

CSE 303 OPERATING SYSTEM DESIGN

Fall Semester 2007

Instructor **Professor Daniel Lopresti** ~ 10:10 – 11:00 MWF ~ Room MG 111
 Office PL 404B ~ Ext 85782 ~ Email dal9@lehigh.edu
 Office Hours 4:00 – 6:00 W (or by appointment)

Teaching Assistant **Xiang Zhou**
 Office Packard Lab 6th Floor, Desk #4 ~ Email xiz407@lehigh.edu
 Office Hours 4:00 - 6:00 Th (or by appointment)

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

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

Grading

- 10 homework assignment = 300 points (33%)
 - 8 one-week assignments @ 25 points
 - 2 two-week assignments @ 50 points
- 2 quizzes @ 150 points = 300 points (33%)
- Final exam = 300 points (33%)

Notes

- Homework and programming assignments will generally be posted to Blackboard by 9:00 am on Mondays and due by 5:00 pm on Fridays. Submit your work electronically using the Blackboard Assignment function.
- Late penalty is -5 points per day or fraction thereof, not including weekends. The maximum penalty for one-week assignments is -20 points; for two-week assignments it is -40 points. Extensions must be approved by Professor Lopresti.
- Extra credit will be available throughout the semester.

Date	Class Meeting	Readings	Other Activities
M 8/27	Introduction; OS History	1.1-1.3	HW #1 out
W 8/29	Hardware; OS Concepts	1.4-1.5	
F 8/31	System Calls; OS Structure	1.6-1.7	HW #1 due
Supplemental reading: 10.1-10.2			
M 9/3	Processes	2.1	HW #2 out
T 9/4			Unix Help Session @ 4:00 pm
W 9/5	Threads: Models, Usage	2.2.1-2.2.2	
F 9/7	Threads: Implementation	2.2.3-2.2.8	HW #2 due
Supplemental reading: 10.3 (pp. 690-704)			
M 9/10	Interprocess Communication Intro	2.3.1-2.3.5	HW #3 out
W 9/12	IPC: Mutexes, Message Passing	2.3.6-2.3.9	
F 9/14	IPC Problems	2.4	HW #3 due
M 9/17	Scheduling Intro	2.5.1-2.5.2	HW #4 out
W 9/19	Scheduling: Interactive, Real-Time	2.5.3-2.5.6	
F 9/21	Deadlocks: Intro, Detection, Recovery	3.1-3.4	HW #4 due, Quiz #1 Review @ 3:00 pm
Supplemental reading: 10.3 (pp. 704-710)			
M 9/24	Deadlocks: Avoidance, Prevention	3.5-3.7	
W 9/26	***** Quiz #1 *****		
F 9/28	Basic Memory Management; Swapping	4.1-4.2	
M 10/1	<i>Return & discussion of Quiz #1</i>		HW #5 out
W 10/3	Virtual Memory	4.3	
F 10/5	Page Replacement Algorithms (1)	4.4.1-4.4.7	HW #5 due

Date	Class Meeting	Readings	Other Activities
M 10/8	No class		Pacing Break
W 10/10	Page Replacement Algorithms (2)	4.4.8-4.5	HW #6 out
F 10/12	Design Issues for Paging Systems	4.6	
Supplemental reading: 10.4			
M 10/15	Implementation Issues for Paging	4.7	HW #6 due, #7 out
W 10/17	Segmentation	4.8	
F 10/19	I/O Hardware & Software	5.1-5.2.2	HW #7 due
M 10/22	Interrupt-Driven I/O	5.2.3-5.3.4	HW #8 out
W 10/24	Disk Hardware	5.4.1-5.4.2	
F 10/26	Disk Arm Scheduling; Clocks	5.4.3-5.5.3	HW #8 due, Quiz #2 Review @ 3:00 pm
Supplemental reading: 10.5			
M 10/29	Character-Oriented Terminals; GUIs	5.6-5.7	
W 10/31	***** Quiz #2 *****		
F 11/2	Files, Directories	6.1-6.2	
M 11/5	<i>Return & discussion of Quiz #2</i>		HW #9 out
W 11/7	File System Implementation	6.3.1-6.3.5	
F 11/9	File System Performance & Reliability	6.3.6-6.3.8	
Supplemental reading: 10.6			
M 11/12	Examples of File Systems	6.4	
W 11/14	Multiprocessors	8.1	
F 11/16	Multicomputers	8.2	HW #9 due
M 11/19	Distributed Systems	8.3	
W 11/21	No class		Thanksgiving Break
F 11/23	No class		Thanksgiving Break
M 11/26	Beowulf		HW #10 out
W 11/28	Security Basics	9.1-9.2	
F 11/30	User Authentication	9.3	
Supplemental reading: 10.7			
M 12/3	Attacks from Inside the System	9.4	
W 12/5	Attacks from Outside the System	9.5	
F 12/7	<i>Course Review and Wrap Up</i>		HW #10 due

Accommodations for Students with Disabilities If you have a disability for which you are or may be requesting accommodations, please contact both your instructor and the Office of Academic Support Services, University Center C212 (610-758-4152) as early as possible in the semester. You must have documentation from the Academic Support Services office before accommodations can be granted.

Academic Integrity The work you submit in CSE 303 must be entirely your own. While we encourage you to discuss basic concepts and strategies with friends and classmates, the copying or sharing of solutions to homework or programming assignments, in whole or in part, is never acceptable. Such cases will be referred to the University Committee on Discipline and, if found guilty, you may be given the failing grade WF in the course.

You should keep in mind that computer programs exhibit an individual's "style" just as much as other forms of authorship. Changing variable names, editing comments, or making other trivial updates in an attempt to hide plagiarism is rarely effective.

If you have questions about this policy at any point throughout the semester, ask. It is far better to be safe than sorry when your academic career may be on the line.