

# (Syllabus)

[1] (Basic Information)					
<u>(Course Information)</u>					
/	2025 / 1		(Campus)		(Seoul Campus)
(Year/Semester)					
(Course No.)	56545		(Class No.)	01	(Credit) 3
(Course Title)	SoC (SOC DESIGN)		/		(Time/Room)
(Course Classification)	(elective major course)		(Lecture Type)		(Lone-teaching course)
(Course Type)	(Theoretical course)		(Medium of Instruction)		
(Accreditation)			(Accreditation of Engineering Education)		
(College)	ICT (College of ICT Engineering)		( )		ICT
(Department)					
e - class (Usage of e - class)	No				
<u>(Instructor Information)</u>					
(Name)	(Lee, Woojoo)		(Department)		(School of Electrical and Electronics Engineering)
(Office Phone No.)	02 - 820 - 5961		(Contact No.)		5941
E - mail (E - mail)	space@cau.ac.kr		(Department Phone No.)		5941
가 (Office Hour)	9 - 11 , .		(Office Location)		310 625
(Course Web - site)					

[2] / (Learning Objectives/Outcomes)		
<u>(Course Description)</u>		
SoC( ) , , SoC , RISC-V eXpress (RVX) EDA SoC FPGA kit RVX		
<u>(Prerequisites and Co-requisites)</u>		
Linux , 가		
<u>(Learning Objectives)</u>		
SoC 1) SoC , 2) SoC , 3) SoC - ( ) SoC - ( ) SoC - ( ) EDA		
<u>(Learning Outcomes)</u>		
SoC IoT 가 RISC-V SoC		
[3] (Course Methods)		
<u>(Teaching and Learning Methods)</u>		
(Teaching and Learning Methods)	가	(Additional Description)
- (Lecture)	VLSI , Verilog , EDA , SoC IP	
/ - (Individual Practical Training)	SoC IP , RISC-V core SoC , FPGA	
- (Individual)		
- (Mid-term Exam)		
<u>(Assignments)</u>		
(Assignments)	(No.)	( , , )(Assignments Description)
(Individual)	1	IP SoC , FPGA
<u>(Textbooks, Reading, and other Materials)</u>		

[4] 가 (Student Assessment)
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가 (Assessment Item)		가 (%) (Assessment Ratio)	가 (Additional Description)	
(Attendance)		5		
(Mid-term Exam)		40		
(Final Exam)		40		
(Assignment)		15		
[5] (Course Schedule)				
(Week)	(Instructor)	(Topic & Content)	(Student Assignment)	가 (Additional Description & Instructor Assignment)
1		?		Transistor Gate
2		SoC ?		EDA SoC ,
3		/ SoC 가?		/ SoC , Tradeoff
4		RTL ?		Verilog HDL RTL (Modelsim )
5		RTL ?		Sequence Detector RTL
6		FPGA ?		RTL , FPGA (Vivado , Arty-S7 FPGA )
7		RISC-V ?		RISC-V , RISC-V eXpress
8		RVX RISC-V General IP SoC		ORCA/Rocket , NoC, SRAM, DRAM Peri (UART, I2C) general IP SoC (RVX : Window Linux version)
9		RVX RISC-V General IP SoC		SoC RTL FPGA
10		RVX Special IP 가 Application-specific SoC		AMBA APB/AHB SIMD IP speical IP 가 SoC API
11		RVX Special IP 가 Application-specific SoC		(Special IP 가 SoC ) 가 ,
12		가 가 SoC ,		IoT . IoT SoC
13		가 가 SoC ,		RVX SoC FPGA API
14		가 가 SoC ,		SoC 가 IP . 가 IP API

(W eek)	(Instructor)	(Topic & Content)	(Student Assignment)	가 (Additional Description & Instructor Assignment)
15		가		SoC 가
16				( )
[6] (Guide to Learning)				
< windows 10 20GB PC ( ) 가 > SoC EDA , FPGA kit EDA SoC .				
(Previous Exam Samples)				
< 가 >(<Download Additional Sample>)				
가 .				
71 【 】 6 47 【 】 ( In pursuant to the Article 71 ‘Discipline ’ of the Chung-Ang University Regulations, and Article 47 ‘Punishment for Cheating during Examination ’ under Chapter 6 of the Academic Affairs Management Rules, any student caught engaging in academic misconduct during an exam will be subject to disciplinary action.)				
1. : , , , 가 2. : , , 가 3. / : 가 , 가 4. : 02-820-6577~9( ), 031-670-4816( ) ( cauable)				
In this class, students with disabilities are eligible for reasonable accommodations depending on the type and severity of disability. If you wish to receive accommodations listed below, please contact the Support Center for Students with Disabilities. 1. Visual Impairment: Braille, large print, electronic class materials, volunteer note-taker, adjustments in assessment practices, etc. 2. Hearing Impairment: Volunteer note-taker, stenographer, adjustments in assessment practices, etc. 3. Physical Disabilities/Brain Lesions: Classrooms with wheelchair access, volunteer note-taker, adjustments in assessment practices, etc. 4. Accommodations for students with other psychiatric disabilities or health impairments can be arranged through the Support Center for Students with Disabilities after consultation. Inquiry: 02-820-6577~9 (Seoul Campus), 031-670-4816 (Anseong Campus) - KakaoTalk Plus Friend ID: @cauable				