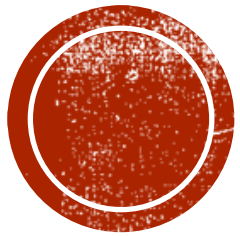
DISCRETE MATHEMATICS

IN COMPUTER SCIENCE

HSIEN-CHIH CHANG

JANUARY 5, 2022



Hi I'm Hsien.

Nice to meet you!

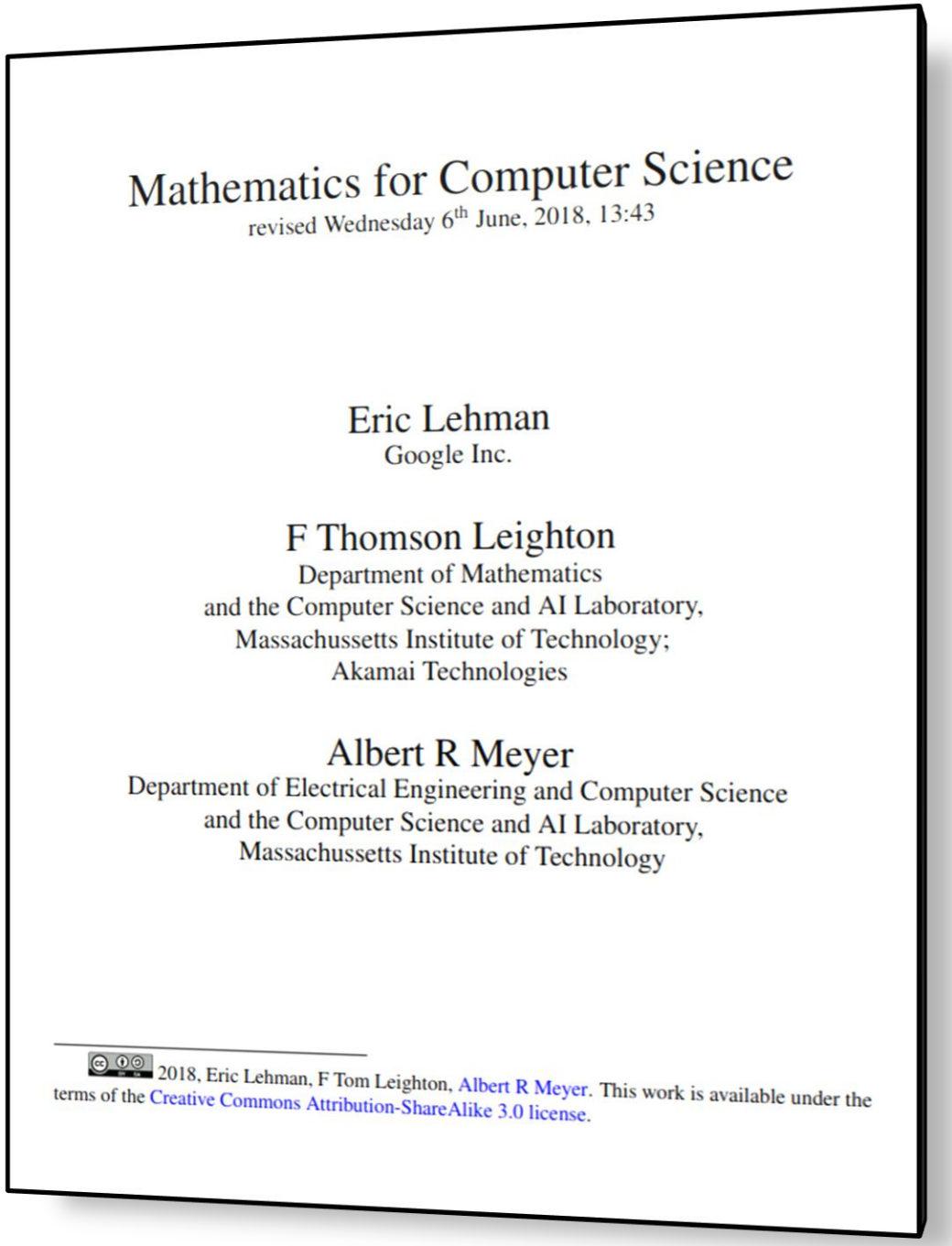
Logistics

- Read the syllabus
  - Canvas for most things
  - Gradescope for homeworks
  - Slack for chat and discussion

