

CS 4210: Advanced Operating Systems

Spring 2003 Syllabus

Meeting Times:M-W-F, 2:05-2:55, CCB 101

Instructor: Yannis Smaragdakis, CCB 215, 404-385 1491
yannis@cc.gatech.edu
Office Hours: M, W 3:00-4:00 (tentative—make suggestions!) or by appointment

Teaching Assistant:
To be announced

Course Outline:

We will discuss operating system abstractions and their implementations. The core of the course contains concurrent programming (threads and synchronization), inter-address communication, and an introduction to distributed operating systems. Other topics may be added, especially in conjunction with related programming projects. Such topics include memory management (especially virtual memory subsystems), dynamic libraries, “avant-garde” kernel architectures (microkernels, exokernels), and file systems (e.g., log-structured file systems).

Textbooks: This is a seminar course—no textbook is strictly required, as I will be passing out copies of research papers. Here are some suggested background books:

Distributed Systems, Tanenbaum and VanSteen. Prentice Hall.
(A good textbook for the subject. New version of the good but out-of-date “Distributed Operating Systems” by Tanenbaum.)

Multithreaded Programming with Pthreads, Lewis and Berg. Prentice Hall.
(Excellent book on multithreading and systems issues—not too Pthread-specific at all.)

Pthreads Programming, Nichols, Buttlar, Farrell. O’Reilly.
(Fairly good and inexpensive Pthreads manual.)

Operating Systems Concepts, Silberschatz and Galvin, 6th Ed. Addison-Wesley.
(I assume you already have it from previous courses!)

Exams: All exams are closed-books, closed-notes. Current schedule:
Midterm 1: Friday February 7
Midterm 2: Monday March 24
Final Exam: to be centrally scheduled (current tentative date: Thursday May 1, 11:30-2:20)

Grading: 55% exams: 15%, 15%, 25%
45% programming assignments and homeworks (roughly, 35% programming assignments, 10% homeworks)

Homework and Assignment Due Times:

Homeworks are due by class time on the due date (either by email before class or as hard-copy in class).

Programming assignments (by email) are due by midnight (11:59pm) of the due date.

Late Policy (only for programming assignments):

The late policy applies **only to projects!** 5% penalty for each day late, up to 5 days (25%), weekends together with Monday count as a single day, holidays do not count as late days.

Honor Code: The Institute Student Conduct Code is printed on pages 336-339 of the GT General Catalog. You and I are expected to abide by it. I do not deal with cases of academic misconduct in person (the Office of the Senior Associate Dean of Students will be notified).

Other Resources:

Newsgroup: `git.cc.class.cs4210` on the CoC news server (`news.cc.gatech.edu`).

Web page:

`http://www.cc.gatech.edu/classes/AY2003/cs4210_spring/`