CPS 536: Operating Systems I

Spring 1997
Lecture: M-W 5:50 - 7:05, Miriam Hall 213
Course Web Page: http://www.cps.udayton.edu/courses/cps536.html

Instructor

Dr. Russell Clark
Office: Anderson 149 Phone: 229-3895
Office hours: M-T-W-Th 3:00 - 4:30 or by appointment
Email: rjc@cps.udayton.edu

Course Overview

This is a graduate level course that covers a broad range of concepts in operating systems. This is a fast paced course involving both the study and implementation of features found in modern operating systems.

Prerequisite

There are no course prerequisites. While it is not required that you have had an undergraduate operating systems class, this course will spend less time on the fundamentals covered in an undergraduate class and focus more on implementation and coverage of diverse systems. A large amount of programming using C and C++ on a UNIX system will be required for homework projects.

Materials

Required Text: Operating System Concepts, by Silberschatz and Galvin, Fourth Edition
Additional Readings: Several additional readings will be made available as class handouts, on-line documents and through the library reserve desk. You should refer frequently to the course web page for updated information.

Course Objectives

My primary objectives for the students in this class are:

1. To learn the fundamental concepts behind the design and function of computer operating systems.
2. To understand the details of several operating system techniques and be able to exhibit that understanding by implementing the techniques in software.
3. To evaluate different system approaches using performance measurement.

Grading Policies

1. Grades will be computed on a 90-80-70-60 scale. The weights assigned to various items are:

Programs/Homework:	200 points
2 Mid-term Exams:	200 points
Final Exam:	100 points

2. Assignments are due at the beginning of the specified class. Late assignments will be penalized at 10% per 24-hours or fraction thereof. No assignment will be accepted for credit after it has been returned to the class.
3. I encourage you to discuss the material in this class with your classmates both in and out of class. *However, all work to be handed in must be done individually unless the instructor explicitly states otherwise.* Any assignment or portion of an assignment that is a duplicate or group result will receive a zero grade.
4. Makeup exams will only be given in the case of serious illness or emergency. You must discuss the situation with me **before** the scheduled exam. Be prepared to provide a written excuse. Never assume you have permission to make-up an exam until you have spoken with me *in person*.

Exam Schedule

All exams will be given during the class lecture period.

- First Exam: Monday, February 10 - 5:50pm
- Second Exam: Wednesday, March 26 - 5:50pm
- Final Exam: Wednesday, April 30 - 5:50pm

Topic Schedule

We will cover the following topics in this class. Related readings will be assigned during the lecture.

Introduction, history, terminology
Threads: creation and dispatch
Synchronization: semaphores and monitors
Deadlock
CPU Scheduling
Address Spaces and Multiprogramming
Address Translation and Memory Management
Virtual Memory
File Systems
Transactions
Distributed Applications
Protection and Security
Operating System Structure: micro-kernels

Other Important Dates

Last day to add classes/change grading:	January 11
Last day to withdraw without record:	January 27
Last day to withdraw with a record of *W*:	March 26
Last day of classes:	April 23