- Waitlist
  - Seniors with CS major/minor

Textbook

- **Mathematics for Computer Science**
  by Lehman, Leighton, and Meyer
  - Jun 2018 version



Mathematics for Computer Science

revised Wednesday 6th June, 2018, 13:43

Eric Lehman
Google Inc.

F Thomson Leighton
Department of Mathematics
and the Computer Science and AI Laboratory,
Massachussetts Institute of Technology;
Akamai Technologies

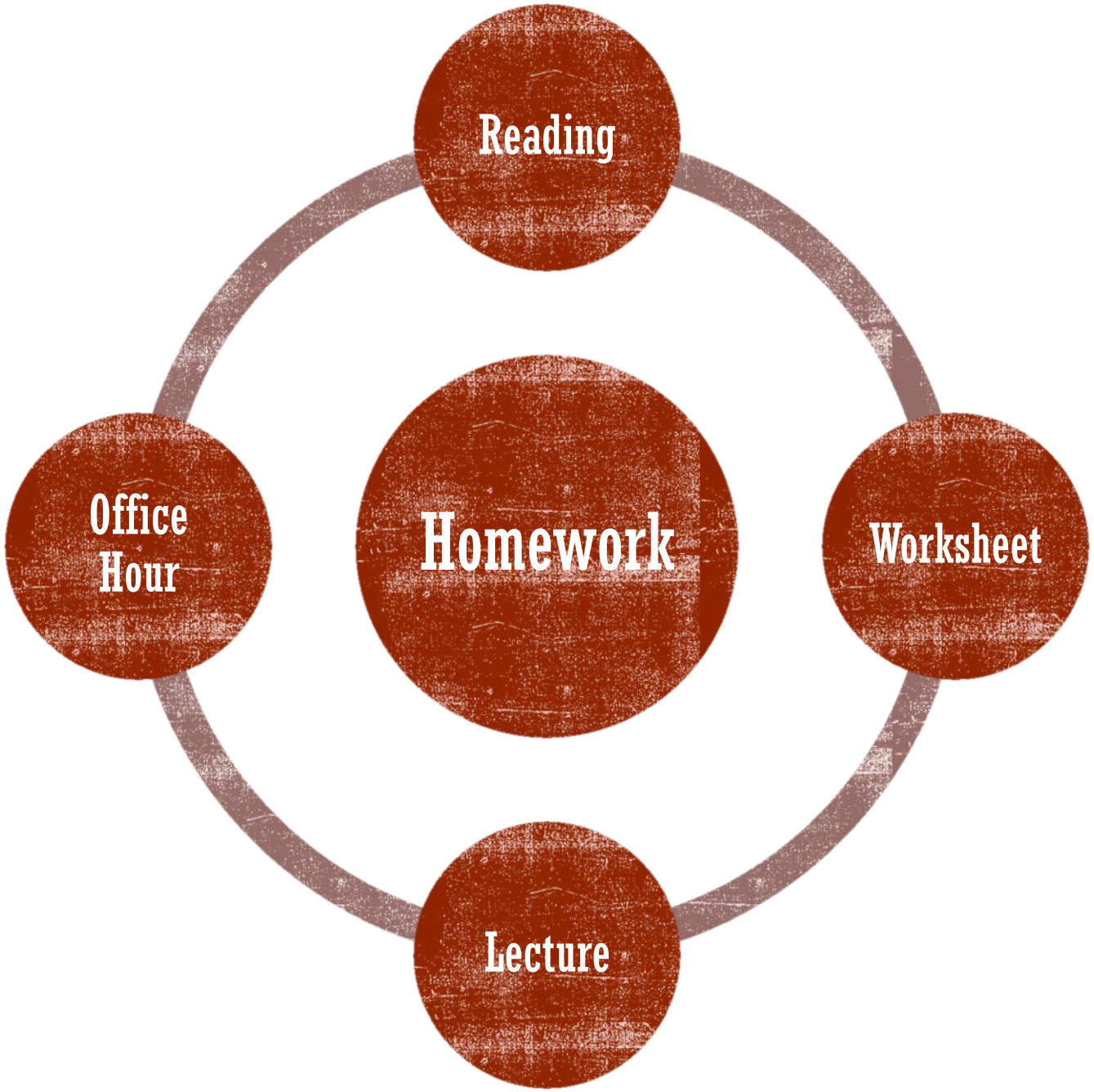
Albert R Meyer
Department of Electrical Engineering and Computer Science
and the Computer Science and AI Laboratory,
Massachussetts Institute of Technology

