

# CS 4210: Advanced Operating Systems

## Spring 2002 Syllabus

**Meeting Times:**M-W-F, 12:05-12:55, CCB 101

**Instructor:** Yannis Smaragdakis, CCB 215, 404-385 1491  
yannis@cc.gatech.edu  
Office Hours: M, F 2:00-3:30 (tentative)

**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:

**Operating Systems Concepts**, Silberschatz and Galvin, 6th Ed. Addison-Wesley.  
(You may already have it from previous courses!)

**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.)

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

**Exams:** All exams are closed-books, closed-notes. Current schedule:  
Midterm 1: Friday February 8  
Midterm 2: Friday March 22  
Final Exam: to be centrally scheduled (current tentative date: Monday April 29, 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 at 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):**

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:** Not yet available—to be set up soon:

`http://www.cc.gatech.edu/classes/AY2002/cs4210\_spring/`