

CS 411: Operating Systems

Fall Semester 2011

M Th 1:30-2:50 PM, SE 102.

Professor:

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Office Hours:

Monday:	10:00-12:00
Tuesday:	11:00-11:30
Wednesday:	8:30-12:30
Friday:	8:30-12:00
	And by appointment

Course Description:

Objectives: The operating system manages computer hardware as well as the execution of programs. We will explore various roles of the operating system including: resource allocation, process scheduling, memory management, security, and deadlocks. Our discussion will include commonly used operating systems such as Windows, Mac OS X, Linux and UNIX.

Prerequisite: CS221N (Data Structures). Knowledge of Java, object-oriented programming and data structures.

Textbook: Adam Silberschatz, Peter B. Galvin and Greg Gagne. Operating System Concepts: Eighth Edition. Wiley, 2008.

Evaluation: Your course grade will consist of the following percentages:

Homework and projects: 40%

Research Paper: 10%

Final Project: 20%

Tests: 40% (10% each)

Homework: Your homework will consist of ten assignments, a combination of written homeworks, computer-based problems, and programming assignment, throughout the semester. This will account for 40% of your grade.

Final Project: The final project presentations will occur the last day of class. This will account for 20% of your grade. More details to come.

Tests: There will be three short tests (30-40 minutes) during the semester as well as a comprehensive final exam. These tests along with the homework and projects will provide materials for the evaluation of your understanding and progress. If you have an A in the course going into the final, then the final exam will be optional. If you take the exam, it will contribute to your final grade in the course. If you do not have an A in the course and do not take the final exam, you will have a grade of zero for this portion of your grade.

Hurricane Contingency: If for any reason, Eckerd College is evacuated, students who leave campus for stays of overnight or longer should bring their texts, notes, and syllabus so that they are ready to continue their course work. In such an event, check your Eckerd e-mail from your off-campus location and continue with the course work according to the syllabus and as delivered via Online Course Materials.

Disability Accommodations: . If you have a documented learning disorder and need additional time or other accommodations, please have the counseling center send me the documentation. Then, meet with me to discuss a test format and schedule when you will take the exam. All information will be kept confidential.

Academic Dishonesty

For all assignments, please remember to pledge your work. The **Honor Pledge at Eckerd means you agree to this statement** “On my honor, as an Eckerd College student, I pledge not to lie, cheat, or steal, nor to tolerate these behaviors in others.” Suspected violations of the Honor Code will be referred to the Eckerd College Honor Council.

Homework is based on the book and work you will do on the computer. You may drop your lowest homework. Unless specifically stated in the assignment, you need to do your work BY yourself. A small amount of help from a TA or friend is allowed, but the work you submit for grading must be your own. Do not work side-by-side in lock step with another student in the class. **Do not give any homework material to another student or receive any homework material from another student, in either written or electronic form.** Failure to follow this requirement will be considered a violation of the Eckerd College Honor Code and will be referred to the Honor Council.

Semester Schedule Disclaimer

The attached schedule for lectures, tests and assignments in the course is subject to change in response to, among other things, threatening weather conditions, or cancellation of classes/campus evacuations in anticipation of such events. In the event of a campus evacuation you are expected to take your textbook and course notes with you and to check your email daily. All changes to the schedule will be announced in class and/or via your campus email address. You are responsible for ensuring an awareness of the announcement of any such changes. **You must read your campus email.**

Schedule – Fall 2011

Date		Subject	Assignment (what is due)
9/5	M	Course Intro, Introduction to OS (Ch 1.1-1.9)	
9/8	Th	OS Structure and System Calls (Ch 2.1-2.5, 2.7)	
9/12	M	Processes (Ch 3.1-3.3)	Homework 1
9/15	Th	Interprocess Communication (Ch 3.4-3.6)	
9/19	M	Threads (Ch 4)	Homework 2
9/22	Th	Process Scheduling I (Ch 5.1-5.3)	Paper Topic due
9/26	M	Process Scheduling II, Examples (Ch 5.5-5.7)	Homework 3
9/29	Th	Test 1: Ch 1-5.3 Synchronization (Ch 6.1-6.4)	
10/3	M	Semaphores and Monitors (Ch 6.5-6.9)	
10/6	Th	Deadlocks (Ch 7.1-7.4)	Annotated bibliography due
10/10	M	Paging (Ch 8.1-8.4)	
10/13	Th	Segmentation (Ch 8.5-8.6)	Homework 4
10/17	M	Virtual Memory I: Page Table Management (Ch 9.1-9.4)	Homework 5 Research Paper due (<i>extended deadline</i>)
10/20	Th	Test 2: Ch 5.5-7 Virtual Memory I: Page Table Management (Ch 9.1-9.4)	
10/24	M	<i>FALL BREAK</i>	
10/27	Th	Virtual Memory II: Allocation and Thrashing (Ch 9.5-9.7, 9.9-9.10)	
10/31	M	File System Interface (Ch 10)	Homework 6
11/3	Th	File System Structure (Ch 11.1-11.3)	
11/7	M	File System Memory (Ch 11.4-11.6, 11.9)	Homework 7

11/10	Th	Disk (Ch 12.1-2)	
11/14	M	Disk (12.4-12.5)	Homework 8
11/17	Th	RAID (Ch 12.6-12.7)	
11/21	M	Test 3: Ch 8.1-11 I/O (Ch 13.1-13.5)	
11/24	Th	<i>THANKSGIVING BREAK</i>	
11/28	M	No Class – Work on Final Projects	
12/1	Th	I/O (Ch 13.1-13.5)	Homework 9
12/5	M	Work on Final Project Distribute exam review	Homework 10
12/8	Th	Final Project Presentations Exam Review	
12/12	M	Comprehensive Final Exam 3:00 pm	

***you must alert me by 12/9/2010 if you have a conflicting exam.