Welcome to CS 423 Operating System Design



University of Illinois at Urbana-Champaign

Tarek Abdelzaher

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What's my End Result?

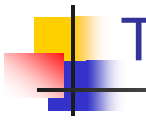
Before CS 423:

- Knowledge of C/C++
- Basic knowledge of Linux/POSIX APIs and functions

After CS 423:

- In-depth knowledge of how basic OS functions work
- Knowledge of virtual machines
- Introduction to advanced OS topics
  - Distributed system issues, embedded system issues, Map/Reduce, etc.
- Ability to modify OS code

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The Team

Tarek Abdelzaher (Instructor)

- Office: 4126 SC
- Office Hours: Wednesdays 11am-noon.
- Tel: (217) 265-6793
- **zaher@illinois.edu**

- **TAs: Haitong Tian and Anirudh Jayakumar**
- Office hours will be announced on class Webpage

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Online Discussion, etc

Spring2016/CS423 on Piazza

http://piazza.com/illinois/spring2016/cs423

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Textbooks

- *Recommended:* Internals and Design Principles (8th Edition), William Stallings, 2014
- *Optional:* Modern Operating Systems (4th Edition), Andrew S. Tanenbaum, Prentice Hall, 2014
- *Optional:* Virtual Machines, James E. Smith and Ravi Nair, Elsevier / Morgan Kaufmann, 2005

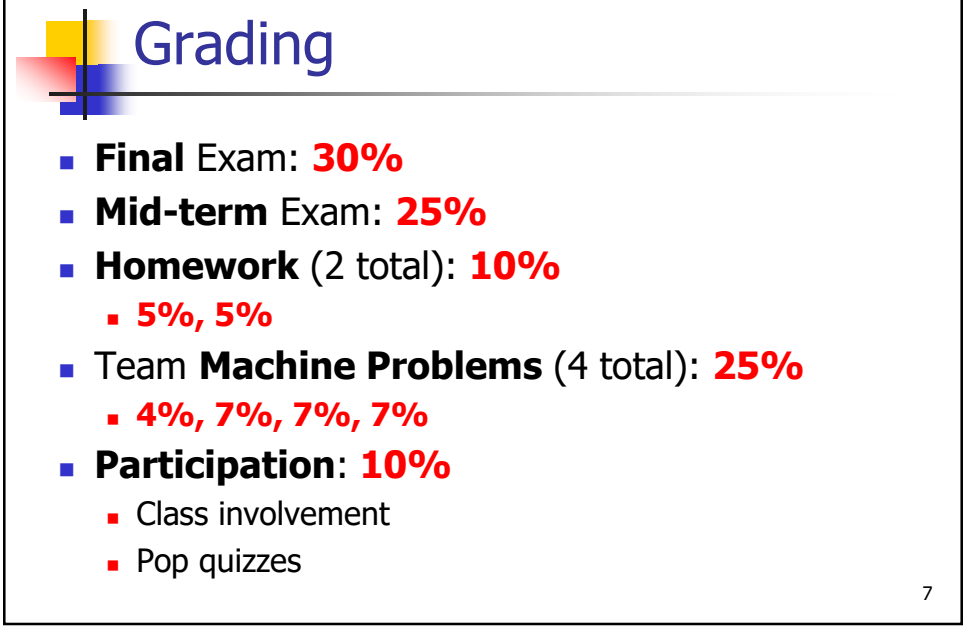
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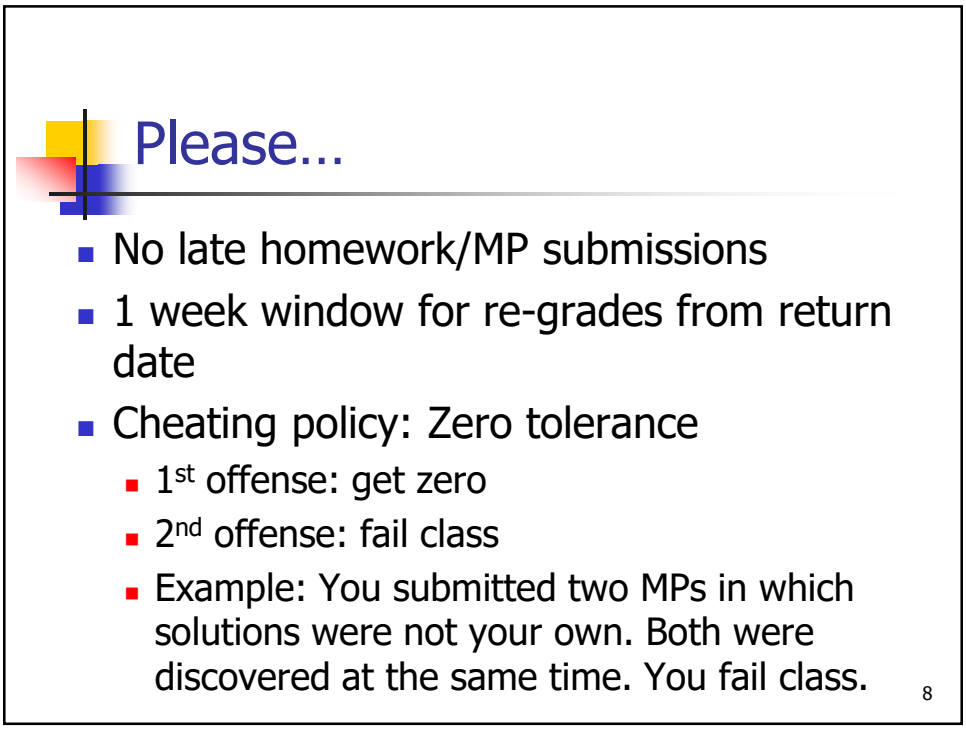


