

CSE3008: Operating Systems

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Introduction



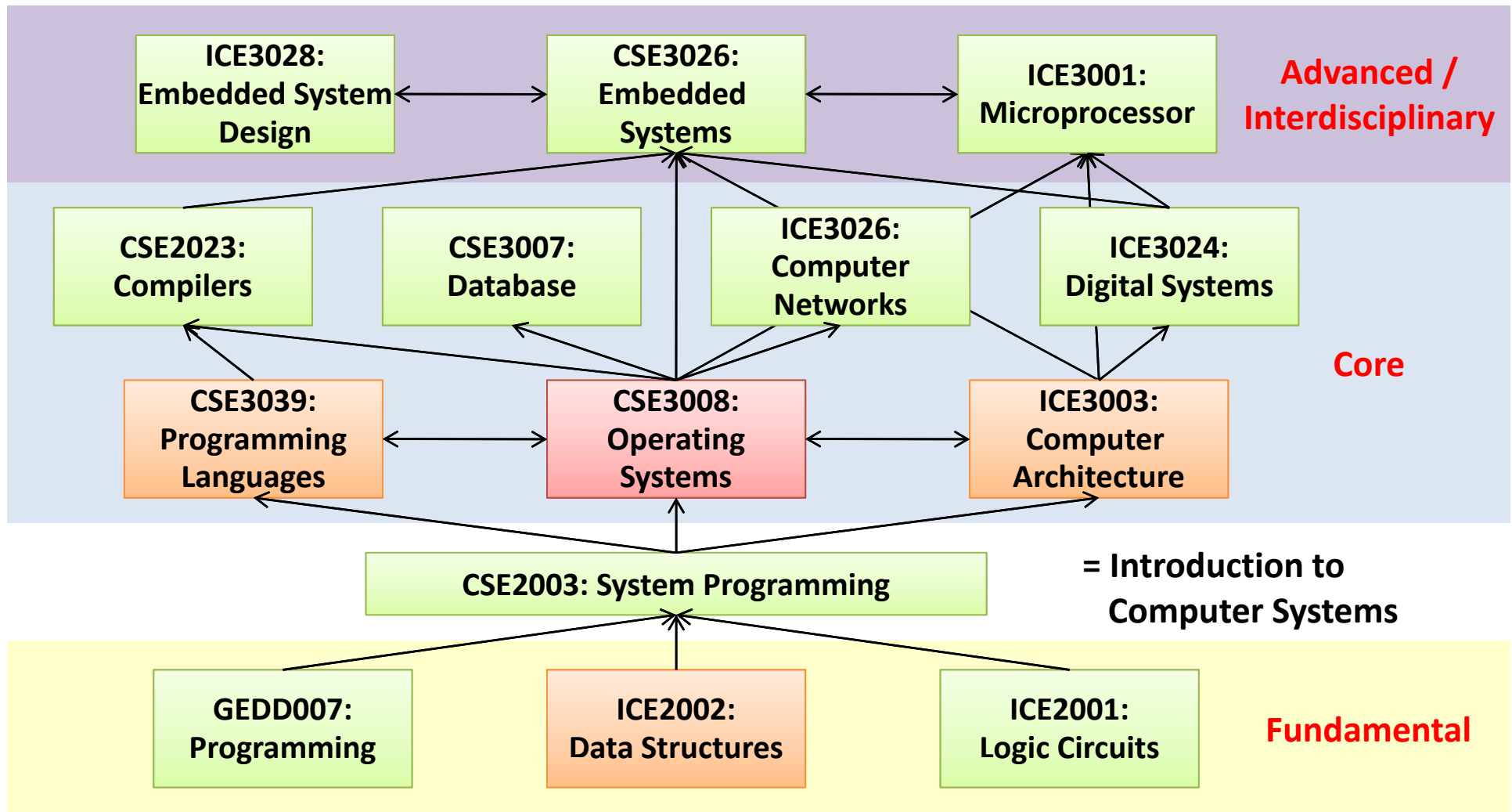
■ Schedule

- 13:30 – 14:45 (Mon), 16:30 – 17:45 (Wed)
- Lecture room #330110 (Semiconductor Bldg.)

