EECS 211:
Advanced System Software
Lecture 1

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Lecture 1: Overview

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

Course Administration

- EEE web pages at
  http://eee.uci.edu/08w/18410/
  – Instructor information
  – Syllabus
  – Assignments
  – Schedule
  – Resources
- Course communication
  – Note board
  – Email

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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.

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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 systems.
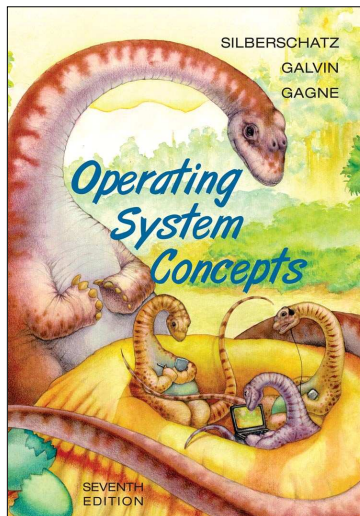
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Course Text Book

- A. Silberschatz,
  P. B. Galvin,
  G. Gagne:
  "Operating System Concepts",
  7th Edition,
  John Wiley & Sons,
  2005.
  ISBN 0-471-69466-5

SILBERSCHATZ
GALVIN
GAGNE

Operating System Concepts

SEVENTH EDITION

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Course Contents

0	Introduction, course set up, overview	Ch. 1-2
1	Processes, threads, scheduling, synchronization, deadlocks	Ch. 3-7
2	Memory management, virtual memory	Ch. 8-9
3	File systems, interface, implementation	Ch. 10-11
4	I/O systems	Ch. 13
5	Protection, security	Ch. 14-15
6	Distributed systems, file systems	Ch. 16-17
7	Distributed coordination	Ch. 18
8	Real-time, multimedia systems	Ch. 19-20
9	Case studies	Ch. 21-22
10	Course review, wrap up	n/a

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Course Policies

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

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Operating Systems Overview

- Essential Concepts in Operating Systems
    - Brief review of basic undergraduate material

- Excerpts from chapter 1 of
  "Operating System Concepts", 7th Edition,
  by A. Silberschatz, P. B. Galvin, G. Gagne,
  John Wiley & Sons, 2005.

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