CS4500
Operating Systems

Week 1 – Part A

About Me

Joshua Alcorn

~20 years of programming and IT

12 years at UCCS

Researching Software-Defined Networking (SDN) and various security applications

Teacher, Entrepreneur, Inventor, IronMan Triathlete, Veteran, Father, Husband, Mountain Climber, Researcher, Project Manager, Red Cross Volunteer

Introduction

Email: jalcorn@uccs.edu -- Put “CS 4500” in subject line

Office: By appointment or MS Teams

Class: CS 4500 Sec 003 in *COL 136* on Mon/Wed 4:45-6pm

Text:

- Andrew S. Tanenbaum, “*Modern Operating Systems, 5th edition*”, 2022, Prentice Hall

Grading:

• Final Exam	25%
• Midterm	18%
• Projects	36%
• Homework	16%
• In-class Quizzes	5%
• Class Participation	10%

Course Content

Unit	Module	Week	Topic
1 – Introduction	1 & 2	1	Welcome to OS & Introduction
	2	2	OS Overview
2 – Processes and Threads	3	3	Processes
	4	4	Threads
	5	5	CPU Scheduling
	6	6	Multiprocessor Scheduling
	7	7	Interprocess Communication
	8	8	Pthread
3 – Deadlocks & Memory	9	9	Deadlock
	10	10	Memory Management
	--	11	Midterm Exam
4 – Additional Topics	11	11	Page Replacement
	12	13	File Systems
	13	14	IO Devices
	14	15	Security
	--	16	Final Exam

