EE 4374 --- Operating Systems Design
Spring 2014

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Texts:  Operating System Concepts Essentials
by Abraham Silberschatz, Peter Galvin, and Greg Gagne
TCP/IP Sockets in C (2nd Edition)
   Michael Donahoo and Kenneth Calvert

Optional Reference Texts:
   The C Programming Language by Brian Kernighan and Dennis Ritchie
   UNIX Systems Programming: Communication, Concurrency and Threads
   by Kay Robbins and Steven Robbins

Course Description:  Design and implementation of single and multiuser operating
systems. Topics include OS structure, process management, interprocess communication
within and between CPUs, memory management, file systems, and I/O. Contemporary
operating systems provide design examples.

Prerequisite: EE 2372 Software Design I and EE 4379 Computer Arch. (C or better)

Class Hours:  Tuesdays and Thursdays 12PM to 1:20PM, Bus. Bldg. Room 326

Office Hours:  Tuesdays and Thursdays 1:30PM to 3PM, ENG A-340

Course Outline:
Week 1:  Introduction (Chap. 1)
Weeks 1-2: Operating Systems Structures (Chap. 2)
Week 3:  Introduction to Processes/Threads (Chaps. 3 and 4)
Weeks 4-5: Process Scheduling (Chap. 5)
Weeks 6-7: Process Synchronization (Critical Section Problem) (Chap. 6)
Week 7:  Network Communication (Intro to Socket Programming) (Textbook 2)
Week 8:  Midterm Exam
Weeks 8-9:  Deadlocks: Characterization and Prevention (Chap. 7)
Weeks 10-11: Memory Management (Chaps. 8 and 9)
Weeks 12-13: File Systems (Chaps. 10 and 11)
Weeks 14-15: Input/Output Systems (Chap. 13)
Grading:
Participation 5%
Homework/Quizzes 20%
Labs 25%
Midterm 25%
Final 25%

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