Syllabus of CS5523: Operating Systems
Spring 2014

Time & Loc.:

CS5523 3 hours credit, TR 6:00pm - 7:15pm FLN 3.02.07

Instructor:

Palden Lama
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Office Hours: TR 1:00pm-3:00pm (or by appointment)

Course Description and Learning Objectives:

Operating systems concepts with an emphasis on distributed systems. Topics include process management and threads, inter-process communication, distributed objects and remote invocation, distributed naming and directory services, distributed file systems, middleware such as CORBA, access control and security.

Textbook:

[SGG] Operating System Concepts, by Avi Silberschatz, Peter Baer Galvin, and Greg Gagne (I use the 8th edition with Java, but other editions would be OK, too).


Grading

The final grade will be composed of

- Class Participation, Reading†, and Quizzes 10%
- Midterm (close books/notes) 20%
- Assignments (problem solving + programming) ! 30%
- Term Project (TS chapters 9, 11, 12, 13 + Research Papers) 10%
- Final Exam (comprehensive and close books/notes) 30%
  Tue, May 06, 06:00 pm - 08:30 pm

Grades will be assigned as follows:

- 90 ≤ {A}; 87 ≤ {A-} < 90
- 84 ≤ {B+} < 87; 80 ≤ {B} < 84; 75 ≤ {C+} < 80
- 70 ≤ {C} < 75; 65 ≤ {D+} < 70; 60 ≤ {D} < 65
- E/F: below 60
Assignments

Problem solving assignments: we expect to have 7-8 assignments containing textbook style problems.
Programming assignments: we expect to have 4-5 programming projects.
Officially they will be posted and submitted through the LEARN (f. BlackBoard)
!!!! NO LATE HOMEWORK or PROJECT WILL BE ACCEPTED !!!

Tentative Topics

Part I (Basic Operating System Concepts)

- Introduction to OS
- Process management
- Threads and implementation
- CPU Scheduling
- Concurrency and synchronization
- Deadlocks
- Memory management
- Virtual Memory

Part II (Distributed Systems)

- Distributed System Models
- Processes and Threads
- Networks and Communication
- Distributed Objects, RMI
- Naming
- Synchronization
- Consistency
- Fault Tolerance
- Security
- Distributed System Examples
- Server Virtualization & Cloud Computing (if time permits)

Prerequisites

- CS 3733 or equivalent: Undergraduate operating systems
- CS 3853 or equivalent: Undergraduate architecture
- Programming experience in C/C++ or Java, and working knowledge of Unix/Linux
- Graduate standing

University Policies and General Information

http://utsa.edu/syllabus
Note: The syllabus is subject to minor changes.