UCF
School of computer Science
COP 5611: Operating Systems Design Principles
Spring 2005

Syllabus

Instructor : Eurípides Montagne   Tele.: 823-2684   email:eurip@cs.ucf.edu
Lecture meetings:
TR 3:00 (noon). – 4:15 p.m. (ENG 224)
Office hours:
Office hours: MW from 9:00 a.m. to 11:00 a.m (CSB 239)
                TR   from 4:30:00 p.m. to 6:30 p.m (CSB 239)

TA : Xingbo Gao   Tele.: TBA   email: xbgao@cs.ucf.edu
Office hours: Wednesday, 2:00 p.m. - 4:00 p.m. (CC1 203)

Course Outline:

We cover Process Scheduling, Process Synchronization, Deadlocks, I/O system, Files system and Protection, Performance evaluation, Concurrent programming, and some Case Studies.

Programming projects are a major part of this course. The purpose of these projects is to implement different modules of an operating system. In addition, there will be programming assignments. You will use the concurrent programming languages BACI and you will have the chance of write programs using semaphores and monitors. Since Concurrent BACI is an extension of the C language, a good knowledge of C is essential to this course.

Each student will give two presentations: a paper presentation (see reading list) of an operating system and a second presentation on some modules of the source code and data structures of UNIX version 6.

Prerequisites:

- COP 4600 – Operating System Concepts.
- 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:

Required readings:

1) A. Silberschatz , P. Galvin, and G. Gagne, "Operating System Concepts" John Wiley & Sons, 7th Edition, 2005.

2) John Lions "Lions' Commentary on Unix 6th edition with source code". Peer-to Peer 1996. ISBN 1-57398-013-7

3) Readinglist: http://www.cs.ucf.edu/~eurip/papers/readinglist.html

Other recommended books:

1) Edward D. Lazowska, John Zahorjan, G. Scott Graham, Kenneth C. Sevcik, "Quantitative System Performance: Computer System Analysis Using Queueing Network Models", Prentice-Hall, 1984. On line version at : http://www.cs.washington.edu/homes/lazowska/qsp/

2) D. Mensace and V. Almeida, "Capacity Planning for Web Performance", Prentice Hall, 1998.

3) H. Levy, "Capability-Based Computer Systems", Digital Press, 1984. On line version at: http://www.cs.washington.edu/homes/levy/capabook/

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.

The Semester Plan: Tentative.

Interrupts
Concurrent execution of programs.
Scheduling
Process Synchronization
Process Communication.
Deadlocks.
Memory Management
Virtual Memory
File Systems
I/O Systems
Performance Analysis Techniques.
Protection.

Concurrent and distributed Programming.

Grading Policy:
- (15%) **Exam #1** – closed book, closed notes exam given in class.
- (10%) **Paper review and presentation.**
- (15%) **Source code presentation**
- (20%) **Final Exam** – closed book, closed notes comprehensive exam. **Note:** You must score at least 60% on this exam to pass the course.
- (20%) Programming project
- (20%) Programming assignments and HWs

Letter grades:
Over 89: A.
Over 79: B.
Over 69: C.
Over 50: D.
Below 50: F.

Important Dates:
- **Classes Begin January 10th.**
- **Withdrawal Deadline is March 4th .**
- **Classes End April 25th.**
- **Spring Holidays are:**
  - **Martin Luther King Jr. Day January 17th.**
  - **Spring Break March 14 - 19.**
- **Final Exams:**
  - **Monday 4/21(3:00 p.m. to 4:15 p.m.)**