■ Instructor

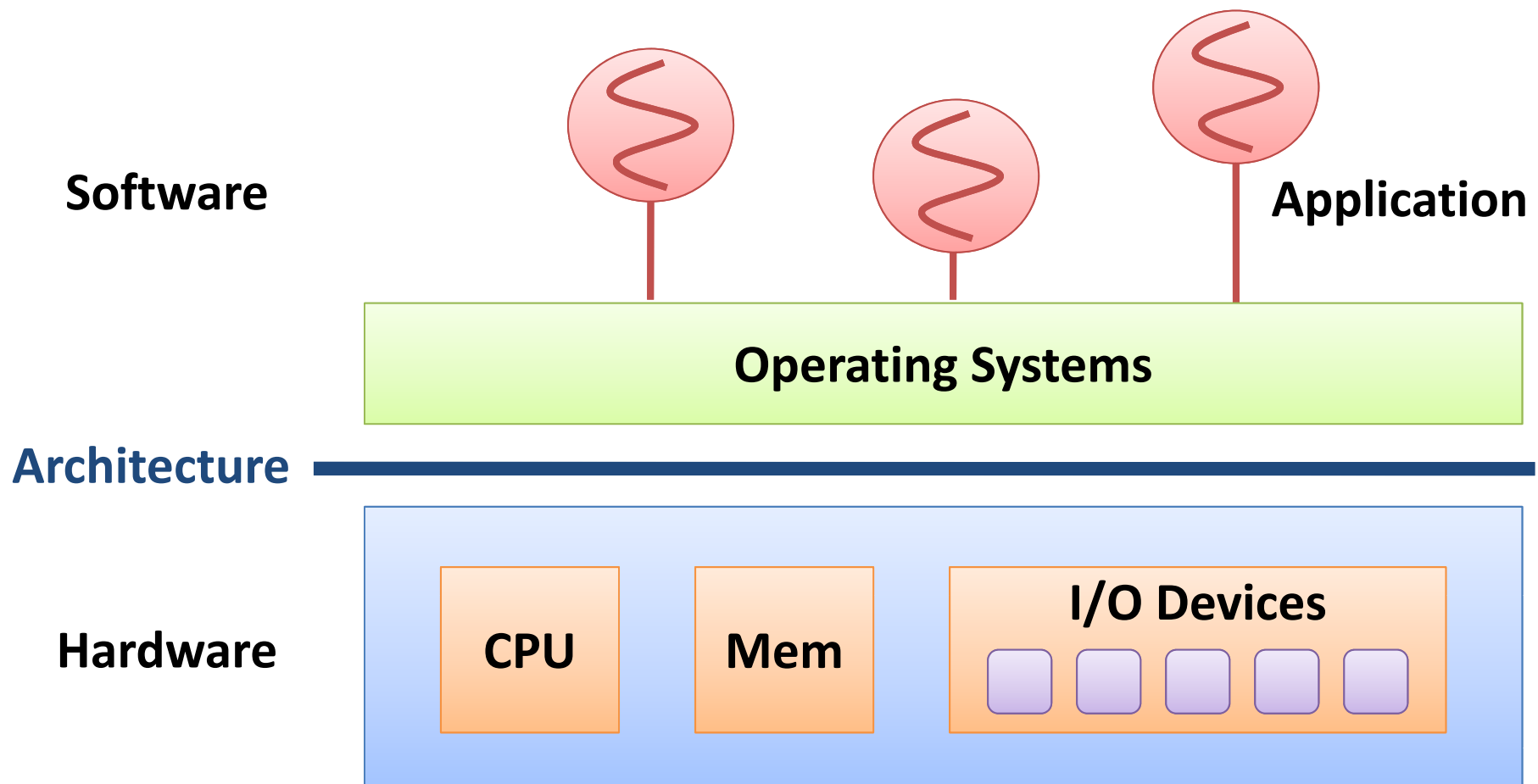
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- Computer Systems Laboratory (<http://csl.skku.edu>)
- Office: Semiconductor Bldg. #400630 (6th floor)
- Tel: 031-299-4593
- The best way to contact me is via email.

Computer Systems Track



What is OS?

- Computer systems internals



Why do we learn OS?

