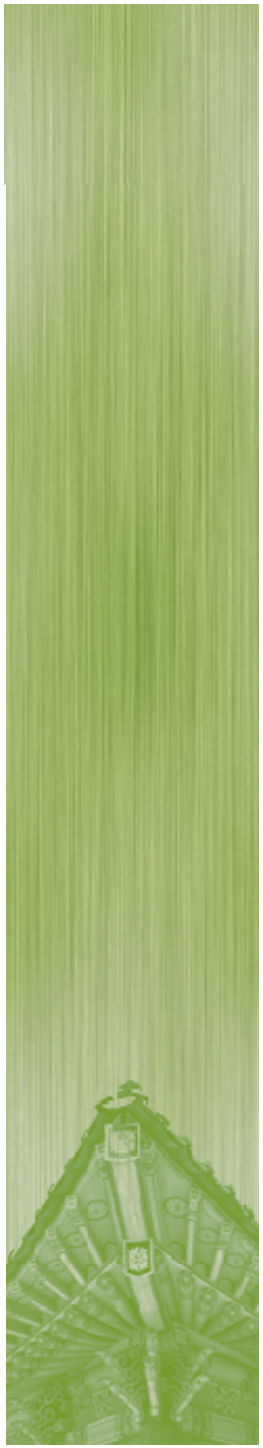

ICE3003: Computer Architecture

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Computer Systems Laboratory
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http://csl.skku.edu

