoom

M & W 4:30-6pm
Stamps Auditorium

Async Lectures

Office Hours

Tue 1:30-2:30pm
Virtual via Zoom

Wed 3:30-4:30pm
In-Person, 2641 BBB

Sofia Saleem

Lecture

Wed 1/5 on Zoom

M & W 9-10:30am
Stamps Auditorium

Async Lectures

Office Hours

Remote OH

Tu & Th 10:30-11:30 am

Exams and Grades

Lectures	NG

Labs	10%

Entry/Exit Surveys	1%

Projects 49%	1	2	3	4	5
	5%	11%	11%	11%	11%

Exams 40%	Midterm	Final
	20%	20%

- Each exam is curved individually.
- Final grade determined from straight scale.
- Projects 3 and 5 include an early checkpoint worth 0.5%

Grading Scale

1. **Curve**
   - *Only* exams are curved
   - Mean -> low-to-mid 80s
   - Different than past terms, increased transparency, but similar effect

2. **Minimum Pass Threshold**
   - To earn a C or better, you need:
   - >= 60% project avg
   - >= 70% exam avg (after curve)

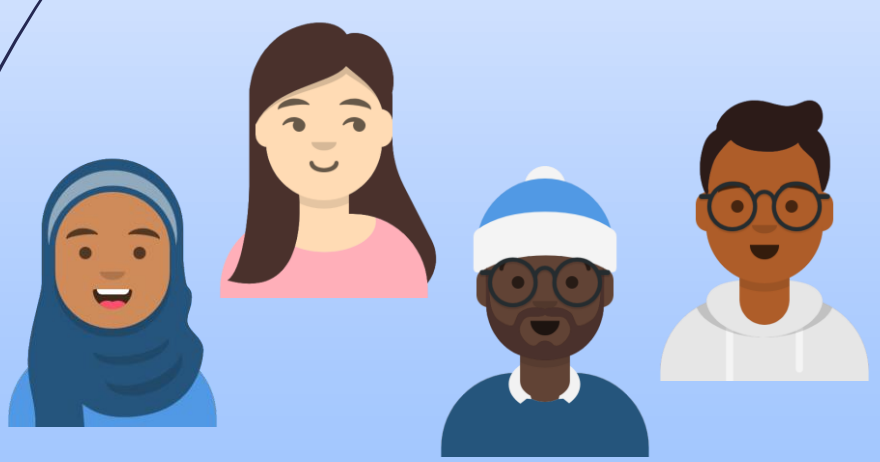
3. **Final Grades**
   Determined by straight scale

Overall %	Grade
0 - 50%	E
50 - 60%	D
60 - 70%	C-
70 - 77%	C
77 - 80%	C+
80 - 83%	B-
83 - 87%	B
87 - 90%	B+
90 - 93%	A-
93 - 97%	A
97 - 100%	A+

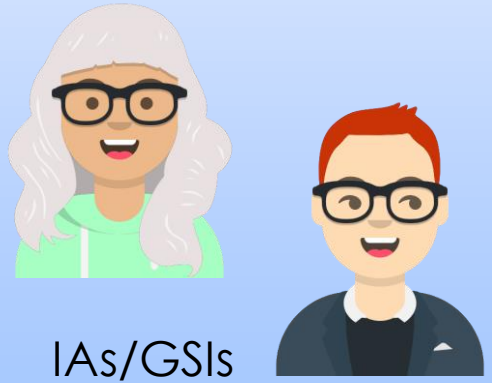
Labs

Labs start next week, Mon Jan 10

- **Attendance at lab section is required for credit.**
- Labs are 2 hours and include:
  - Meet with full lab for a bit, review/discussion
  - Split into small groups of 4 to complete lab exercises
  - Course staff will check in with each group and are available if you have questions



Lab Group



IAs/GSIs

Lab Group Survey

Survey is linked from eecs280.org

- We try to match students up to make cohesive and effective lab groups

- Please fill out the lab group survey by this **Friday, Jan 7 at 8pm**

- **Double check** you can attend your registered section!
  - If you're on the waitlist or have a scheduling conflict, let us know on the form and we'll help get it sorted out.

Lab Exercises

- Lab exercises may include:
  - Review of lecture materials
  - Worksheet-style practice problems
  - Interactive, hands-on coding exercises
  - Exam-style practice problems
  - Learning to use tools that make your life easier (e.g. source control, Makefiles, debugging tools, etc.)

