

**Syllabus**  
**CS 111 Online MS Program**  
**UCLA**  
**Winter 2016**

The textbook for this class will be Principles of Computer System Design, by Jerome H. Saltzer and M. Frans Kaashoek. The first 6 chapters of this book are in the printed volume, while the last 5 are only available online. Reading assignments from these later chapters will include a URL to access them.

Week 1 (January 4 –10)

Lecture 1: Introduction

Lecture 2: Operating System Basics

Week 2 (January 11 - 17)

Lecture 3: Hardware Issues for Operating Systems

Lab 1A due January 13

Lecture 4: Modularity and Virtualization

Week 3 (January 18 - 24)

Lecture 5: Processes

Weensy OS 1 due January 20

Lecture 6: Scheduling

Week 4 (January 25 – 31)

Lab 1B due January 25

Lecture 7: Process Communications and Concurrency

Lab 1C due January 30

Lecture 8: Critical Sections and Synchronization

Week 5 (February 1 – 7)

Lecture 9: High Level Synchronization and Deadlock

No second lecture this week due to the midterm

Week 6 (February 8 – 14)

Lab 2 due February 10

Lecture 10: Memory Management and Virtual Memory

Lecture 11: Device I/O and Drivers

Week 7 (February 15 - 21)

Lecture 12: File Systems Design

Lab 3 due February 18

Lecture 13: File System Implementation

Week 8 (February 22 – 28)

Lecture 14: File System Naming and Robustness

Lecture 15: Networked and Distributed File Systems

Weensy OS 2 due February 24

Week 9 (February 29 – March 6)

Lecture 16: Networking and Operating Systems

Lecture 17: Distributed Operating Systems

Week 10 (March 7 - 13)

Lab 4 due June 3

Lecture 18: Operating System Security: Basic Concepts and Cryptography

Lecture 19: Operating System Security: Problems, Solutions, and Privacy  
Issues

Design project due March 11