2018, Eric Lehman, F Tom Leighton, Albert R Meyer. This work is available under the terms of the Creative Commons Attribution-ShareAlike 3.0 license.

Study Units

- 17 units in 3 modules
  - Proofs
  - Graphs
  - Combinatorics

- Open everything
- Collaboration encouraged



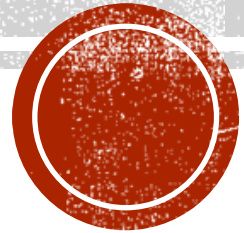
Submission and Feedback

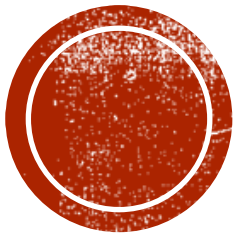
- No late submissions, ever
  - Drop 1/5 problems
- TAs
  - Parker Seegmiller (head TA)
  - Athina Avrantini
  - Saksham Arora
  - Elizabeth Crocker
  - Mahir Singh
  - Erich Woo

Exams and Grading

- 2 midterms, 1 final
- Tension between
  - instructor-student
  - examiner-examinee
- Final grades
  - exercises 10%
  - homework 30%
  - exams 20% each
- Max of {fixed, curved}-letter grades

Come talk to me! (Profs are humans, too)





Let's Chat.

Frequent Q&A

- Math is hard. How do I pass?

Frequent Q&A

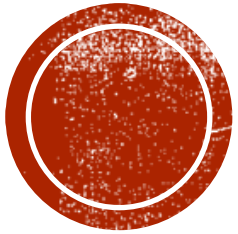
- Math is hard. How do I improve?

Frequent Q&A

- Math is hard. How do I improve?
- How do I study when the course is not lecture-based?\

Frequent Q&A

- Math is hard. How do I improve?
- How do I study when the course is not lecture-based?
- Why do I spend 0.3% of my life here?



What is this course about?

Mathematical Proofs

Mathematical proof

From Wikipedia, the free encyclopedia

A **mathematical proof** is an inferential argument for a mathematical statement, showing that the stated assumptions logically guarantee the conclusion.

