

5118007-02 Computer Organization and Architecture

Course Introduction

5 Mar 2024

Shin Hong

Course Objectives

- Understand the structures and operations of hardware components of modern computer systems
 - comprehend binary logic framework and data representation
 - articulate instructions of computer architecture
 - understand how different components of computer systems interact to execute computer programs

Shin Hong

- <http://hongshin.github.io>

The screenshot shows a web browser window with the address bar containing 'hongshin.github.io'. The page itself has a light blue header with the title 'Shin Hong' and a navigation menu with links to Home, SDEV Lab, Publication, Projects, and Teaching. The main content area features a large title 'Shin Hong', a brief bio in English and Korean, a paragraph about their research interests, a list of specific interests, and a section for publications and curriculum vitae. A sidebar on the right contains a portrait photo of Shin Hong.

Shin Hong

Ph.D in Computer Science / Associate Professor @ School of Computer Science, CBNU
홍신 (충북대학교 소프트웨어학부 부교수)

Shin Hong is an associate professor at [School of Computer Science](#) in [Chungbuk National University \(CBNU\)](#), where leads the [SDEV lab](#). Shin Hong has researched in Software Engineering with high interests on the following topics:

- test generation techniques
- automated debugging techniques
- static and dynamic program analyses

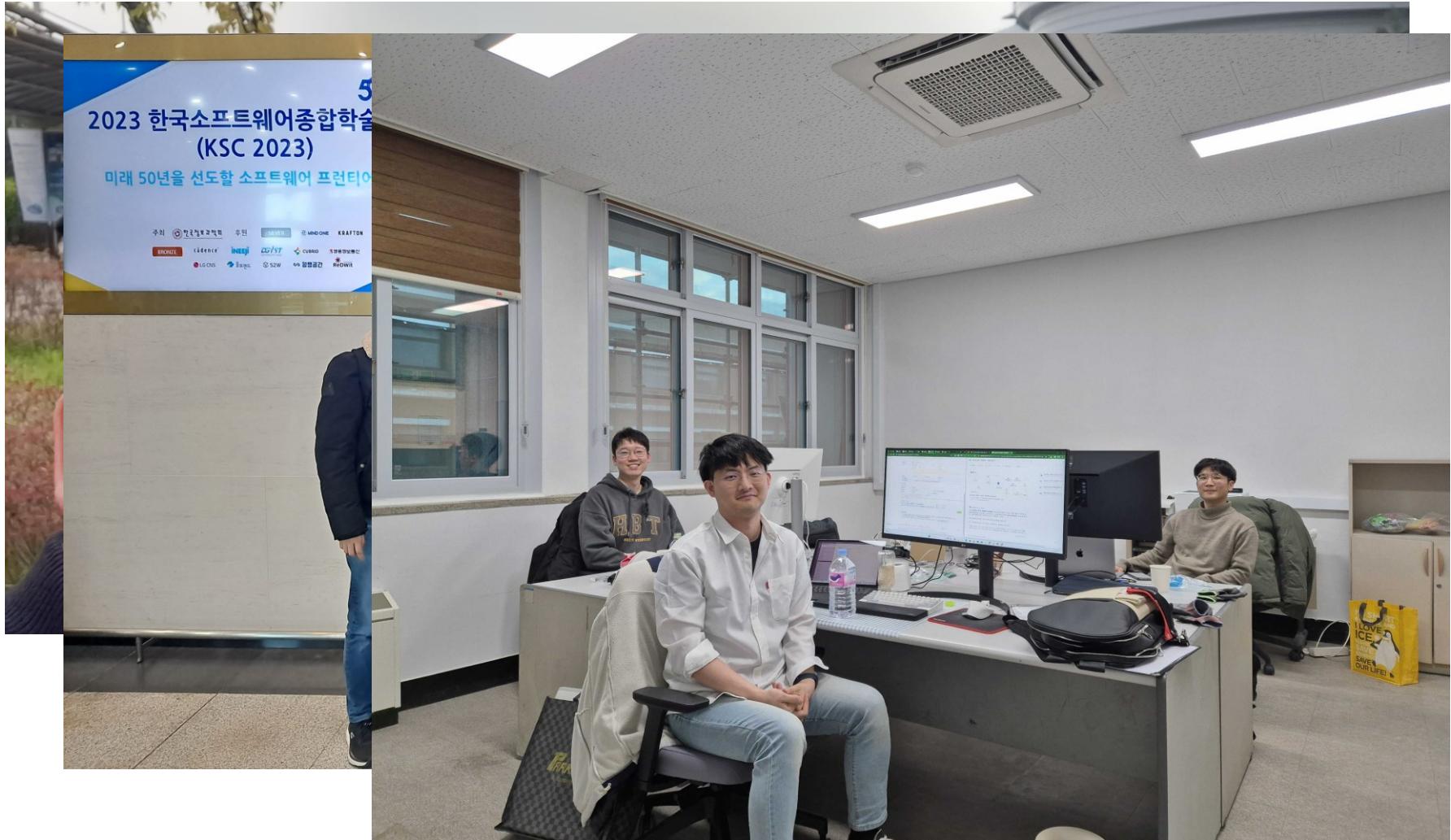
The full list of the publications can be found at the [publications](#) page; more information at his [Curriculum Vitae](#).

