CS 342: Operating Systems
Fall 2014

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Lectures: Mon 15:40-17:30, Thu 13:40-15:30, G-236

Course Website: http://www.cs.bilkent.edu.tr/~saksoy/courses/cs342

Textbook: A. Silberschatz, P. B. Galvin, G. Gagne, *Operating System Concepts*, 9th edition, John Wiley & Sons, 2014.

Course Description:

Introduction to computer and operating systems; processes, threads, inter-process communication, process scheduling, process synchronization, deadlocks, memory management and virtual memory, file systems - interface and implementation, mass-storage structure and management, input/output systems, protection and security, examples from operating systems such as Linux and Windows. *Credit units*: 4, *Prerequisites*: CS 202 and CS 224.

Grading Policy (tentative):

Quizzes: 10%
Homework: 5%
Projects: 30%
Midterm 1: 20%
Midterm 2: 20%
Final: 15%

In order to be able to take the final exam, one must obtain an average of at least 25 points from the two midterms and an average of at least 30 points from the projects; otherwise, one will receive the FZ grade.

Homework Assignments and Projects:

Homework assignments and projects will be posted on the course web site. They are to be turned in by 23:59 on the due date. We will use the PAGS system to grade your submissions. Therefore, you should make sure that the latest version of your solutions is available in the PAGS system before the deadline. No late submission will be accepted.

Academic Integrity:

Cheating and plagiarism in exams, quizzes, homework assignments and projects will be subject to disciplinary action, as explained in the "Bilkent University Policy on Academic Honesty" (http://www.bilkent.edu.tr/bilkent-tr/admin-unit/hukukm/lisans_yonetmelik.html#madde4.9) and the "Rules and Regulations of the Higher Education Council (YOK)" (http://www.resmigazete.gov.tr/eskiler/2012/08/20120818-12.htm).

Schedule:

Week 1: Introduction/Overview
Week 2: Processes
Week 3: IPC, Sockets
Week 4: Threads
Week 5: Scheduling
Week 6: Synchronization
Week 7: Synchronization
Week 8: Deadlocks
Week 9: Memory Management
Week 10: Virtual Memory
Week 11: File Systems
Week 12: File Systems
Week 13: Mass-Storage
Week 14: Input/Output Systems
Week 15: Protection

Notes:

- Exams will be closed book and closed notes, unless otherwise stated.
- The tentative plan is to have three homework assignments and four projects.
- Projects are very important and will be done in the Linux operating system using the C programming language, unless otherwise stated. Every student needs to do her/his best for the projects. The teaching/learning approach of the course will be "learning by doing". Therefore, it is very important that you do the projects to really learn and understand in a long-lasting manner.
- Make sure that you can program in C well.
- There may be pop-up quizzes throughout the semester. There will be no make-up for the missed quizzes.
- All four hours in a week may be used.