

WELCOME TO CS190

David Kauchak  
CS 190 – Fall 2014

## Who are you?

Name, School, Major(s)

Thesis topic interests

Something interesting about yourself

What you want (plan) to do when you graduate

Anything else?

## This course...

What is the goal?

What does it involve?

## What is the goal

Introduce you to research in computer science

- ▣ Reading research papers
- ▣ Research presentations

Begin the first steps for your senior project

- ▣ Guide you through the process (i.e. remind of of deadlines ☺)
- ▣ Get feedback from myself, the other faculty and the other students

## What does it involve

### Three main components

- ▣ Colloquium
- ▣ Paper reading and presentations
- ▣ Senior project preparation

## Colloquium

Roughly every other Thursday at 4:15pm

<http://www.pomona.edu/academics/departments/computer-science/colloquium/>

Attendance *is required*

If you can't make one, arrange **beforehand** with myself to make it up by attending one up at Mudd

A good chance to find out more about what goes on in CS

## Paper reading



## Each week

There will be a paper to read

(<http://www.cs.pomona.edu/~dkauchak/classes/cs190.1/>)

30 minute presentation by 2-3 presenters

30 minute discussion around the paper

## If you're not presenting

1. Read the paper
  - ▣ This should happen at least a day in advance of the class (ideally a few days before)
  - ▣ plan on a couple of hours
2. Go to the sakai forum for the paper
  - ▣ Read the comments/questions
  - ▣ Post something thoughtful
  - ▣ Must happen by 5pm the day before the presentation
3. Show up to class
  - ▣ Pay attention (stay off your phone/laptop)
  - ▣ Ask questions and contribute to the discussion

## If you are presenting

1. Read through the paper (start early!)
2. Read through the paper again
3. Discuss the paper with your presentation partner/group
4. *Optional:* Setup an appointment to talk to me
  - ▣ Don't wait until the last minute to do this!
5. Put together your presentation
6. Practice your presentation
7. By 5pm the day before: Post some discussion topics/questions on sakai
8. After 5pm the day before: Review the sakai discussion board and adjust presentation accordingly
9. *Optional:* arrange to meet with me to discuss your presentation

## Homework #1

You will be presenting **two** papers throughout the semester

Look through the papers and decide which look interesting

- ▣ Read the abstracts and introductions
- ▣ Glance through the rest of the paper

I will send out an e-mail after class with a link for you to upload your preferences (due by tomorrow at 1 pm)

## Senior project preparation

Deadlines:

<http://www.cs.pomona.edu/~dkauchak/classes/cs190.1/>

## Start thinking about ideas now!

Kim Bruce: programming languages

Rett Bull: security, theory of computation

America Chambers: AI, machine learning, natural language processing

Yi Chen: algorithms, complex networks

Dave Kauchak: AI, machine learning, natural language processing

Art Lee (CMC): databases, distributed systems

Melanie Wu: databases

## How to narrow it down to a field

Which classes have you enjoyed most?

Are there topics you wanted to investigate/learn more about?

Life after Pomona?

What sounds interesting?

## Now what?

Track down a textbook for that topic and browse through it

Scan over recent papers in this field

- ▣ Some textbooks will have bibliographic information
- ▣ Use Google to find conferences
- ▣ Google scholar

Talk to CS faculty to get some direction

- ▣ Remember, there are 30 of you!

Talk to other students

Attend the project discussion meeting on 9/9

## Remember...

9/16: submit a ranked list of advisor/topic

- ▣ List of three
- ▣ Must have at least 2 unique topics
- ▣ Must have at least 2 unique advisors

We'll try hard to give everyone their first choice

**What will make it more likely that you get your first choice?**

## Homework #2

Start figuring out your topic!

## Administrative

<http://www.cs.pomona.edu/~dkauchak/classes/cs190.1/administrivia.html>

## Evaluating presentations

Well prepared

Organization

Content

Slide quality/use of visual aids

Discussion

## Homework #3

Spend a couple of hours:

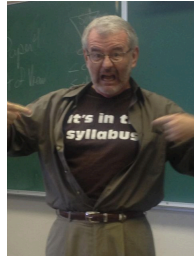
- Read the senior exercise handout (Sections 1, 2, Appendices A, B)
- <http://www.cs.pomona.edu/classes/cs190/>
- <http://www.cs.pomona.edu/~dkauchak/classes/cs190.1/>

## Homework #3



**IT'S IN THE SYLLABUS**

This message brought to you by every instructor that ever lived.  
www.fw.comics.com



## Reading academic papers: my two cents

## Reading academic papers

- Advice on reading and presenting research papers:
  - *How to Read a Research Paper* by Spencer Rugaber
  - *How to Present a Paper* by Ashwin Ram, a short document that contains several good suggestions
  - *How to give a good research talk* by Simon Peyton Jones and others
  - *An Open Letter to Research Students* by Duane Bailey talks about projects that differ a bit from ours, but the points are still relevant

## Presentations

What makes a good presentation?

What makes a bad presentation?

## Presenting academic papers: my two cents

Make sure you understand the paper (or at least most of it)

Think about what you want to talk about:

What was the paper about?

Why did the person write this paper?

What are the interesting aspects to this paper?

## Organization

What problem is the paper trying to solve?

Why should we care about this problem?

Optional: What have other people done? How does this fit in the context of previous/current work?

Approach/algorithm description/analysis

Experimental setup

Results

Conclusion/future work

## Dos and Don'ts

Don't:

- ❑ Put too much information on one slide
- ❑ Put too much text on one slide
- ❑ Only use text and bullet points (ignore this presentation ☺)
- ❑ Procrastinate on preparing the presentation!

## Dos and Don'ts

Do

- ❑ Use figures, diagrams and other visual aids
- ❑ Plan on no more than 1 slide per minute
- ❑ Use large fonts
- ❑ Think about what things you've liked/disliked in other presentations
- ❑ Make sure you annotate your figures, equations, etc.
- ❑ Practice, revise and reiterate

## Homework?

#1 Submit your preferences by tomorrow at 1 pm

#2 Start investigating your senior project topic

#3 Read the senior exercise handout and other course resources