CS 520 Operating Systems Syllabus

The syllabus below describes a recent offering of the course, but it may not be completely up to date. For current details about this course, please contact the course coordinator. Course coordinators are listed on the course listing for undergraduate courses and graduate courses.

Text Books

Required
Andrew S. Tanenbaum, *Modern Operating Systems*, 4th ed., 2011, Prentice Hall

Week-by-Week Schedule

Week	Topics Covered	Reading	Assignments
1	Introduction, System Calls, Processes, Threads, Interprocess Communication, Critical Section, Mutual Exclusion, Producer-Consumer, Hardware-enabled Locking, Semaphores	Ch.1, Ch.2.1-2.4, pp. 864-866	
2	Mutexes, Monitors, Message Passing, Remote Procedure Call (RPC), Scheduling, Deadlocks	Ch. 8.2.3-8.2.4, Ch.2.5	Programming assignment 1
3	Scheduling, Deadlocks	Ch. 6	
4	Memory Management, Swapping, Variable Partitions	Ch. 3.1, 3.2	
5	Virtual Memory, Paging, Page Replacement Strategies	Ch. 3.3	Programming assignment 2
6	Page Allocation, Page Size, Page Faults, Backing Store, Memory Segmentation	Ch. 3.4	
7	File Systems	Ch. 4.1, 4.2	
8	File System Implementation	Ch. 4.3	
9	Device I/O	Ch. 5.1	Programming assignment 3
10	I/O, Devices, Device Drivers, Plug-n-Play, Streams	Ch. 5.2, 5.3	
11	Disks	Ch. 5.4	
12	Disks, Network Terminals	Ch. 5.4, 5.7	
13	OS Security Issues	Ch. 9	Programming assignment 4
14	Student presentation, final review		