News

⚠ Shin Hong starts out [SDEV lab](#) at CBNU.



Shin Hong



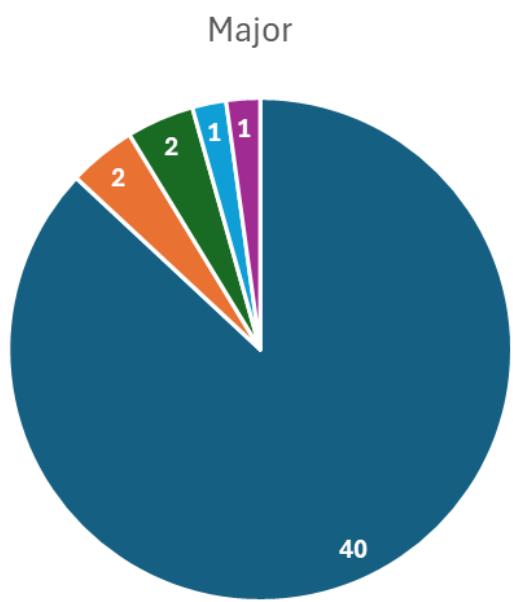
Teaching Assistant

- Ingyu Lee 이인규

- Graduate student@MINELAB
- ingyu.lee@chungbuk.ac.kr
- assisting the instructor in scoring students' results and managing classes

