

CSE 303 OPERATING SYSTEM DESIGN
Fall Semester 2003
Sequence MWF
Room PL 360

Instructors **Professor Donald J. Hillman** ~ Section 10 ~ 11:10 – 12:00
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Office Hours 3:00 – 5:00 W (or by appointment)

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Text Modern Operating Systems, 2nd Ed., Andrew S. Tanenbaum,
Prentice-Hall, 2001, ISBN 0-13-031358-0

Blackboard Lecture slides, assignments, etc. available @ <http://ci.lehigh.edu>

Grading 10 homework assignment = 300 points (30%)
 8 one-week assignments @ 25 points
 2 two-week assignments @ 50 points
2 quizzes @ 150 points = 300 points (30%)
Final exam = 300 points (30%)
Class participation = 100 points (10%)

Notes Late penalty -5 points per day or fraction thereof.
Extra credit will be available throughout the semester.
Other supplemental reading to be determined.

Date	Topics	Readings	Activities
M 8/25	Introduction; OS History	1.1-1.3	HW #1 out
W 8/27	Hardware; OS Concepts	1.4-1.5	
F 8/29	System Calls; OS Structure	1.6-1.7	HW #1 due
Supplemental reading: 10.1-10.2			
M 9/1	Processes	2.1	HW #2 out
W 9/3	Threads: Models, Usage	2.2.1-2.2.2	
F 9/5	Threads: Implementation	2.2.3-2.2.8	HW #2 due
Supplemental reading: 10.3 (pp. 690-704)			
M 9/8	Interprocess Communication Intro	2.3.1-2.3.5	HW #3 out
W 9/10	IPC: Mutexes, Message Passing	2.3.6-2.3.9	
F 9/12	IPC Problems	2.4	HW #3 due
M 9/15	Scheduling Intro	2.5.1-2.5.2	HW #4 out
W 9/17	Scheduling: Interactive, Real-Time	2.5.3-2.5.6	
F 9/19	Deadlocks: Intro, Detection, Recovery	3.1-3.4	HW #4 due
Supplemental reading: 10.3 (pp. 704-710)			
M 9/22	Deadlocks: Avoidance, Prevention	3.5-3.7	
W 9/24	<i>Review Prior to Quiz #1</i>		
Th 9/25	=====>>>>	4 o'clock Quiz #1	
F 9/26	Basic Memory Management; Swapping	4.1-4.2	

Date	Topics	Readings	Activities
M 9/29	<i>Return & discussion of Quiz #1</i>		HW #5 out
W 10/1	Virtual Memory	4.3	
F 10/3	Page Replacement Algorithms (1)	4.4.1-4.4.7	HW #5 due
M 10/6	Page Replacement Algorithms (2)	4.4.8-4.5	HW #6 out
W 10/8	Design Issues for Paging Systems	4.6	
F 10/10	=====>>>	Pacing Break	
Supplemental reading: 10.4			
M 10/13	Implementation Issues for Paging	4.7	HW #6 due, #7 out
W 10/15	Segmentation	4.8	
F 10/17	I/O Hardware & Software	5.1-5.2.2	HW #7 due
M 10/20	Interrupt-Driven I/O	5.2.3-5.3.4	HW #8 out
W 10/22	Disk Hardware	5.4.1-5.4.2	
F 10/24	Disk Arm Scheduling; Clocks	5.4.3-5.5.3	HW #8 due
Supplemental reading: 10.5			
M 10/27	Character-Oriented Terminals; GUI's	5.6-5.7	
W 10/29	<i>Review prior to Quiz #2</i>		
Th 10/30	=====>>>	4 o'clock Quiz #2	
F 10/31	Files, Directories	6.1-6.2	
M 11/3	<i>Return & discussion of Quiz #2</i>		HW #9 out
W 11/5	File System Implementation	6.3.1-6.3.5	
F 11/7	File System Performance & Reliability	6.3.6-6.3.8	
Supplemental reading: 10.6			
M 11/10	Examples of File Systems	6.4	
W 11/12	Multiprocessors	8.1	
F 11/14	Multicomputers	8.2	HW #9 due
M 11/17	Distributed Systems	8.3	HW #10 out
W 11/19	Beowulf		
F 11/21	Security Basics	9.1-9.2	
Supplemental reading: 10.7			
M 11/24	User Authentication	9.3	
W 11/26	no class		Thanksgiving
F 11/28	no class		Thanksgiving
M 12/1	Attacks from Inside the System	9.4	HW #10 due
W 12/3	Attacks from Outside the System	9.5	
F 12/5	Course Review and Wrap Up		

University Policy on Disabilities “If you have a disability for which you are or may be requesting accommodations, please contact your professor and the Office of Academic Services, Room 212, University Center or call (610-758-4152) as early as possible in the semester. University policy states that you must notify your professor seven (7) days prior to the exam.”