- **To graduate**
- **To make a better OS or system.**
 - Functionality
 - Performance/Cost
 - Reliability
 - Energy efficiency
- **To make a new hardware up and running.**
- **To design OS-aware hardware.**
- **To understand computer systems better.**
- **Just for fun!**

Topics



- **Operating system structure overview**
- **Processes and threads**
- **CPU scheduling**
- **Synchronization**
- **Deadlocks**
- **Memory management**
- **Virtual memory**
- **Storage and I/O systems**
- **File systems**
- **Security**

Prerequisites



- **Prerequisites**

- **CSE2003 (System Programming): Must!**
- ICE3003 (Computer Architecture): Recommended

- **You should be familiar with the followings:**

- Basic computer organization
- Process/thread concepts
- How to write multi-process/multi-threaded programs
- How to read from/write to files or networks
- Shells and basic Unix/Linux commands
- C programming skills

Course Plan



▪ Lectures

- General operating system concepts
- Case studies
 - Linux
 - Microsoft Windows
 - Solaris

▪ Hands-on projects

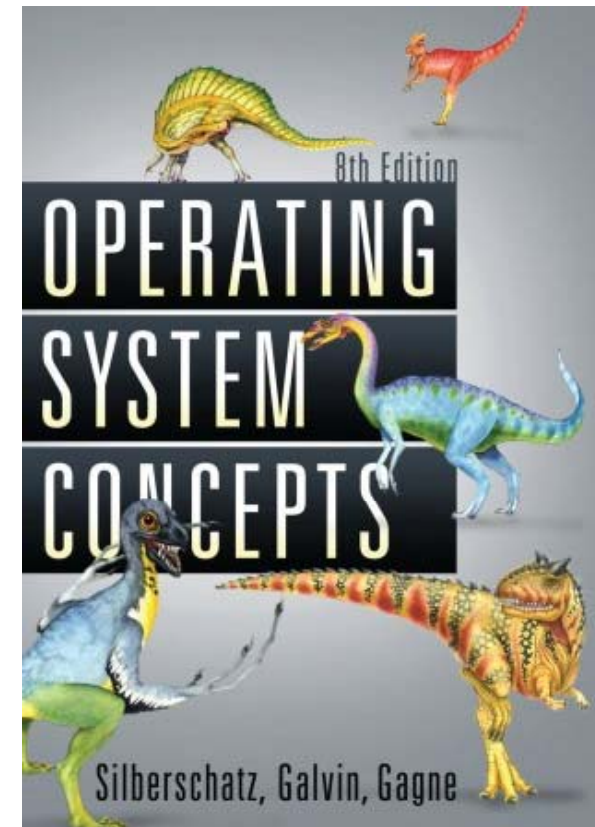
- Will be announced later

▪ Course Homepage

- <http://csl.skku.edu/CSE3008F09/Overview>

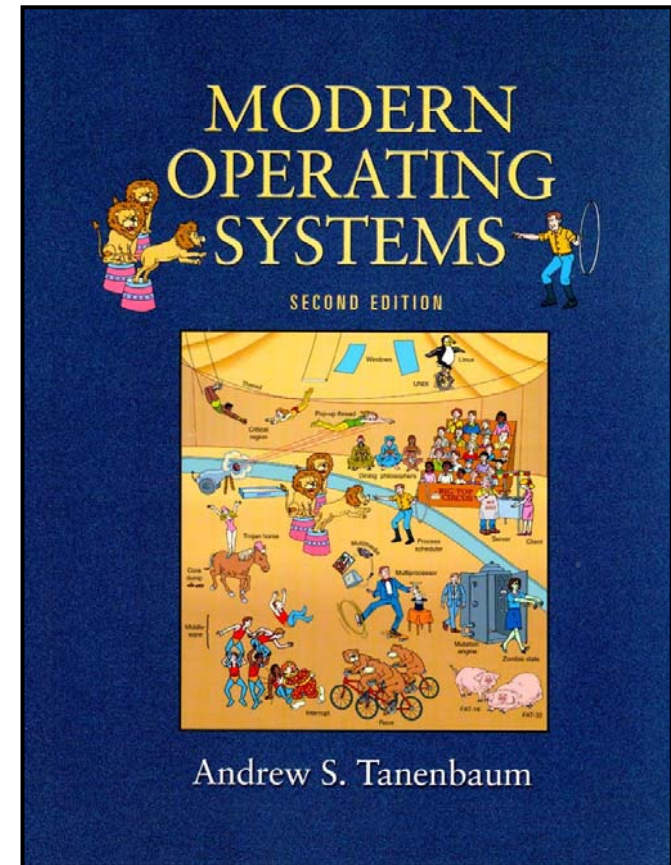
Textbook

- **Operating System Principles**
 - Avi Silberschatz, Peter B. Galvin, and Greg Gagne, 8th Edition, John Wiley & Sons, Inc. 2008.