- Labs are graded for **attendance** and **completion**
  - Worksheet due to gradescope by **8pm Wednesday**
  - Submit to gradescope **as a group**

Autograder

All deadlines in EECS 280 are 8pm EST

autograder.io | Turn in Projects

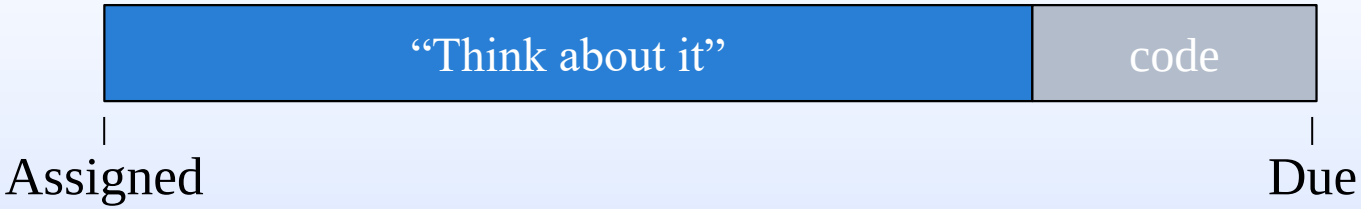
- Project Grading:
  - *Public tests (released with project)*
  - *Private tests*
  - *Mutation Testing (tests of your tests)*
  - *Style Checks (public)*

  - The public tests are not comprehensive. It's important to write your own tests!
  - You're allowed **3 submissions/day**. We grade your **best** submission.

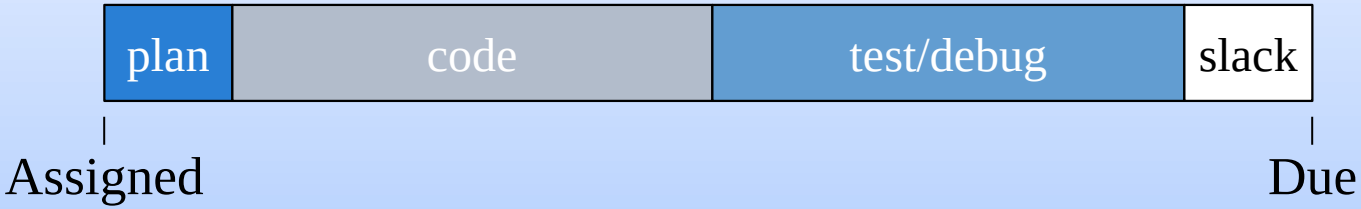
  - Submit **early** and submit **often**!

Project Timelines

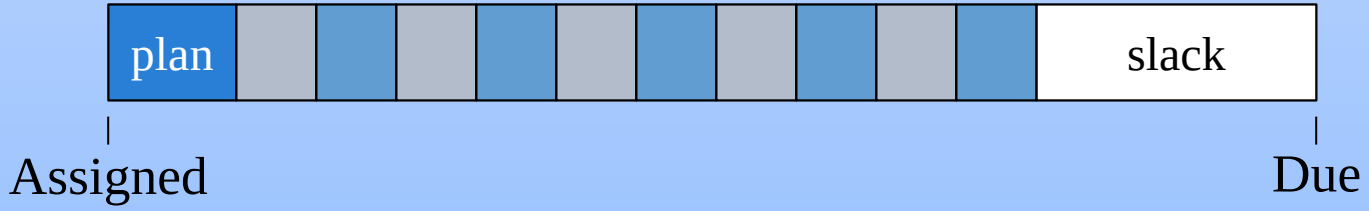
- Sample timeline for failure on projects.



