Operating System

Goal

The goal of this course is to introduce the concepts and algorithms in Operating System. Operating system is an important component of a computer system. Various operating systems have been proposed for decades. We will survey the critical topics in these operating systems such as system structure, process management, memory management, and storage management.

Instructor

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Office hour

By appointment

Textbook

Operating system principles, 7th ed., A. Silberschatz, P.B. Galvin, and G. Gagne, John Wiley & Sons (Asia), 2006. (ISBN: 978-0-471-72595-4)

Topics included

- Overview (Ch. 1 & Ch. 2)
- Process Management
  - Process-Concept (Ch. 3)
  - Multithreaded Programming (Ch. 4)
  - Process Scheduling (Ch. 5)
- Process Coordination
  - Synchronization (Ch. 6)
  - Deadlocks (Ch. 7)
- Memory Management
  - Memory-Management Strategies (Ch. 8)
  - Virtual-Memory Management (Ch. 9)
- Storage Management
  - File System (Ch. 10 & Ch. 11)
  - Secondary-Storage Structure (Ch. 12)
  - I/O Systems (Ch. 13)
- Protection and Security (Ch. 17 ~ Ch. 18) (if time permits)

Grading

Class participation	10%
Homework	30%
Midterm and final exams	60%