CS 4210 Advanced Operating Systems and CS8803 Graduate Introduction to Operating Systems Fall 2008 Syllabus

Meeting Times: Tue/Thur, 12:05-1:25PM, KACB 1447
Instructor: Ada Gavrilovska,
     KACB 3228, 404 894 0387
     ada@cc.gatech.edu
Office Hours: TDB
Teaching Assistant: TBD

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.

Textbooks:

No textbook is strictly required, however Silberschatz et al. is recommended. In addition, I will be passing out handouts, and make research papers available online.

- **Operating Systems Concepts**, Silberschatz and Galvin, 7th or 8th Ed. Addison-Wesley. (earlier editions should be fine)

Here are some suggested background books:

- **Distributed Systems,** Tanenbaum and VanSteen. Prentice Hall.
- **Modern Operating Systems**, A. Tanenbaum, 3rd edition, Prentice Hall, 2007.
- **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.)

Exams:

All exams are closed-books, closed-notes. Current *tentative* schedule:
Midterm Exam: TBA, in class
Final Exam: Thur. TBA

Grading:

55% exams: 25%, 30%
45% programming assignments and homeworks
(roughly, 35% programming assignments, 10% homeworks)
P/F students must have passing grade in both components to pass.

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 the due date.

Late Penalty Policy (only for programming assignments):
> This late penalty policy applies **only to projects, not to homeworks**! 5% penalty for each day late, up to 5 days (25%).

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/AY2009/cs4210_fall/

Other Issues:

Test make-ups:
> You miss an exam, you lose the points! If you have a serious reason to miss a scheduled exam (e.g., sickness, or serious reason to travel) make sure you tell me *well in advance* of the exam. After the exam is over, if you have not taken it and you have not told me why you didn't take it, you are out of luck! Emergencies are an exception, of course, but "I was stuck in the dentist's office—he said he'd see me at 1 but didn't until 3" is not an emergency!

Collaboration:
> No collaboration is allowed in projects and homeworks. Specifically, showing someone your source code is not allowed, unless you only show small fragments (say, 10 reasonably formatted lines) and these only concern low-level technical issues. Collaboration on how to solve specific technical problems is allowed (and encouraged) through the newsgroup. The rule-of-thumb for collaboration is: if you feel comfortable posting the info to the newsgroup (for everyone, including me, to see), then it is ok. Otherwise, it is not.

Debugging with me:
> I will spend time helping you debug your programs, but this typically will happen only when you are totally lost. If you come to me with a problem, make sure you have spent a lot of time trying to resolve it. Also, make sure you have a setup where I can quickly reproduce the problem, and ideally even a much simplified example where the problem still exhibits itself.

Project descriptions:
> For *any* major departure from the project requirements (different deliverable, very different mechanism, etc.) consult with me first! Do not assume that the project is just about testing whether you can program! It is not! The project is about implementing what I ask for. If I say "use RPC" and you instead decide to use sockets, you will lose many points, even if you are an expert programmer, and you have a great deliverable, and you spent twice the time that everybody else did coding your project to perfection.