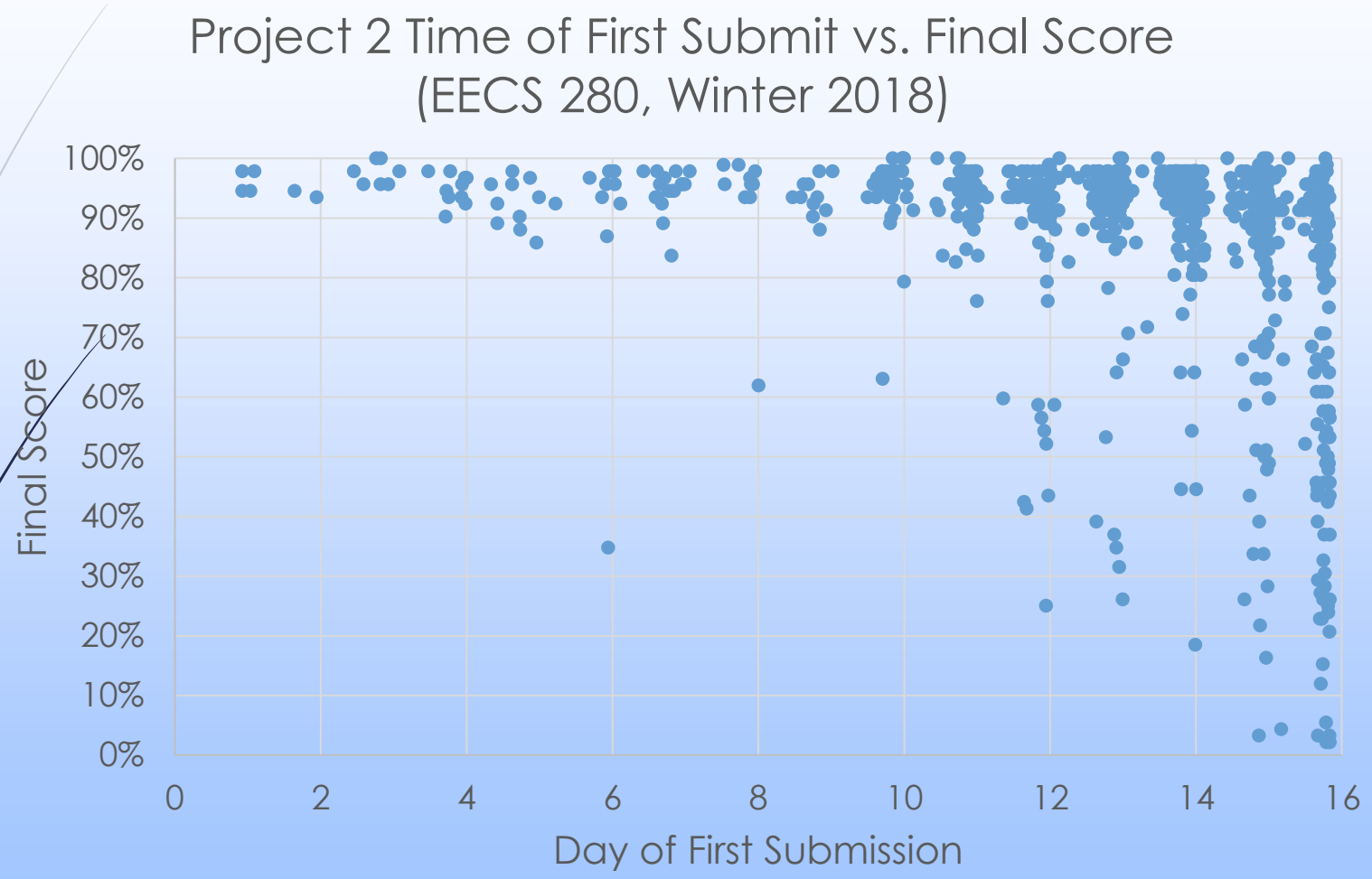
- Sample timeline for success on projects.



- Even better!



Project Submission Time vs. Score



Break Time!

We'll start again in five minutes.

Collaboration

Project 1	Indiviudal
Assessments	Individual
Projects 2-5	Partners Allowed

Everything Else	Lecture	Lab Teams	Piazza	Study Groups
	Collaboration Encouraged			

Project Collaboration

Projects 2-5	Partners Allowed

Encouraged	Prohibited
Share **high-level** design strategies	Share **step-by-step** code, **pseudocode**, or **comments**
Help others **understand** the project	**Share** your solution as a "reference"
Help others debug	Debug someone's code **for them**
Explain a compiler error to someone	Fix a compiler error **for someone**
Discuss testing **strategies**	**Share** test case code (even if not submitted)
Brainstorm edge case tests together	Tell others what **specific tests** they need to pass the autograder
Sharing code from course staff	**Copy** code in whole or in part, or write code for someone else
Looking at someone else's code to **understand** concepts	**Share** your code in a way that could be **copied**