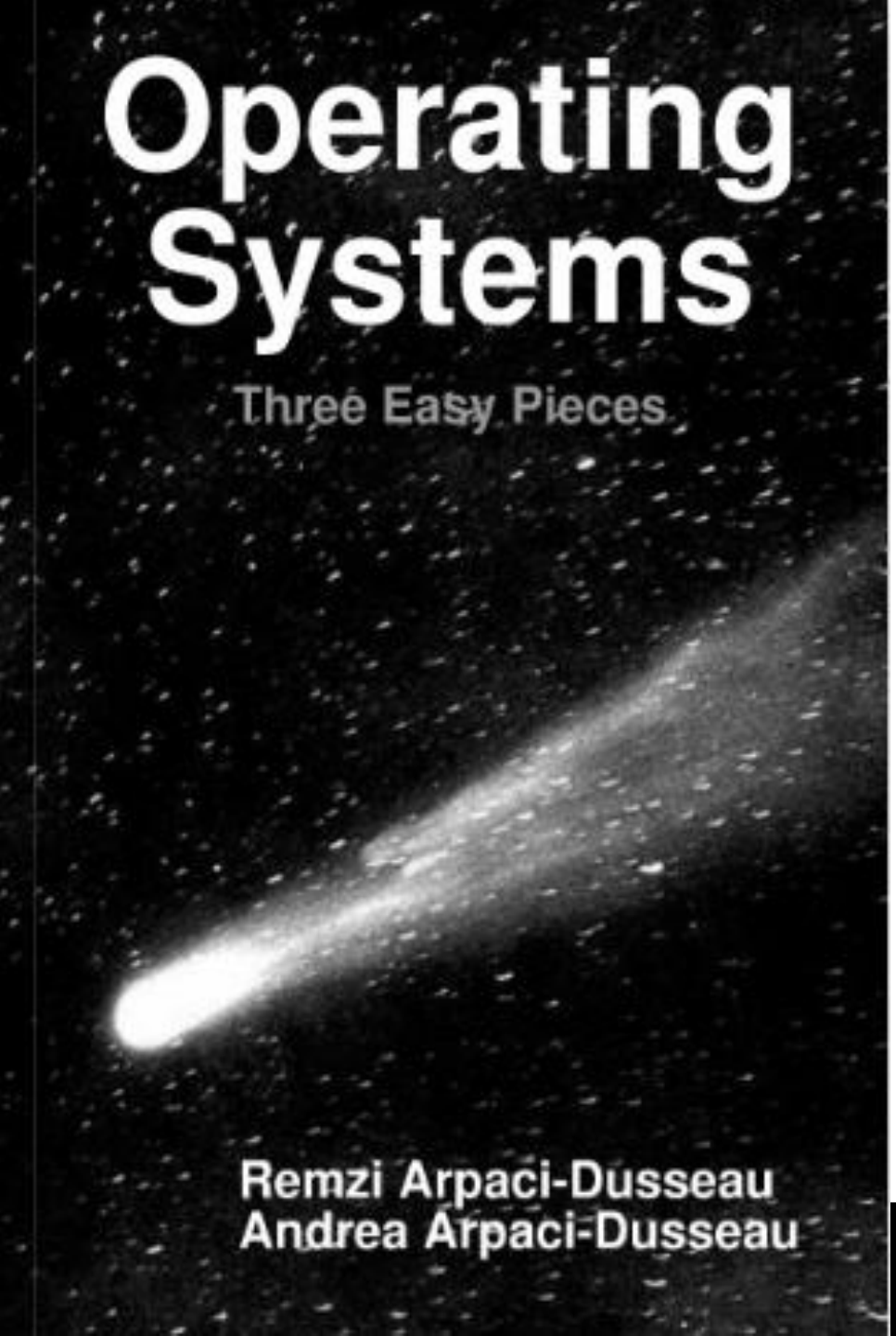
What to expect today

- Overview of the course
- Course logistics
- By next class: Find course on Canvas and read the Syllabus
- Assigned reading:
  - Andrew S. Tanenbaum, Modern Operating Systems, 5th edition, 2022, Prentice Hall Chapter 1
- Homework 1 Overview

Lecture Resources

- Andrew S. Tanenbaum, Modern Operating Systems, 5th edition, 2022, Prentice Hall

- Peter Jay Salzman, Michael Burian, Ori Pomerantz, Bob Mottram, Jim Huang. The Linux Kernel Module Programming Guide, 2022. https://sysprog21.github.io/lkmpg/



Additional Resource

- Remzi H. Arpaci-Dusseau, R. H., Arpaci-Dusseau, A.C. *Operating systems: Three easy pieces: Chapter 10 and 28.* (2018). Arpaci-Dusseau Books.
- https://pages.cs.wisc.edu/~remzi/OSTEP/cpu-sched-multi.pdf
- Copy of .pdf available in Canvas

Important Information

Attendance: “4 misses reduces one letter grade”

Military, Students with Disabilities, Wellbeing, Responsible Reporting & Religious Accommodations

Important Dates

- Feb. 4th 2026 — Census Date
- Apr. 3rd 2026 — Last Day to Drop and receive a 'W' w/o Approval
- Mar. 9th 2026 — Tentative Midterm Exam – In-Person
- May 13th 2026 — Final Exam (12:40-2:40pm) – In-Person

Assignment Submissions

All submission should be made through Canvas by attaching a single pdf/doc file.

Office365 is free to all UCCS student / LibreOffice is free to everyone

Assignments

Homework

- Several written assignments: individual

Projects

3-4 programming assignments (in VMs)

- 2-3 students team up (sign up in Canvas)
- No bonus for working alone

Quizzes

- Quizzes are participation only (I will not grade them), but you have to complete them during the scheduled lecture time, since quizzes will only be open for a limited time.

Exams (one letter-size cheat sheet)

- Midterm: Online
- Final: Online

VM Setup

- Desktop vs. minimal
- Minimal only gives a terminal, no GUI
- Don’t wait till last minute to work/submit!!..

Do not create more than 2 VMs!

- Limited IP addresses available to the class
- If you’d like to abandon a VM, rename it “delete-me”
- Sharing a VM among team members is ok

Late Policy

If submitted within 24-hours are penalized 25%; after 24-hours assignments receive a zero.

Any late work must be handed in by the end of the class period on the day of the final (last class).

Academic Honesty

Allowing someone else to turn in your work is not tolerated.

- Your instructor has a zero-tolerance policy for academic dishonesty. Unoriginal submissions will not be accepted and will be assigned a zero.
- There will NOT be an opportunity to re-submit work if the original submission was found to be a copy.
- Academic dishonesty concerns will be reported to the department chair and may necessitate a meeting between the instructor, student, and chair. Further consequences will be applied if the student continues to disregard academic integrity.
  - Posting homework problems/solutions online is not tolerated.
  - Sharing your/posted homework solutions with students outside the class is not tolerated.
- Your use of AI tools must be properly documented and cited, using quotation marks or other appropriate indicators of quoted material when appropriate

Where to get help?

- Ask questions in class
- Read the textbook
- Read slides
- Office hours
- Teaching Assistant (TA) tutoring hours – see Canvas Announcement for details

Snow Closings and Delays

- Watch the news
- Sign up for alerts
- We will not have class in-person or online on school closures

Let's Talk About Classroom Emergencies

Medical | Fire | Violence

- Designate one person to call 9-1-1 with an alternate
- Locations of exits

Questions?

Say Hello…

Introductions

- Name
- Year
- Major
- Why CS4500?

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