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/09w/18410/`**
  - Instructor information
  - Syllabus
  - Assignments
  - Schedule
  - Resources
- Course communication
  - Message board
  - Email

Course Description

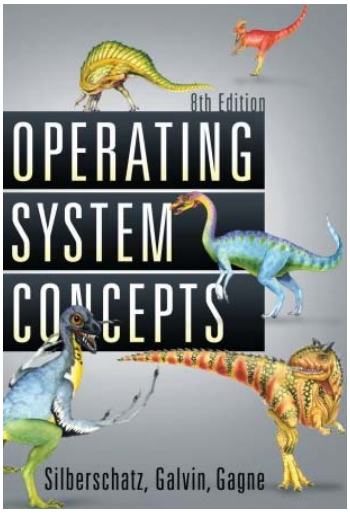
- EECS 211: Advanced System Software
  - Study of operating systems including
    - interprocess communication,
    - scheduling,
    - resource management,
    - concurrency,
    - reliability,
    - validation,
    - protection and security, and
    - distributed computing support.
  - System software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

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.

Course Text Book

- A. Silberschatz,
  P. B. Galvin,
  G. Gagne:
  "Operating System Concepts",
  8th Edition,
  John Wiley & Sons, 2009.
  ISBN 978-0-470-12872-5



Course Contents

1	Introduction, course set up, overview	Ch. 1-2
2	Processes, threads, scheduling, synchronization, deadlocks	Ch. 3-7
3	Memory management	Ch. 8
4	Virtual memory	Ch. 9
5	File systems, interface, implementation	Ch. 10-11
6	I/O systems	Ch. 13
7	Protection	Ch. 14
8	Security, cryptography	Ch. 15
9	Distributed systems	Ch. 16-17
10	Distributed coordination	Ch. 18

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!

Operating Systems Overview

- Essential Concepts in Operating Systems
  - Brief review of basic undergraduate material
- Excerpts from chapter 1 of
  "Operating System Concepts", 8th Edition,
  by A. Silberschatz, P. B. Galvin, G. Gagne,
  John Wiley & Sons, 2009.