

CS4210: Advanced Operating Systems Summer 2003

Instructor

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Class Times

Tue, Thu 12:00–1:45pm, CCB 101

Course Outline

This course covers operating system abstractions and their implementation. 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 (micro-kernels, exo-kernels), and file systems (*e.g.*, log-structured file systems).

Textbooks

This is a seminar course—no textbook is strictly required, as copies of research papers will be handed out in the classes. Here are some suggested background books:

- **Distributed Systems**, Tanenbaum and VanSteen. Prentice Hall. (A good textbook for the subject. This is a 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. (You may already have it from previous courses.)

Exams

All exams are closed-books, closed-notes. Current schedule:

Midterm: Tuesday June 10

Final Exam: Monday July 28, 8:00-10:50am (centrally scheduled by GT)

Grading:

55% exams: 25%, 30%

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 hardcopy in class). Programming assignments (by email) are due by midnight (11:59pm) of 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. Instructors and students are expected to abide by it. Instructor does 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_summer/