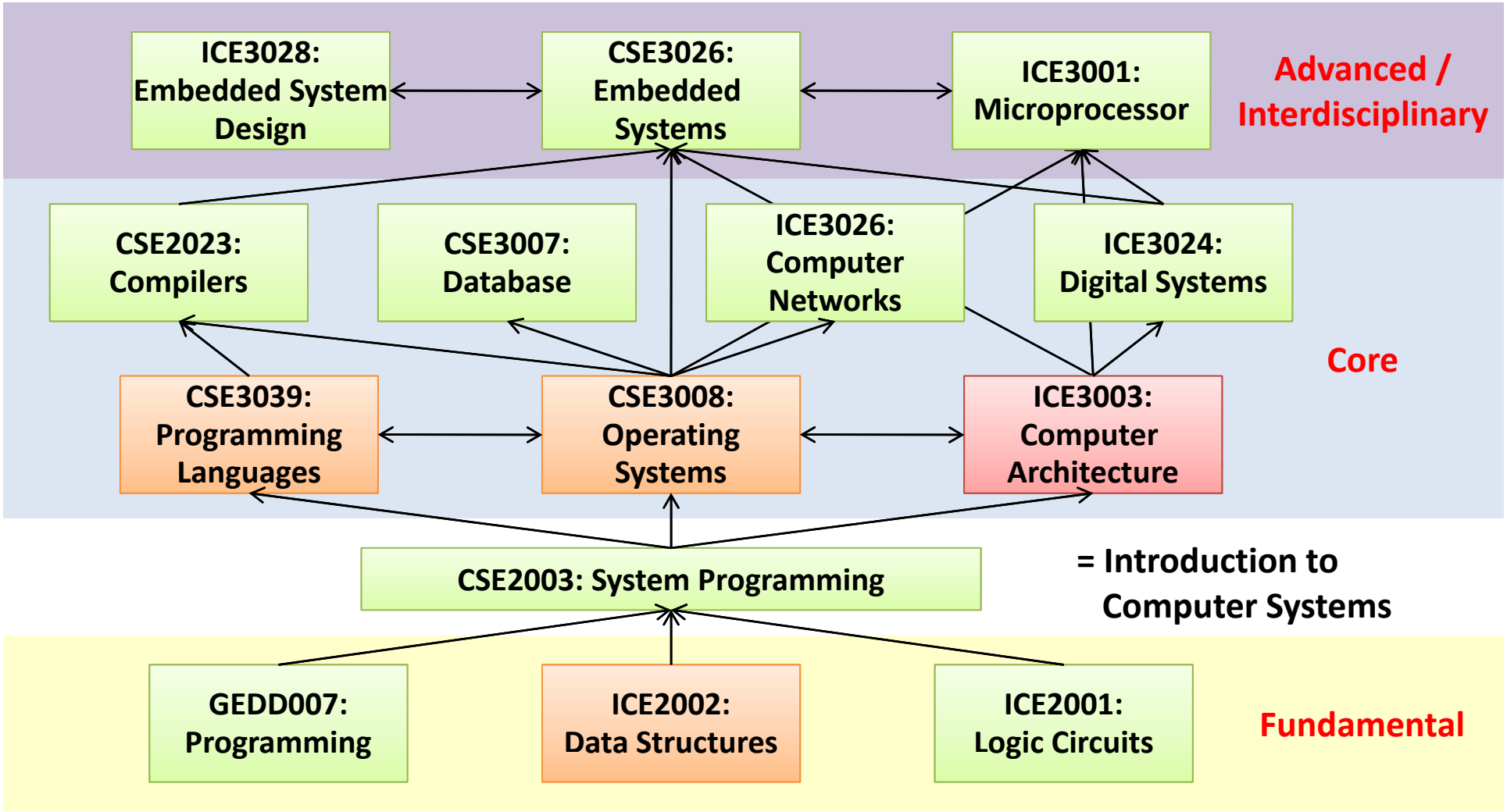
SKK UNIVERSITY

Introduction

- **Schedule**
  - 12:00 – 13:15 (Mon), 15:00 – 16:15 (Wed)
  - Lecture room #330110 (Semiconductor Bldg.)

- **Instructor**
  - Jin-Soo Kim (jinsookim@skku.edu)
  - 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



Prerequisites

- **Prerequisites**
  - **CSE2003 (System Programming): Must!**
  - ICE2001 (Logic circuits):

- **You should be familiar with the followings:**
  - Basics on digital circuits and systems
  - x86 instruction set architecture
  - x86 assembly programming
  - Shells and basic Unix/Linux commands
  - C programming skills

Course Plan

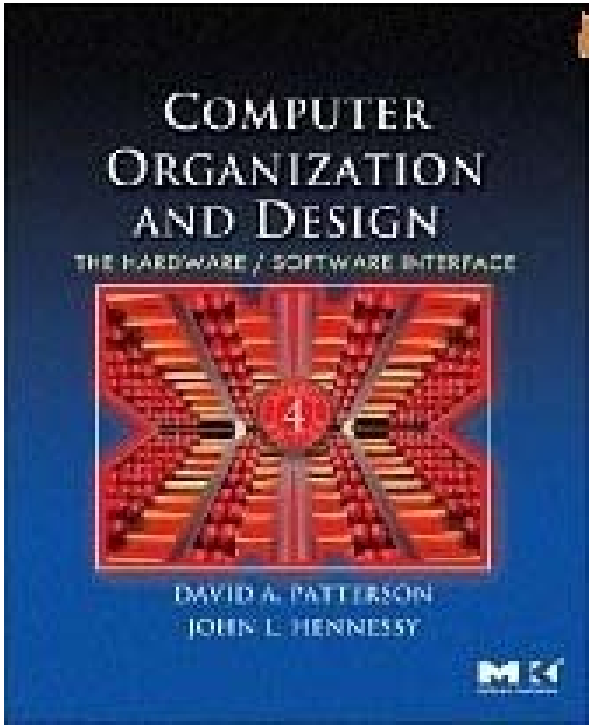
- **Lectures**
  - Basic concepts
- **Projects**
  - Will be announced later
- **Exams**
- **Course Homepage**
  - http://csl.skku.edu/ICE3003F09/Overview

Textbook

- **Computer Organization and Design – The Hardware/Software Interface**
  - David A. Patterson and John L. Hennessy,