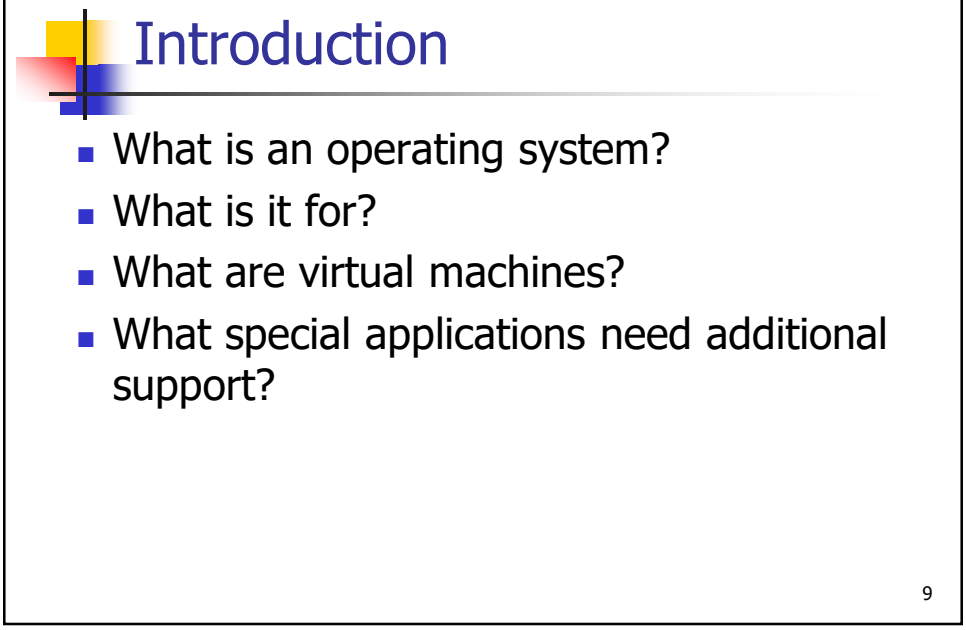
Your CS 423 "Mission"

