

EECS 3221: OPERATING SYSTEM FUNDAMENTALS

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Department of Electrical Engineering and Computer Science

Week 1:

Course Logistics and Introduction to Operating Systems

January 7, 2020

Introduction

■ Instructor:

- Hamzeh Khazaei
- Office: LAS 2002
- Email: hkh@eecs.yorku.ca
- Office hours: Thursdays 2:00pm-4:00pm (and by appointment only)

■ TAs:

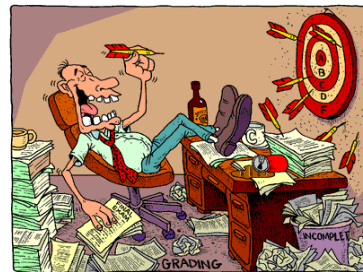
- Fazel Arasteh (arastehfazel@gmail.com)
- Iuliia Kotseruba (yulia.kotseruba@gmail.com)

■ Email:

- Always have “eecs3221” in the subject; e.g., “eecs3221: mini-project 1”

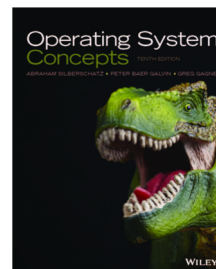
Course logistics

- Class webpage: Moodle
- 23 lectures; Tue/Thu 6:30pm-8:00pm
- Each session will be divided into 2 halves (40 min each) with 5 min break in between.
- Location: LSB 103
- Grading Schema:
 - Mini-Projects 1-3 10%, 10%, 15%
 - Mid-Term Exam: 25%
 - Final Exam: 40%



Reference Textbooks

- Required:
 - Operating System Concepts, 10th Edition, by Abraham Silberschatz, Greg Gagne, et al., (Available from York Library in Softcopy)
- Optional Supplementary Reading:
 - Operating Systems: Three Easy Pieces, by Remzi Arpaci-Dusseau, Andrea Arpaci-Dusseau. ([Available Online](#))



Course Content – tentative

Date	Topic	Reading	Note
Week 1	Setup, Intro to OS and OS structures	Chapter 1 & 2	
Week 2	Processes, Threads and Concurrency	Chapter 3 & 4	
Week 3	CPU Scheduling & Synchronization	Chapter 5 & 6	
Week 4	Synchronization & Deadlock	Chapter 7 & 8	
Week 5	Main Memory	Chapter 9	
Week 6	Virtual Memory	Chapter 10	
Week 7	Reading week	Getting prepared for Mid term	Feb 17-21
Week 8	Mass Storage & Midterm on Feb 27	Chapter 12	
Week 9	Mass Storage & I/O Systems	Chapter 12 & 13	
Week 10	File System	Chapter 13	
Week 11	File System Implementation & Internals	Chapter 14 & 15	
Week 12	Security & Protection	Chapter 16 & 17	
Week 13	Virtual Machines & Distributed Systems	Chapter 18 & 19	

Mini-Projects

- Solo programing + report projects
- In C language tested on the course Linux VM or Cloud VMs
- What I hate to say: we run cheat checkers...
- Please **do not** put code on **public** repositories
- Late work:
 - 10% , 25%, 50% penalty for day 1, 2 and 3 delay
 - ▶ no exceptions after 72 hours of due date/time
 - Usual exceptions:
 - ▶ documented medical, emergency, etc.
 - ▶ Mid term is (legally) missed then final will be counted for both.
- Talk to me early if there's a problem!

Linux Virtual Machine

- You need Virtual Box to run the OSC VM
 - Visit www.virtualbox.org and click on the download tab.
- Please download the VM here:
 - <http://cs.westminstercollege.edu/~greg/osc10e/vm/index.html>
 - You will also find the instructions for setting up the VM
 - You need one VCPU and 1 Gig of RAM on your machine
- I setup cloud VMs for those who cannot run the VM on their machine
 - Instruction to use this VM will be shared on demand.

Exams



- Mid-Term Exam (25%)
 - May include true/false, multiple-choice and explanatory questions
 - You will get sample questions/solutions



- Final Exam (40%)
 - May include true/false, multiple-choice, and explanatory questions
 - You will get sample questions/solutions

Important Dates

First class	Tuesday, January 7
Mini-Project 1	January 20 – Due: February 3
Mini-Project 2	February 10 – Due: March 2
Reading week (no classes)	February 17-21
Mid-Term	February 27
Mini-Project 3	March 2 – Due: April 3
Last date to drop course without receiving a grade	Friday, March 13
Last class	Thursday, April 2
Last date to withdraw from course (receiving W on transcript)	Sunday, April 5
Final Exam period	April 7-25

*All due dates end at 11:59pm

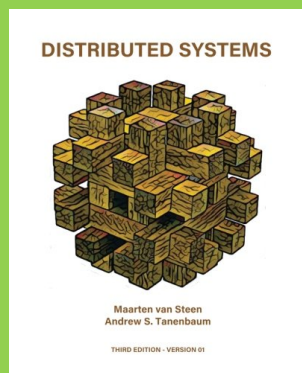
Why take this course?

- OS is the heart of any computing systems
- Learn some computer science concepts that is best used in OSs.
- One of the best mixture of computer science theory and software engineering practices
- OS developers, or kernel hackers, are among the most respected and brilliant developers
- To know what is going on behind the screen
- How to design/implement a complex yet reliable software system
- This course a pre-requisite to newly proposed course in Distributed Systems
- A better understanding of cool technologies such as cloud, VMs, containers, microservices, uni-kernels, serverless computing and the like.

Computing Paradigm Shift

Coming soon?

EECS5xxx: Distributed Systems



<https://www.distributed-systems.net>

Any Question?

Tuesday September 08, 1992