    4th Edition,

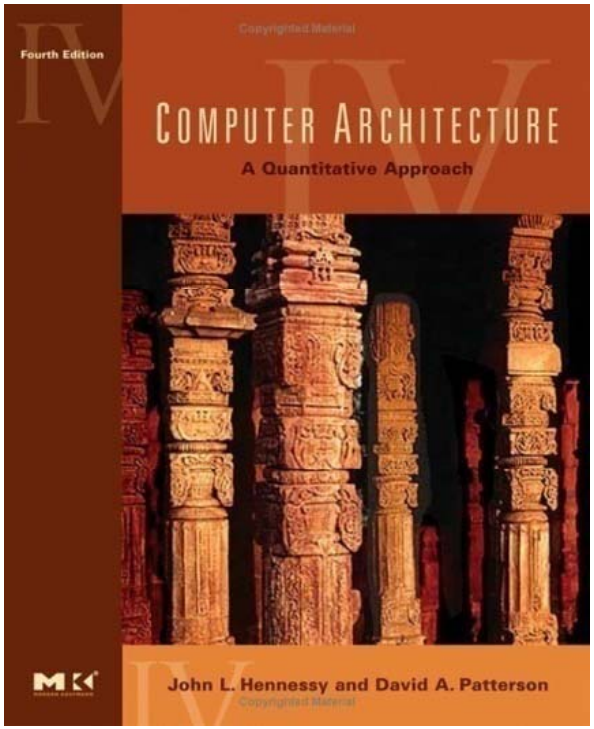
    Morgan Kaufmann Publishers, 2009.



References (1)

- **For Advanced Computer Architecture:**
  - **Computer Architecture – A Quantitative Approach**

    John L. Hennessy and David A. Patterson, 4th Edition, Morgan Kaufmann Publishers, 2007.

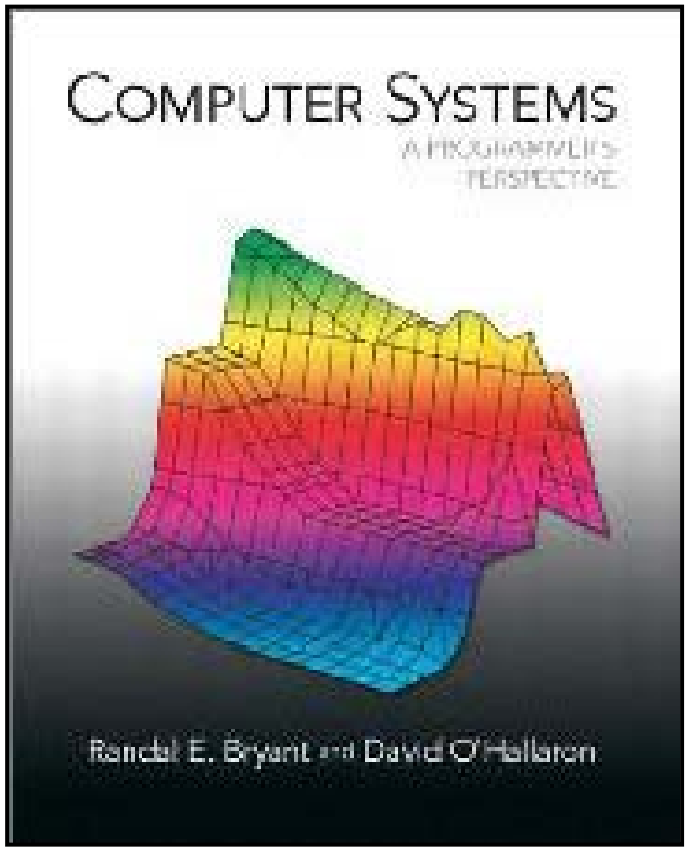


References (2)

- **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)

- **Class Attendance Policies**
  - If you miss one or both of exams, you will fail this course.
  - The seat you select for the first class of each month will be your assigned seat for the rest of the month
  - 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!

Topics

- Overview
- MIPS instruction set architecture
- Arithmetic for computers
- Processor – datapath & control
- Pipelining and hazards
- Cache memory
- Virtual memory
- Storage and I/O
- Multiprocessors

World's Tallest Lego Tower

- **Legoland Windsor, UK**
  - May 2 – 5, 2008
  - To celebrate 50th anniversary of the Lego bricks
  - 100ft (~ 30.5m)
  - 500,000 bricks

Pentium 4 – 125M Transistors