KU OCW 참여 강의 개요

※ 실제로 진행된 강의에 대한 개요입니다.

1. 교과목 개요

교과목명 (국문)	컴퓨터구조
[선택] 교과목명 (영문)	Computer Architecture
교수자명	구건재 (Gunjae Koo)
교과목 학습목표	The student who take this course should understand the fundamental structure of computer systems in the abstract levels. The students will learn how the computer systems work and basic concepts of computer architecture. The major topics covered by this course are instruction set architecture, processor architecture, and memory hierarchy.
주교재	David A. Patterson & John L. Hennessy, "Computer Organization and Design: RISC-V Edition"
교과목 소개	This course provides the fundamental knowledge of computer system architecture for undergraduate students. The students who enroll this course will explore the basic abstract levels of computer systems. In this course students will learn about the basic knowledge of computer system hardware including performance metrics, instruction set architecture, arithmetic logic, the basic of pipelining, and memory hierarchy. The students who take this course should understand the hardware architecture and behavior of computer systems.
교과목 키워드	컴퓨터구조, Computer Architecture, RISC-V, Pipeline, Memory Hierarchy, Instruction Set Architecture

2. 주차 별 강의 내용 및 연관 파일명

주차	주제	내용 요약	해당 주차의 강의자료 파일명
1	Introduction to computer systems		1. Introduction
2	Performance metric		
3	ISA (instruction set architecture) I		2. Instructions
4	ISA (instruction set architecture) II		
5	RISC-V ISA design and assembly programming		
6	Arithmetic logic		3. Arithmetic
7	Datapath and Control unit design		4. Processor
8	Basic of pipelining		5. Pipeline
9	Midterm		
10	Pipeline controls & hazards		
11	5-stage pipeline processor design		6. ILP
12	Memory hierarchy I		7. Memory
13	Memory hierarchy II		
14	Virtual memory & TLB		
15	Parallel processor architecture		8. Parallel Processors
16	Final exam		9. Closing