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

ICE3028: Embedded System Design
CSE3026: Embedded Systems
ICE3001: Microprocessor
CSE2023: Compilers
CSE3007: Database
ICE3026: Computer Networks
ICE3024: Digital Systems
CSE3039: Programming Languages
CSE3008: Operating Systems
ICE3003: Computer Architecture
CSE2003: System Programming
GEDD007: Programming
ICE2002: Data Structures
ICE2001: Logic Circuits

Advanced / Interdisciplinary
Core
= Introduction to Computer Systems
Fundamental
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](http://csl.skku.edu/ICE3003F09/Overview)
Textbook

- Computer Organization and Design – The Hardware/Software Interface
  - David A. Patterson and John L. Hennessy,
    4th Edition,
References (1)

- For Advanced Computer Architecture:
  - *Computer Architecture – A Quantitative Approach*
References (2)

- For Introduction to Computer Systems:
  - Computer Systems: A Programmer’s Perspective
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