Exercise

http://bit.ly/3izYDG7

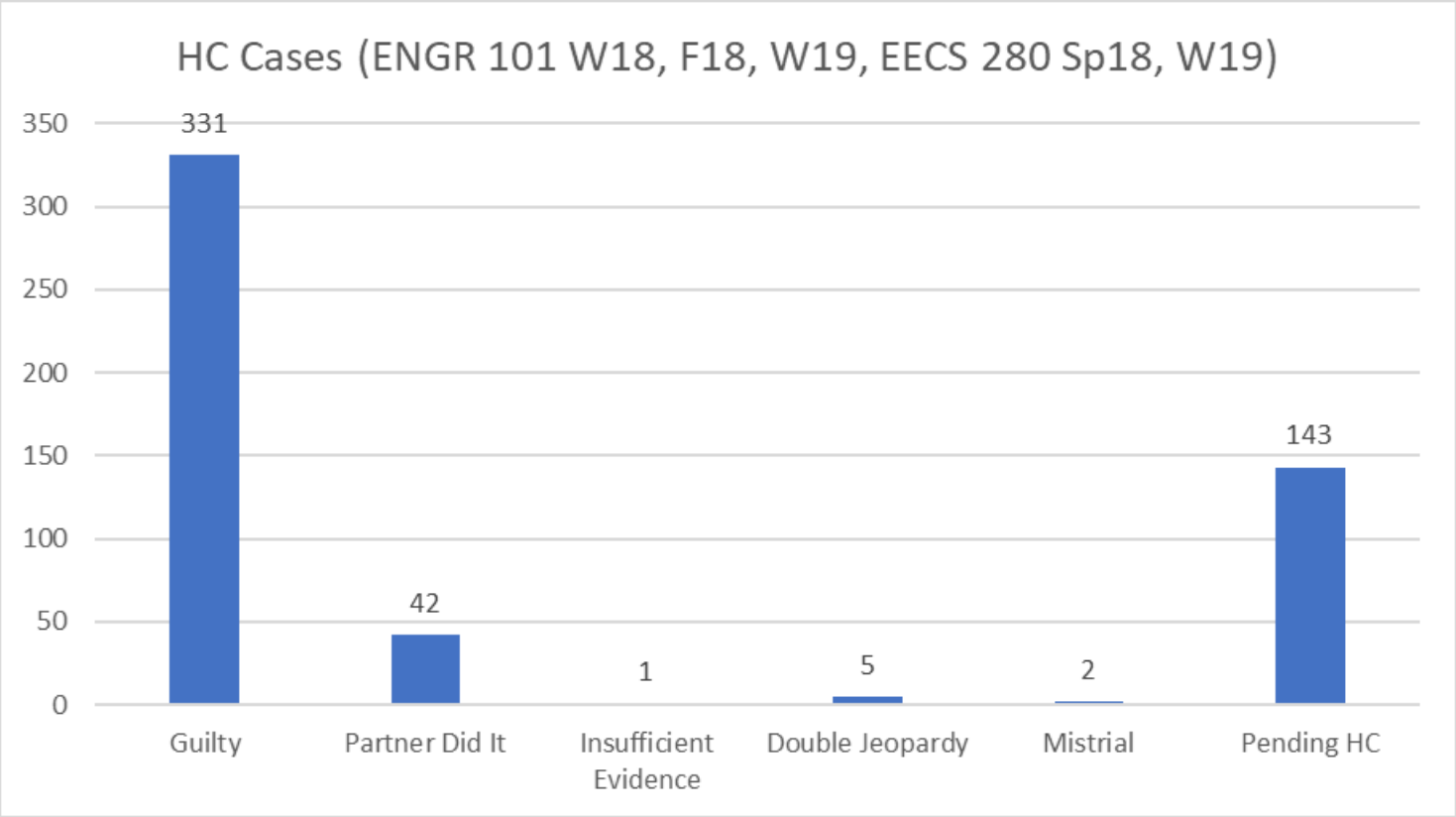
- As a group, discuss the scenarios listed. Try to weigh all aspects of the situation and come to a consensus.
- Submit the form when you're done!

Cheat-Checking

- We use **automated software** and **manual inspection** to detect potential honor code violations.
- Over the past several years, we have **reported 2-10%** of the class each semester.

- We only report **clear cases** of academic dishonesty.
- You will **not** be reported for:
  - Using starter code provided by course instructors.
  - Having the same idea as someone else.
  - Receiving similar help/guidance from the same course staff member in office hours.

Cheat-Checking



(Prof. Juett's HC resolutions, updated Jan 2020)

Machine Model, Demo

Office Hours

Staff office hours start Wednesday!

- Topic Sessions
  - Project Overviews
  - Content Reviews
  - FAQ
- Project Consultations
  - Planning and conceptual questions
  - Debugging support
  - Sign up at eecsoh.org.

Mon-Fri, 2-8pm

Coaching

See eecs280.org for more info!

- What is coaching?
  - Connect 1-on-1 with an IA or GSI to plan for your 280 experience.
  - **Tips** and **tricks** for getting the most out of 280
  - Strengthen **metacognitive** skills like exam studying, project planning, optimizing your time, etc.
  - Build your **confidence** in 280 and CS in general
- It's an **opportunity** and a **commitment**.
  - If this sounds like a good fit for you, sign up!
  - But we have limited staff resources, so we also expect students who join to follow-through.

Extensions

- We do not accept late work. Project and lab submissions are not allowed past the deadline.
- If you experience a medical or personal emergency, please reach out to us! We will consider exceptions on a case-by-case basis.
  - Please provide documentation if you are able – this helps us make appropriate accommodations.
- All requests for extensions must be submitted through the form linked from eecs280.org (not email).

Course Expectations

- **Respect others** and their opinions
- **Value people** and their diverse experiences
- Create an environment where **everyone** feels **safe and included**
- Take **learning opportunities** seriously
- Stay **connected**

What you'll get out of EECS 280

- Skills to design and write programs with 1,000+ lines of code
- Prerequisites for future computer science courses
- Credentials for an internship
- Become part of a community that is changing the world!

Next Steps

eecs280.org

Read the week 1 announcements