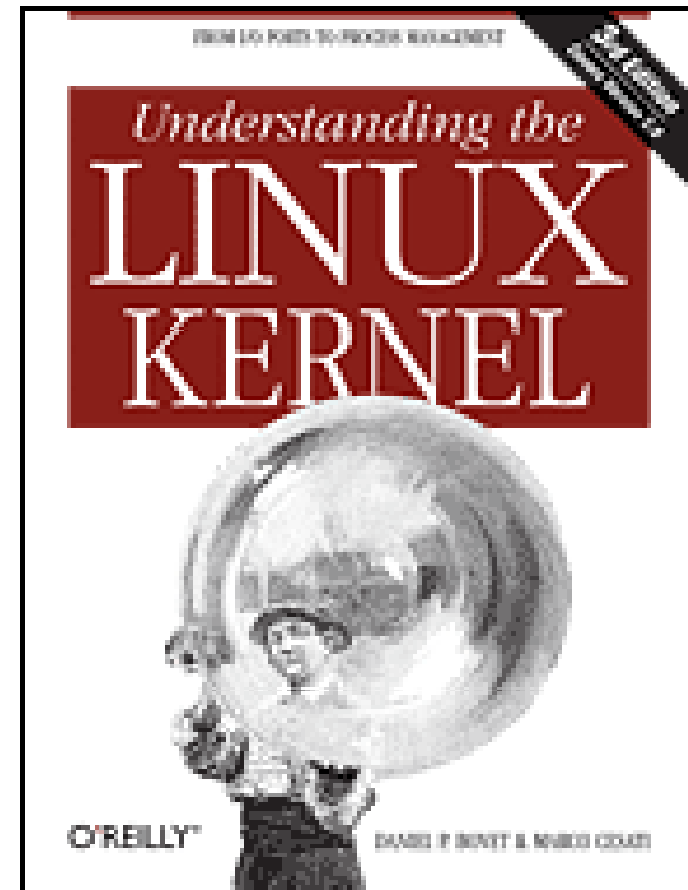
References (1)

- **For General Operating System Concepts:**
 - **Modern Operating Systems**
(Second Edition)
Andrew S. Tanenbaum,
Prentice-Hall, 2001.



References (2)

- **For Linux:**
 - **Understanding the Linux Kernel**
(Third Edition)
D. Bovet and M. Cesati,
O'Reilly & Associates, 2005.



References (3)

- **For Windows:**

- **Windows Internals**

- (Fifth Edition)

- Mark E. Russinovich and
David A. Solomon,
Microsoft Press, 2009.