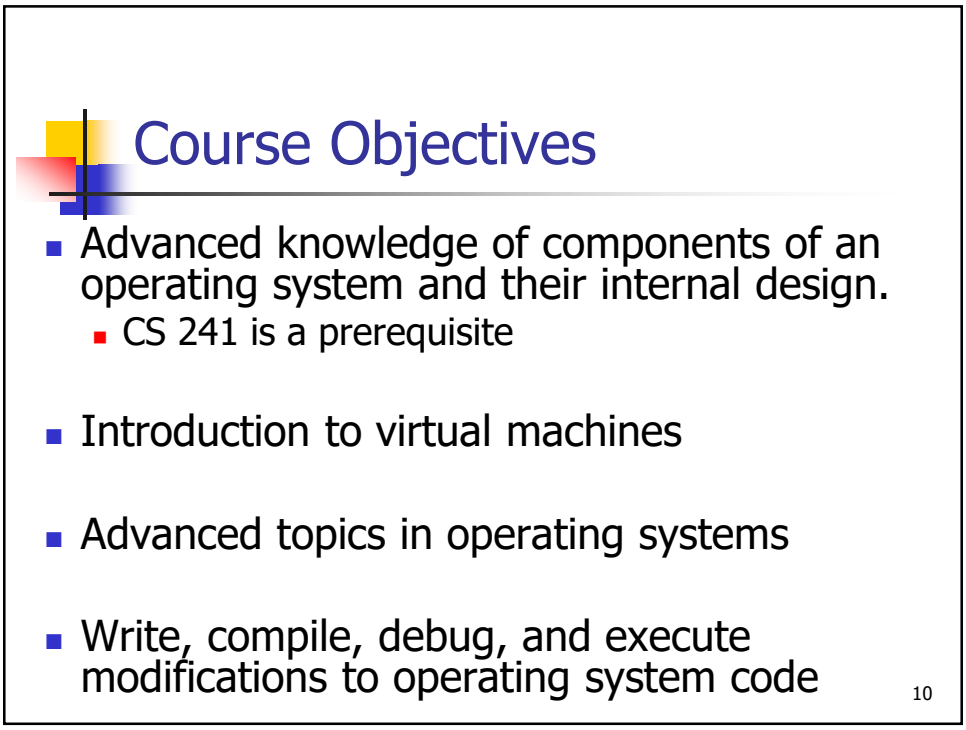
- Come to class, MWF, 10-10:50am
  - Please participate actively…
- Code 4 programming assignments (in teams of 3 or 4)
  - Same team for all four assignments
- Take Midterm, Monday March 7th
- Do two homeworks:
  - (i) "prereqs", (ii) "practice final"
  - Work on homework independently
- Take Final, Wednesday May 4th
- If taking class for 4 credits: Do project

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Grading
Final Exam: 30%
Mid-term Exam: 25%
Homework (2 total): 10%
5%, 5%
Team Machine Problems (4 total): 25%
4%, 7%, 7%, 7%
Participation: 10%
Class involvement
Pop quizzes
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Please…
No late homework/MP submissions
1 week window for re-grades from return date
Cheating policy: Zero tolerance
1st offense: get zero
2nd offense: fail class
Example: You submitted two MPs in which solutions were not your own. Both were discovered at the same time. You fail class.
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Introduction
What is an operating system?
What is it for?
What are virtual machines?
What special applications need additional support?
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Course Objectives
Advanced knowledge of components of an operating system and their internal design.
CS 241 is a prerequisite
Introduction to virtual machines
Advanced topics in operating systems
Write, compile, debug, and execute modifications to operating system code
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Schedule

- See class webpage

https://courses.engr.illinois.edu/cs423/

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Your to-do List

Today:

- Visit the class webpage and check out all the info https://courses.engr.illinois.edu/cs423/
- Refresh your system programming skills (e.g., review CS 241 and see C language tutorial below) http://www.lysator.liu.se/c/bwk-tutor.html

Soon:

- Team up for solving programming assignments
- Familiarize yourself with Piazza

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