

CMPSC 256: OPERATING SYSTEMS FOR THE PRACTITIONER

Spring, 2007 – By Special Arrangement

FACULTY INFORMATION

Instructor : J. R. Aman, Ph.D.

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Office Hours:

On-Campus: Tues & Thurs, 1-4 pm

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COURSE INFORMATION

Day/Time: Arranged

Location: Online

Credit: 3 hours

Prerequisites: CMPSC 205 or consent of the instructor

COURSE MATERIALS

- Text: Flynn, I. M., and McHoes, A. M. (2006). *Understanding Operating Systems (4th Edition)*. Course Technology.
- Internet connectivity with web browser, email, and Skype
- SuSE Linux 10.0 or openSuSE 10.2 – both available from the instructor and the lab manager
- One plugged-in and functional left-brain coupled closely with a burning desire to understand how computers really function.

CAPSULE DESCRIPTION

This course introduces the student to hardware and software implementation issues surrounding operating systems. Topics include file, memory, process, and device management, the user interface, and key features and implementation of popular operating systems (such as Microsoft Windows and Linux/UNIX), and network functionality.

PHILOSOPHY

The operating system (OS) still lies at the heart of any computer, just as it has for nearly sixty years. Although another course takes a more technical view of OS structure and programming techniques, this one concentrates on functionality and characteristics. A modern operating system such as the Windows 9x/NT/2000/XP family is far more complex than its predecessors, but this is driven more by a desire to give users comprehensive access to applications and system tasks than by any real change in basic OS functionality. Systems such as Linux and UNIX remain true to the traditional roots and philosophy of an operating system as the software interface to underlying hardware. What must be understood are the basic roles of an operating system, and that is where the emphasis of this course is placed.

OBJECTIVES

Students will:

- Learn the functions of an operating system independent of the hardware platform
- Note similarities and differences between contemporary operating systems
- Understand the interrelationships of operating system components
- Become familiar with network organization concepts and management of network functions
- Gain specific operational knowledge of various contemporary Windows and Linux operating systems
- Learn many key terms related to operating system theory and practice
- Discover and use bibliographical resources about operating system theory

POLICIES

- This class should be treated the same way you would a job in the workplace (with minor concessions to the academic setting). Timely attendance at, preparation for, and participation in each class session is expected. Assigned work must be submitted no later than its assigned due date. Although a student cannot be “fired” in the traditional sense, the course grade will be a reflection of the level of professionalism noted by the instructor.
- Work you submit must be your own creation. A grade of zero will automatically be given to any plagiarized or duplicated submission. The instructor will be the sole judge in such cases. If a student cannot demonstrate conclusively that a work was not plagiarized or, in the case of the original author, was copied without consent, the zero grade will stand. Otherwise, a lesser penalty may be assigned. In any case, the incident will be referred to the appropriate authorities for disciplinary review. The sharing of information and ideas is generally healthy and is certainly encouraged. However, even when the input and participation of others – be they tutors or other students – in final products is acknowledged, it may be neither ethically nor morally acceptable.
- Attendance Policy Statements
 - a. Attendance is a factor in your course grade. As the statements above suggest, what you gain from the course is directly related to class attendance. Experience shows that lower test grades and class absence go hand-in-hand.
 - b. If you know you will miss a class, be prepared to obtain and submit assignments ahead of time.
- Except in exceptional circumstances, makeup tests will not be administered. In no case will unannounced quizzes be readministered.
- All assignments must be submitted by announced due dates.
- All examinations may be comprehensive.
- The final examination will be given **only** at the date and time established by the University.
- The latest date for submitting any work in this course is the last class meeting day. Incompletes will be issued **only** in exceptional circumstances.
- The use of a student assistant or special testing conditions will be permitted in accordance with procedures established through the Learning Center.

GRADING

There will be three two-hour exams and a final comprehensive examination. Exercises are worked in class and are due at the end of the class session. Problems are homework and must be submitted through the Blackboard Digital Drop Box by the beginning of the next class.

Exams (3)	40%
Final Exam	20%
Assignments & Exercises	40%

SCHEDULE

Topic	Read
Course Introduction Overview & Memory Management	Chapters 1 & 2
Memory Management	Chapter 3
Processor Management	Chapter 4
Process Management	Chapter 5
Exam #1	
Concurrent Processes	Chapter 6
Device Management	Chapter 7
File Management	Chapter 8
Exam #2	
Network Organization Concepts	Chapter 9
Spring Break – March 12-16	
Management of Network Functions	Chapter 10
System Security	Chapter 11
Exam #3	
System Management	Chapter 12
Windows Operating Systems	Chapter 14
UNIX Operating Systems	Chapter 15
Final Exam by May 7	