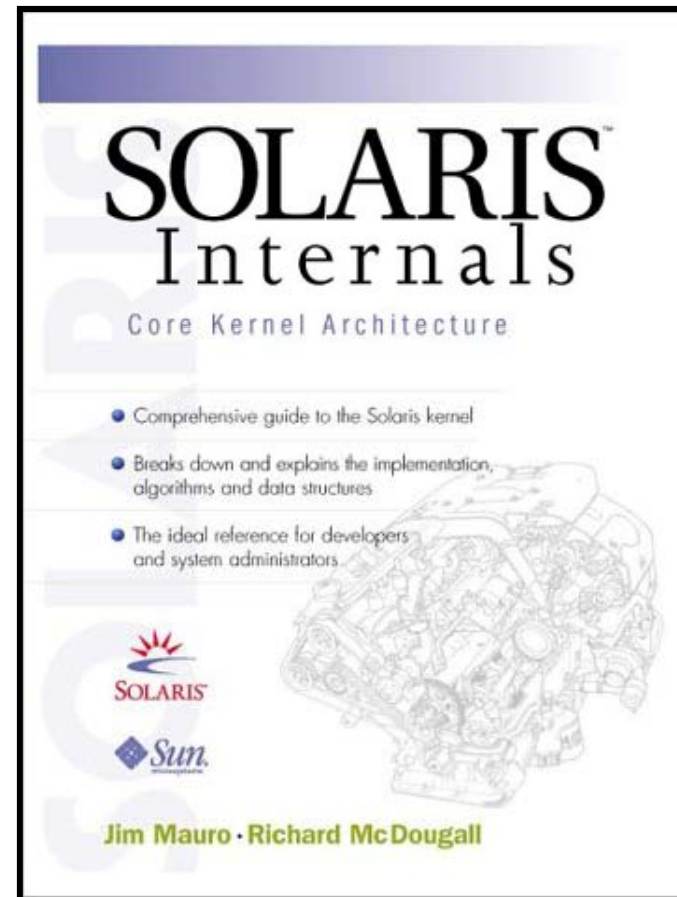


References (4)

■ For Solaris:

• Solaris Internals

Richard McDougall and
Jim Mauro,
Sun Microsystems, 2001.

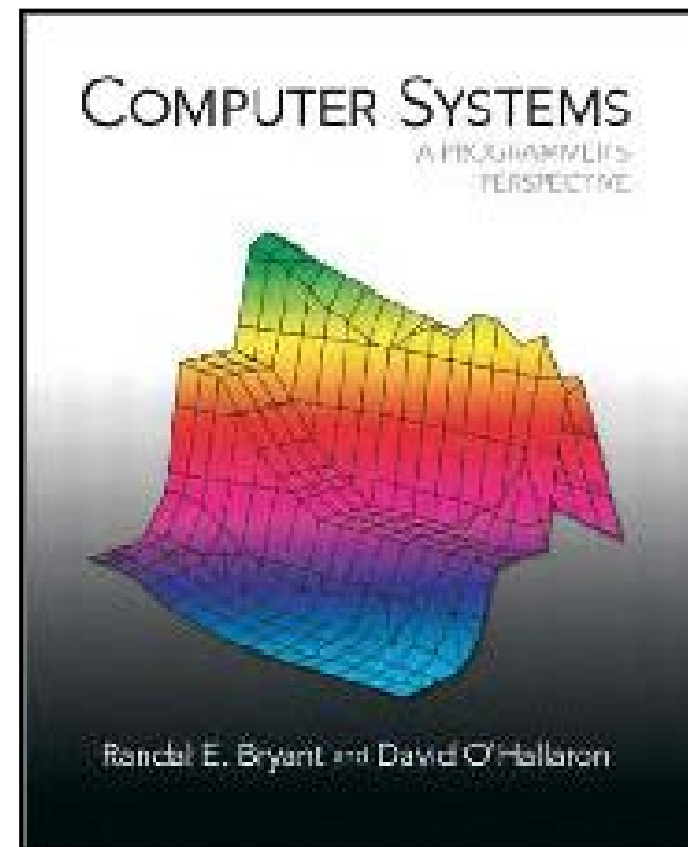


References (5)

- **For Introduction to Computer Systems:**

- **Computer Systems: A Programmer's Perspective**

Randal E. Bryant and
David R. O'Hallaron,
Prentice-Hall, Inc.
2003.



Class Policies (1)

- **Grading Policy (subject to change)**
 - Midterm exam: 30%
 - Final exam: 30%
 - Projects: 30%
 - Class attendance: 10%

Class Policies (2)

■ Grading

- If you miss one or both of exams, you will fail this course.
- Do not be late! You should be present when I take class attendance.
- You have four "tokens"; these tokens can be used for unexcused absences and for excused absences as well.

Academic Integrity

■ Cheating

- What is cheating?
 - Sharing code: either by copying, retyping, looking at, or supplying a copy of a file.
- What is NOT cheating?
 - Helping others use systems or tools.
 - Helping others with high-level design issues.
 - Helping others debug their code.
- Penalty for cheating:
 - Anyone who involved in cheating will fail this course and get disciplinary actions from the University.
- Ask helps to me or TAs if you experience any difficulty!

Questions?

