Syllabus

Course code	ECE 352	**Course name**	Computer Organization and Architecture	**credits**	3
Instructor	Name : Hyokeun Lee		Homepage : https://relacslab.github.io/		
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	Office hour : appointment is recommended				
1. Goals	Computing systems become more complicated than ever due to the inclusion of various technologies. Similar to skyscrapers, well-architecting a computing system while incorporating these bleeding-edge technologies appears as a pressing mission for achieving higher performance, energy efficiency, and reliability. In this lecture, we are going to learn about the basic knowledge of computer architecture.				
2. Textbooks	**Main**: Patterson and Hennessy, "Computer Organization and Design (MIPS Edition)" **Sub**: Patterson and Hennessy, "Computer Architecture: A Quantitative Approach"				
3. Prerequisites	▪ Logic Design ▪ Digital System Design ▪ ECE Programming (C/C++)				

4. Ratings (%)	Attendance	Homework	Mid-term	Final-term	Project	Others	Overall
	5	0	35	35	25	0	100

5. Agenda	**Week**	**Contents**
	1	Introduction to Computer Architecture
	2	Instruction Set Architecture (1)
	3	Instruction Set Architecture (2)
	4	Single- & Multi-Cycle Microarchitectures
	5	Pipelined Microarchitecture: Introduction
	6	Pipelined Microarchitecture: Data Hazard and its Handling
	7	Pipelined Microarchitecture: Control Hazard and its Handling
	8	Mid-Term Exam
	9	Advanced Microarchitecture: Out-of-Order, Superscalar
	10	Advanced Microarchitecture: Multithreading
	11	Memory Systems: Cache (1)
	12	Memory Systems: Cache (2)
	13	Memory Systems: Virtual Memory
	14	IO Devices and Managements
	15	Final-Term Exam

6. Notes for students	▪ F will be given if cheating is caught no matter what case is ▪ One grade lower if not taking either mid-term or final-term exam ▪ This class has a Verilog project, please refrain from taking this class if you have not taken "Digital System Design" class