

CEG 4350/5350 OS Internals and Design

Summer, 2024

Description: Introduction to basic concepts of operating systems, including process and thread management, CPU scheduling, process synchronization, memory management, file systems.

Prerequisite: CS 3100 Data Structures and Algorithms, or equivalent.

Instructor: Dr. Soon M. Chung
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Class: M. W. 1:30–3:10 pm, 127 Medical Science Bdg.

Note: WSU is closed on 6/19, Wednesday, Juneteenth Holiday.

Office hour: M, W. 3:30 –4:30 pm. For short questions, please use emails.

Text Book: A. Silberschatz, P. Galvin, and G. Gagne, Operating System Concepts, 10th (or 9th) edition, John Wiley & Sons, 2018 (or 2013).

References:

- John Shapley Gray, Interprocess Communication in Linux: The Nooks and Crannies, Prentice Hall, 2003.
- K. A. Robbins and S. Robbins, Unix System Programming: Communication, Concurrency, and Threads, Prentice Hall, 2003.

Topics:

Processes (Ch. 3)
Threads (Ch. 4)
Process Synchronization (Ch. 6 and 7 in 10th ed.), (Ch. 5 in 9th ed.)
CPU Scheduling (Ch. 5 in 10th ed.), (Ch. 6 in 9th ed.)
Deadlocks (Ch. 8 in 10th ed.) (Ch. 7 in 9th ed.)
Main Memory (Ch. 9 in 10th ed.) (Ch. 8 in 9th ed.)
Virtual Memory (Ch. 10 in 10th ed.) (Ch. 9 in 9th ed.)

Grading: A:[85%,100%], B:[75%,85%), C:[65%,75%), D:[55%,65%), F:[0,55%)

1. There is no homework, but solutions of some exercise questions will be provided.
2. Class attendance 5%
3. Midterm exam: 30% (6/24, Monday, 1:30–3:10 pm)
3. Final exam: 35% (7/24, Wednesday, 1:30–3:10 pm)
4. Programming project: 30% {project plan 5%, design and description of design 5%, implementation and documentation 7%, correctness of programs 7%, discussion 6%}
 - **Project plan is due on 6/17, Monday.**
 - **Final report is due on 7/17, Wednesday.**