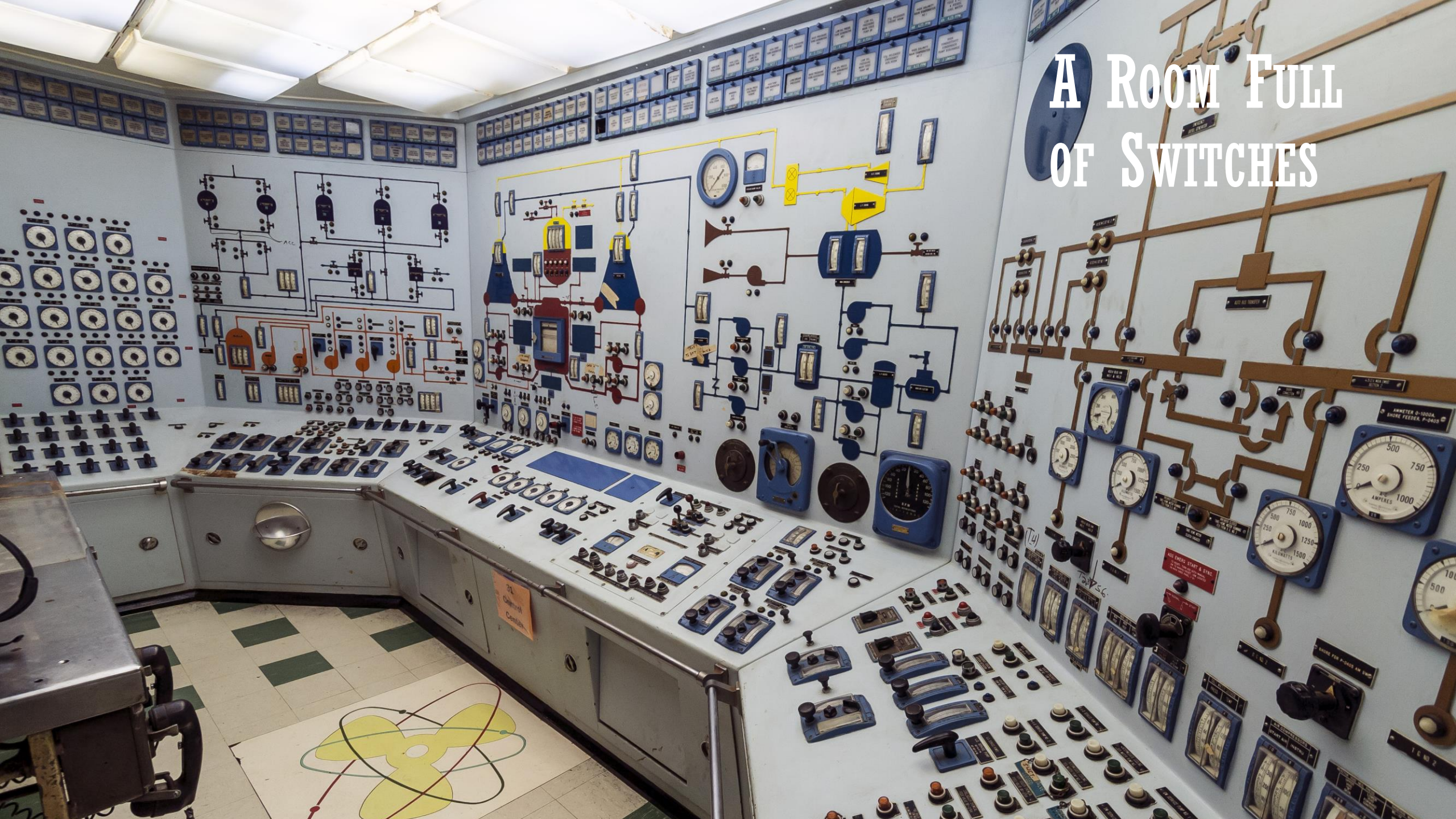
Why do cs people need math?

- Why should I take this course? I just want to…
  - write apps/games
  - get a job in software industry
  - [insert things you want to do]

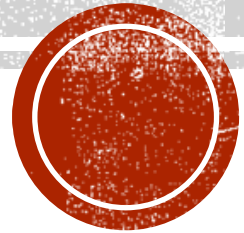
THIS IS A LANGUAGE CLASS


THIS IS A PE CLASS

ALL ABOUT PUZZLES


A Room Full
of Switches

Language, Workouts, Puzzles



Next time.

Jargons and Pigeons.