Internet and Cloud Systems

https://thefengs.com/wuchang/courses/cs430/

Portland State
Computer Science

People

- Instructor: Wu-chang Feng
  - Office Hours (Tuesdays 9am-11am)
- TA: Leslie Choi
  - Office Hours (Friday lab)

About the course

- A tour of essential systems topics
  - Historical look at where we have come from
  - A survey of modern systems and the abstractions they provide
- Hands-on practice using them to build applications

Course objectives

- Understand Internet networking and how it has enabled the cloud.
- Perform web development and construct web applications backed by databases.
- Utilize virtual machines and containers as building blocks for constructing services.
- Adapt applications to models of service and storage supported by cloud computing providers.
- Utilize cloud tools for data analysis and machine learning applications

About the course

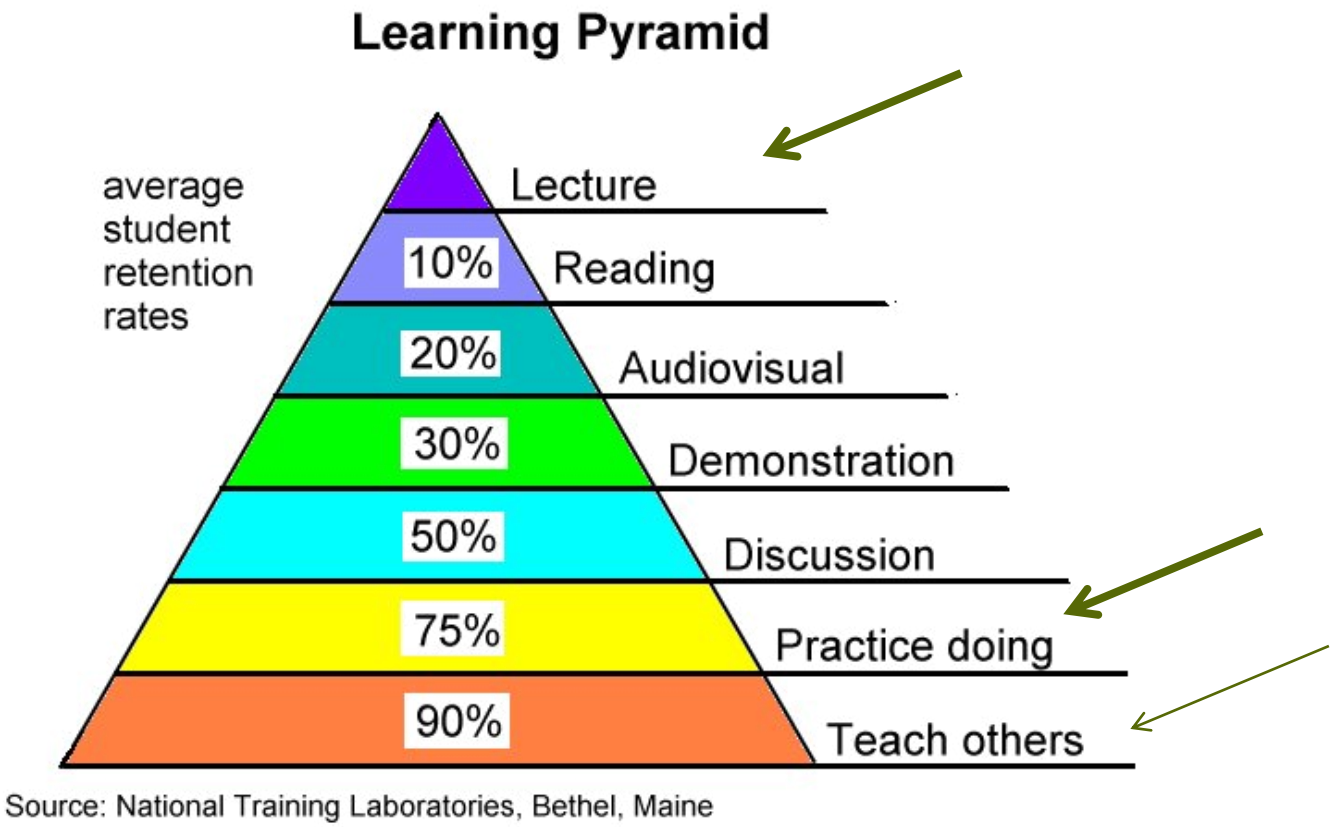
- Intended as an overview of our system electives
- Coverage of..
  - Internet and its protocols
    - CS 494/594
  - Web development
    - CS 410/510: Full-stack Web Development
  - Databases
    - CS 486/586
  - Virtual machines and containers
    - CS 533
  - Security
    - CS 491/591
  - Data management
    - CS 410/510: Cloud & Cluster Data Management
- Will be some review if you've already taken the elective

Assumptions

- Working knowledge of Linux (or willingness to do a crash course in learning it)
  - http://linuxcommand.org/lc3_learning_the_shell.php
  - http://overthewire.org/wargames/bandit/
- Knowledge of processes and operating systems (CS 201)
- Some knowledge of HTML (or willingness to watch a screencast or two to acquire it)
- Knowledge of Python (CS 161) or willingness to do work outside of class to learn it

Format

- Lectures, labs, homework and projects



Grading

- Percentages, rubric, and schedule on course page
- Attendance graded
- Participation graded
  - In class and on channel
  - Asking questions, fixing bugs, suggestions, troubleshooting problems for others
  - Mutual respect, tolerance, and encouragement are expected when participating
  - Comments seeking to demean, embarrass, or otherwise disrupt others' ability to learn are not welcome

Grading

- Labs
  - Each lab should be completed individually
  - You can work through them with others (Fridays especially)
  - Lab notebooks documenting completion of assigned labs must be submitted
    - Notebook should contain screenshots that include your own OdinID or your own Google Cloud Platform project ID that allows the TA to see you've done the entire lab
  - Collected in parts via D2L typically soonafter last lab in a section is assigned
    - Deadlines listed on D2L
    - See course web site for more information and rubric
  - Some labs have been moving targets in the past
    - Ask for help on the course channel if, at any point, you get stuck
    - It might be the lab, not you.
    - Will be giving away free stuff for course fixes!

Grading

- Homeworks
  - Must be done individually
  - Do not share code or work collaboratively on homeworks
  - Submitted via code and container submissions to Bitbucket and Docker Hub repo as well as zip file in D2L dropbox (for timestamp)
  - See course web site for more information and rubric
- Final project done in pairs or individually
  - Due as a demo in-class during finals week
  - Also due as a screencast demo and walkthrough at the end of Finals week

Grading

- Late policy
  - 10% each day
  - No late work accepted after 2 days (D2L assignment closes)
  - Validate proper submission by re-downloading notebook and checking!
- Note:
  - The class is a lot of work. Plan accordingly.

Cheating policy

- You may collaborate when doing labs, but each lab member must complete each lab on their own and provide individual screenshots
- Homework assignments must be done individually
- Final project may be done in pairs, but with 2x the amount of functionality

Homework #1