

**CSCI 4534**  
**Operating Systems**  
**Spring 2013**

**Class Schedule:**

MW 5:30 – 6:50 pm, Delta 240

**Instructor:** Dr. Hall

**Office:** Delta 115

**Phone:** 281.283.3868

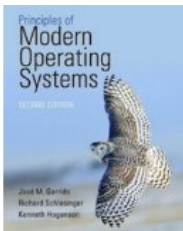
**Email:** [perkins@uhcl.edu](mailto:perkins@uhcl.edu) ; please note!

**Homepage:** [sce.uhcl.edu/perkins](http://sce.uhcl.edu/perkins)

**Office Hours:** posted on my homepage

**Please call before you come**, especially if you are coming from far away!

**Textbook:** **Principles of Modern Operating Systems**, 2<sup>nd</sup> Edition, Garrido, Schlesinger, and Hoganson, Jones & Bartlett Learning, 2013.



**Prerequisites:** CSCI 3331, CSCI 3333 and CENG 3531, or equivalents.

**Teaching Assistant:** Ms. Sravani Kanneganti

**Email:** [kannegantis6664@uhcl.edu](mailto:kannegantis6664@uhcl.edu)

**Office Hours:** posted on Dr. Hall's homepage

**Course Goals:**

This course intends to expose students to the basic principles of operating system design, including basic topics on process management, interprocess communication, memory management, device management, deadlock problems and file system design. The course has a significant programming component. In the programming assignments students will experiment with different solutions to problems and issues faced by operating systems designers. The course will also focus on strengthening students' skills in verbal and written communication and problem solving.

**Learning Outcomes:**

- C1. Students will be able to write programs that include some form of interprocess communication (IPC), such as a FIFO.
- C2. Students will be able to identify the major subsystems of modern operating systems, including resource management, memory management and file management.
- C3. Students will be able to describe the relationship between process states and the role of schedulers to move processes between those states.
- C4. Students will be able to create and handle processes and threads as would be done by an operating system, and understand the CPU scheduling algorithms.
- C5. Students will be able to use semaphore, mutex, or other synchronization tool for implementing critical sections and process synchronization.
- C6. Students will be able to understand the structure and implementation of file systems, directories, file sharing and protection, as well as the implementation of file system-related system calls.
- C7. Students will be able to identify the major issues related to memory management, benefits and drawbacks of virtual memory systems.
- C8. Students will be able to identify conditions for development of deadlocks and the mechanisms available for dealing with the problem, or eliminating the problem.

**Semester Schedule:** For the tentative schedule, please follow the link from my homepage.

**Methodology:** In this course students are expected to read the material from the textbook, work all assigned homework, and work out programming details in C programming language. In class we will have demonstrations and examples, quizzes, and work with programming implementations of the concepts. Students are expected to attend all classes, read assignments before class, work homework exercises and turn them in on time, and participate in class discussion and problem solving.

**Academic Honesty:**

The honesty policy that is defined in the UHCL Honesty Code states:

**I will be honest in all my academic activities and will not tolerate dishonesty.**

Students are expected to show respect for themselves and others by being honest in their educational pursuits. Academic dishonesty will result in a grade penalty and an academic dishonesty notice placed in your file. Upon two honesty violations, students may be expelled from UHCL.

**Disability Services:**

Any individual with a disability who requires a special accommodation should inform me and contact the Disability Services Office, Room 1402 in the Bayou Building, or call 281.283.2627.

**6 Drop Rule:**

Students who entered college for the first time in Fall 2007 or later should be aware of the course drop limitation imposed by the Texas Legislature. Dropping this or and other course

between the first day of class and the census date for the semester/session does not affect your 6 drop rule count. Dropping a course between the census date and the last day to drop a class for the semester/session will count as one of your 6 permitted drops. You should take this into consideration before dropping this or any other course. Visit [www.uhcl.edu/records](http://www.uhcl.edu/records) for more information on the 6 drop rule and the census date information for the semester/session.

**Class Policies:**

- If you copy another student's work, or let another person copy your work, you will be in violation of the academic honesty policy that is stated in the UHCL catalog.
- Extra credit work is not given.
- Programming and homework assignments are due at the beginning of class.
- Programming assignments may be accepted late with a grade penalty of 20 points per day up to a maximum of two days late. One day is 24 hours from the beginning of your class.
- Daily class work and quizzes will not be made up if you miss class. If you arrive after a daily quiz is handed out, you will not be able to take the quiz.
- Grade discrepancies will be discussed up to one week following the return of your graded program, homework assignment or exam. After one week, the grade will be as recorded.
- Class attendance is important and will be recorded.

<b>Grading:</b>	Exam 1	20%
	Exam 2	20%
	Final Exam	25%
	Programming Assignments	20%
	Quizzes and Homework	15%

**Important Note:** Programs that do not compile receive no credit.

**Expected Course Schedule**  
**Spring 2013**  
CSCI4534: Operating Systems

**Monday/Wednesday 5:30p.m. – 6:50 p.m.**

<b>Week</b>	<b>Date</b>	<b>Topic</b>	<b>Readings</b>
1	Jan 14 and 16	Introduction to the class	Chapter 1
2	Jan 21	<b>Martin Luther King Holiday</b>	
	Jan 23	Processes and Threads	Chapter 2
3	Jan 28 and Jan 30	System Performance and Models	Chapter 3
4	Feb 04 and 06	Client/Server Framework; Systems with Multiprogramming	Chapter 4
5	Feb 11 and 13	Systems with Multiprogramming	Chapter 4
6	Feb 18	<b>Exam #1</b>	
	Feb 20	Processor Scheduling	Chapter 5
7	Feb 25 and 27	Processor Scheduling	Chapter 5
8	Mar 04 and 06	Synchronization Principles	Chapter 6
	Mar 11 and 13	<b>Spring Break</b>	
9	Mar 18 and 20	Deadlocks	Chapter 7
10	Mar 25 and 29	File Management	Chapter 8
11	April 1	<b>Exam #2</b>	
	April 3	The I/O System	Chapter 9
12	April 8 and 10	Memory Management	Chapter 10
13	April 15	Memory Management	Chapter 10
	April 17	Security and Protection	Chapter 11
14	April 22	Security and Protection	Chapter 11

<b>Week</b>	<b>Date</b>	<b>Topic</b>	<b>Readings</b>
	April 24	Virtual Machines	Chapter 13
15	April 29	Virtual Machines	Chapter 13
<b>15</b>	<b>May 1</b>	<b>Final Exam 4:00-6:45pm</b>	