

CSE 7343: Operating Systems and System Software

Spring 2009

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1. Course Outline

The primary objective of this course is to cover internals and design principles of the centralized operation systems (OS) that provide a convenient and efficient interface between user programs and the bare hardware of computer. The OS hides and abstracts the complexities of the underlying hardware devices and allows these devices to be efficiently shared among the user programs. It is also objective of this course to study existing operating systems such as UNIX and to learn the application of studied concepts.

Finally, we will extend the centralized OS concepts to the distributed operating system concepts as much as possible.

Prerequisites: CSE3358 Programming with Data Structures, and CSE2340 Assembly Language & Machine Organization.

2. Textbook

William Stallings, "Operating Systems Internals and Design Principles," 6/e, Prentice Hall, 2009.

3. Course Work and Grading

It is expected that each student will keep up with the reading as outlined in the syllabus below. Additional materials may be referenced in class as needed.

The course work consists of assignments, a project and exams.

- Weekly assignments (30% of grade).
- A mid-term exam (35%) and a final exam (35%).

All material submitted by students is to be their own work. No joint projects or homework solutions will be allowed. ANY STUDENT FOUND PLAGIARIZING WILL RECEIVE AN AUTOMATIC GRADE OF 0 ON THAT ASSIGNMENT. A SECOND INSTANCE OF CHEATING BY THAT STUDENT WILL RESULT IN A GRADE OF F FOR THE COURSE.

4. Tentative Course Schedule

Session	Date	Topics	Reading	Homework due
1	1/10	Computer System and Operating Systems Overview Process Description and Control Threads, SMP and Microkernels	Chapters 1-4	
2	1/23	Mutual Exclusion and Synchronization Deadlock Memory management	Chapters 5-7	1/22 Assignment #1
3	2/6	Exam 1 Virtual Memory Uniprocessor Scheduling Real-Time Scheduling	Chapters 8-10	2/5 Assignment #2
4	2/20	I/O Management + Disk scheduling File management	Chapters 11-12	2/19 Assignment #3
5	3/6	Exam 2 Distributed Processing and Computer Security	Chapter 14-17	3/5 Assignment #4

5. Additional Information

Disability Accommodations: Students needing academic accommodations for a disability must first contact Ms. Rebecca Marin, Coordinator, Services for Students with Disabilities (214-768-4557) to verify the disability and establish eligibility for accommodations. Then schedule an appointment with me to make appropriate arrangements. (See University Policy No. 2.4.)

Religious Observance: Religiously observant students wishing to be absent on holidays that require missing class should notify me in writing at the beginning of the semester, and should discuss with her, in advance, acceptable ways of making up any work missed because of the absence. (See University Policy No. 1.9.)

Excused Absences for University Extracurricular Activities: Students participating in an officially sanctioned, scheduled University extracurricular activity will be given the opportunity to make up class assignments or other graded assignments missed as a result of their participation. It is the responsibility of the student to make arrangements with me prior to any missed scheduled examination or other missed assignment for making up the work. (University Undergraduate Catalogue)