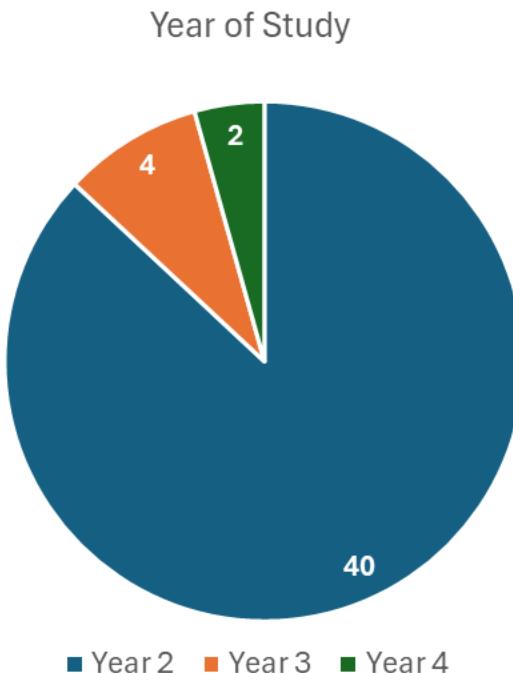
Class Members

- Total 46 students

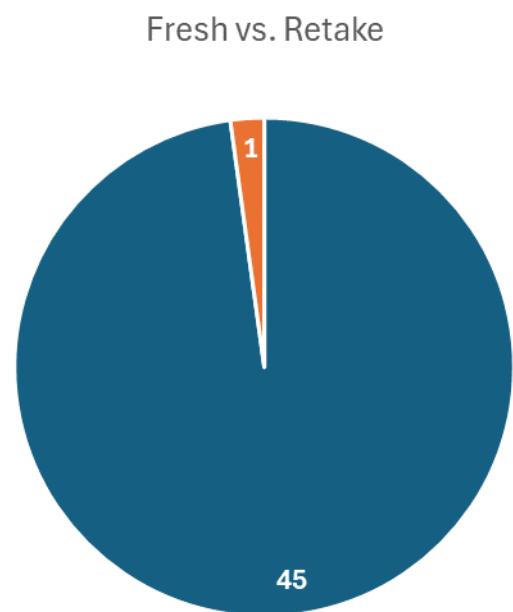


- 소프트웨어
- 심리학
- 자율전공

- 컴퓨터공학
- 천문우주



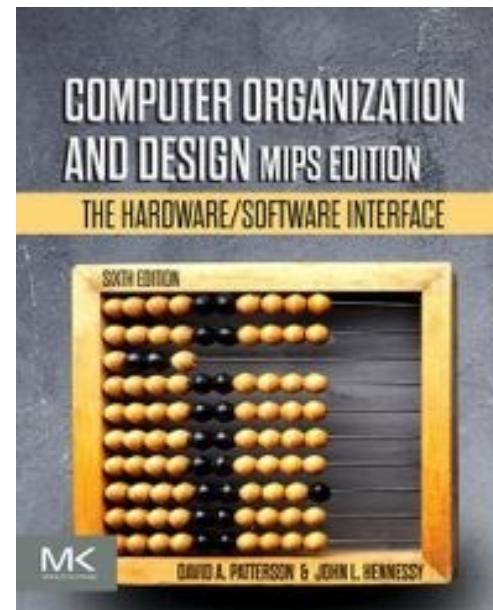
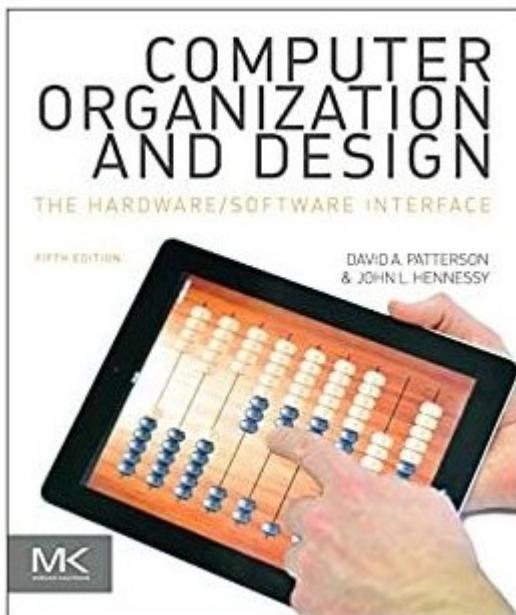
- Year 2
- Year 3
- Year 4



- Fresh
- Retake

Study Materials

- Main textbook
 - Computer Organization and Design: The Hardware/Software Interface, 5th ed. by Patterson and Hennessy



Schedule (Tentative)

W	Textbook coverage	W	Textbook coverage
1	Course Overview (Ch. 1)	9	Processor (Ch. 4)
2	Instructions (Ch. 2)	10	Processor (Ch. 4)
3	Instructions (Ch. 2)	11	Processor (Ch. 4)
4	Instructions (Ch. 2)	12	Memory (Ch. 5)
5	Computer Arithmetic (Ch. 3)	13	Memory (Ch. 5)
6	Computer Arithmetic (Ch. 3)	14	Memory (Ch. 5)
7	Computer Arithmetic (Ch. 3)	15	Storage and I/O
8	** midterm **	16	** midterm **

Class Activities

- Lectures will be given in Korean, while the lecture materials, quizzes and exams will be in English
 - you can write answers in Korean
- Some classes may involve programming hands-on
- There will be quizzes 5 times in this semesters
 - each quiz has 3 to 4 questions to answer in 15 min
 - it will be announced in the preceding class
- Class participation is highly encouraged
 - your participations are counted and contributed to final score

Evaluation

- Final score
 - Exam: 55% (= midterm 25% + final 30%)
 - Quizzes: 25% (= 5%/quiz x 5 quizzes)
 - Attendance: 10%
 - Discussion: 10%
- Grading
 - A for Top-20~30%
 - B for Top-25~70%
 - C for Top-65~100%

Discussion Points

- You receive a point if you ask a question, answer to a given question or participate in class discussion for your contribution to the class
- Declare your point at Google spreadsheet
 - https://docs.google.com/spreadsheets/d/1_DrV9GIPBkkH21Peu3z25t5K9hR3dcoHOT9O0aQh5Jc/edit?usp=sharing
 - Ex. OS class 2023
 - https://docs.google.com/spreadsheets/d/1EJvT18x0BABkxVpIqE4SReifX6MiHpthRZxa2bgTK_c/edit?usp=sharing

Class Policies

- All class materials will be shared via LMS
- Communication
 - Kakao Group Chat: <https://open.kakao.com/o/gXVlt5dg>
 - Ask questions publicly unless it involves any privacy issue
 - If you have an administrative request, send me an email at hongshin@gmail.com with a title starting with “[컴퓨터구조]”
 - All kinds of improper solicitations are strictly forbidden
- Attendance
 - Approved absent is accepted only if (1) your case adheres to the school policy, (2) the instructor is informed before the class, and (3) you submit the proof if needed

Necessary Conditions for Pass

Or, how to ensure getting F and officially off the classes

- Must attend at least 75% of the class (7 absents at max)
 - approved absent is counted as attended
- Take all quizzes and exam
- Do not conduct any form of academic dishonesties
 - use unallowed materials or tools in homework, quiz and exam
 - share your results to other students in homework, quiz and exam
 - etc.

Study Guideline

- **Read, read, read textbook**
 - buy the textbook, keep it near you, and read it regularly
 - use a dictionary if you find an unfamiliar word
 - use your hands to repeat examples
 - memorize definitions
 - never expect that all materials will be covered in the lectures
- **Solve exercise problems by yourself**
 - read the problem sentence carefully
 - write down an answer completely, and never stop at a middle
 - highly recommend to regularly study the textbook together
- **Try best to think together (i.e., discuss) at meeting**
 - participate or loss the time

Entrance Survey

- <https://forms.gle/cvo5PnLvUnNdsKW96>

- Mandatory
- You can write answers in Korean