UCF

School of Electrical Engineering &Computer Science

COP 4600: Operating Systems

Fall 2007

Syllabus

Instructor: Euripides Montagne Tele.: 823-2684 email:eurip@cs.ucf.edu

Lecture meetings: TR 4:30 p.m. – 5:45 p.m.(CL1 121)

Office hours: MW from 10:00 a.m. to 12:00 a.m. (HEC 217)
TR from 2:00 p.m. to 4:00 p.m. (HEC 217)

TA: Merrill Mckee Tele.: (407) 823-4733 email: merrill@cs.ucf.edu
Office hours: TR From 1:30 p.m. to 2:30 p.m. (HEC 254)

TA: Lisa Batsch-Smith Tele.: (321) 377-8359 email: lbatsch@gmail.com
Office hours: MW from 11 a. m. to 12 a.m. (HEC 242)

TA: Jianyong Dai Tele.: (407) 823-2524i email: daijy@cs.ucf.edu
Office hours: T from 2:00 p.m. to 4:00 p.m. (HEC 313)

Course Outline: The goal of the course is to teach fundamentals concepts and design principles of operating systems.

Course Topics: Operating systems structure. Process management. Process scheduling. Memory Management. Virtual memory. I/O system. Performance Evaluation.

Prerequisites:

- COP 3503 – Computer Science II.
- COP 3402C – System Concepts/Programming.
- COT 3960 - Foundation Exam.
- Proficiency in C and Familiarity with UNIX.

If you have not satisfied **all** of the above prerequisites, you **do not** belong in this class and have little chance of passing.

Reference Guide:
The textbook for the course is: H. M. Deitel, P. Deitel, and D. Choffnes, " Operating Systems " 3rd Edition, Prentice Hall, 2004. We will cover Chapters 1-13. You are responsible for the material contained in all of those chapters, even if it is not discussed in class. Time permitting we may cover parts of Chapter 19.

Style of Class Meetings:
Class meetings will not consist of traditional lectures, with the instructor doing most of the talking and the student doing most of the listening. Rather, meetings will consist of discussions on each topic and the instructor will help guide the discussion by asking questions.

Grading Policy:

- (20%) **Exam #1** – closed book, closed notes exam given in class.
- (20%) **Exam #2** – closed book, closed notes exam given in class.
- (25%) **Final Exam** – closed book, closed notes comprehensive exam given during final exam week. **Note:** You must score at least 60% on this exam to pass the course.
- (30%) Programming project – a large, multi-part simulation of a multiprogramming operating system. Written in C on a UNIX system, this project is not easy, but can be done in the time allotted. The grade for this project will be divided between your C code, one or more demonstrations of your project, your documentation and quizzes given on selected topics from the project.
- (5%) Concurrent programming assignments.

Letter grades: 90-100: A, 80-89: B, 70-79: C, 50-69: D, Below 50: F.

Note: Any academic dishonesty(including, but not limited to, Cheating, copying and/or plagiarism) with respect to any exam or assignment in this class will result in a grade of **F**, following by the usual procedures for dealing with such behavior, as describe in the *UCF Golden Rule : a handbook for students*.

The Semester Plan: Tentative.

Aug. 21st	Operating system fundamentals.
Aug. 23rd	Computer system structure.
Aug. 28th	Interrupt handling.
Aug. 30th	Interrupt handling
Sept. 4th	Operating system structure.
Sept. 6th	Processes and threads.
Sept. 11th	Process synchronization.
Sept. 13th	Concurrent programming
Sept. 18th	Process scheduling
Sept. 20th	I/O subsystem
Sept. 25th	Review
Sept. 27th	**First Midterm Exam**.
Oct. 2nd	Device handlers and I/O request handling
Oct. 4th	Disk scheduling
Oct. 9th	System Performance Evaluation
Oct. 11th	System Performance Evaluation
Oct. 16th	Memory organization
Oct. 18th	Virtual memory
Oct. 23rd	Review
Oct. 25th	**Second Midterm Exam**.
Oct. 30th	Virtual memory
Nov. 1st	Reasource allocation and deadlock
Nov. 6th	Resource Allocation and Deadlock
Nov. 8th	Protection mechanisms
Nov. 15th	Protection mechanisms
Nov. 20th	File system
Nov. 29th	Review
Dec. 6th	**Final Exam** – 4pm – 6:50pm

COP 4600 Programming Project (Fall 2007)

This project is divided into 4 parts to make it more manageable. Details will be given out well before the due dates for each part(the parts of the project are called *objectives*). This project must be written in C(**not** C++) on a UNIX system. The standard for this class will be the Sun Sparc system in the main computer lab. called Olympus. You are welcome to write and test code on some other system, if you wish, but it will be graded on Olympus and if it does not work there, it does not work. You will be given an Olympus account and, once the project has begun, should check your e-mail regularly for updates.

To pass this course, you **must** successfully complete objectives 1, 2 and 3. No exceptions.

Each objective will have a due date and points will be subtracted for submission after that date(up to 5 days late, 20 % off; more than five days late, you get "0" for that objective). Also, after each due date some evaluations of you progress will be made. This may include a walk through of your code with the instructor or grader, a quiz on the objectives that was just completed (including questions about code, data structures and/or algorithms) or a short, written description of the purpose and implementation of the objective. Details will be handed out with each objective and I reserve the right to change the method of evaluation at any time.

In general, this project will give you a better understanding of the data structures and control flow of a multiprogramming operating system and also provide you with experience in developing and debugging a complex software project.

Lets make this clear: when working on the project, you are allowed to talk to other students about programming concepts, C syntax and general solutions to problems (algorithms or questions about the project instructions), but you are not allowed to share, exchange or copy code. Both the source and the recipient of any exchange of code are equally at fault.

Important Dates:

- **Classes begin: Monday August 20 .**
- **First Midterm exam: Thursday Sept 27.**
- **Withdrawal deadline: Oct. 2.**
- **Second Midterm exam: Thursday Nov 1.**
- **Classes end: Monday Dec 3.**
- **Final exam: Dec. 6th, From 4:00 p.m. to 6:50 p.m.**
- **Fall Holidays are:**
  - **Labor Day: Monday, Sept. 3rd .**
  - **Veteran's Day: Monday, Nov. 12th .**
  - **Thanksgiving: Nov 22-24.**