# EECS 211: Advanced System Software Lecture 1

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## Lecture 1: Overview

- Course administration
  - EEE web page
  - Course communication
- Course overview
  - Description
  - Goals
  - Text book
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  - Policies
- Operating Systems Overview
  - Essential concepts in operating systems (Review)

## Course Administration

- EEE web pages at **`http://eee.uci.edu/05w/15810/`**
  - Instructor information
  - Syllabus
  - Assignments
  - Schedule
  - Resources
- Course communication
  - Note board
  - Email



## Course Description

- EECS 211: Advanced System Software
  - Study of operating systems including
    - interprocess communication,
    - scheduling,
    - resource management,
    - concurrency,
    - reliability,
    - validation,
    - protection and security, and
    - distributed computing support.
  - System software design languages and modeling analysis.
  - Prerequisite:
    - EECS112 and EECS111; or consent of instructor.

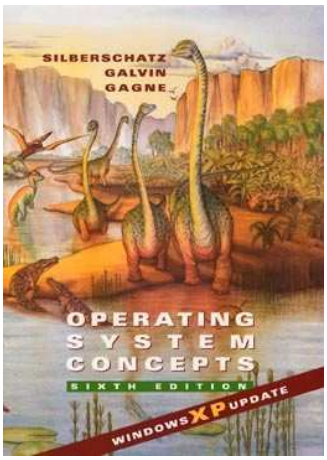
## Course Goals

- Objectives
  - To clearly understand the concepts that underlie operating systems.
  - To be able to use actual operating systems effectively.
  - To be able to analyze, design and develop essential parts of operating systems.
- Outcomes
  - Students understand advanced concepts used in operating systems.
  - Students are able to use advanced operating system concepts in programming.
  - Students are able to develop essential parts of operating system.



## Course Text Book

- A. Silberschatz, P. B. Galvin, G. Gagne: *"Operating System Concepts"*, Windows XP Update, Sixth Edition, John Wiley & Sons, 2003. ISBN 0-471-25060-0



## Course Contents

| | | |
|---|---|---|
| 0 | Introduction, course set up, overview | Ch. 1-3 |
| 1 | Processes, threads, scheduling, synchronization, deadlocks | Ch. 4-8 |
| 2 | Memory management, virtual memory | Ch. 9-10 |
| 3 | File systems, interface, implementation | Ch. 11-12 |
| 4 | I/O systems | Ch. 13 |
| 5 | Mass-storage structure | Ch. 14 |
| 6 | Protection, security | Ch. 18-19 |
| 7 | Distributed systems, file systems | Ch. 15-16 |
| 8 | Distributed coordination | Ch. 17 |
| 9 | Case studies | Ch. 20-23 |
| 10 | Course review, wrap up | n/a |



## Course Policies

- Attendance and active participation required
- Weekly/biweekly programming assignments
  - Instructions on assignments web page
  - Hard deadline
- Grading
  - 10% Prerequisite Quiz (week 2)
  - 30% Homework assignments
  - 30% Midterm exam (week 5)
  - 30% Final exam (final week)
- Academic Honesty
  - Submit your original work!

# Operating Systems Overview

- Essential concepts in operating systems
  - Quick review of basic undergraduate material
- Excerpts from chapters 1 through 3 of *"Operating System Concepts"* by A. Silberschatz, P. B. Galvin, G. Gagne, John Wiley & Sons, 2003.