

Lect. 1: Introduction

- Goals: Learn how to use transistors for various useful applications
- Teaching Staff
 - Lecturer: Prof. Woo-Young Choi (최우영)
Room: B625, Tel: 2123-2874
Email: wchoi@yonsei.ac.kr, tera.yonsei.ac.kr
 - T.A.'s: 최광천 (c3kc@tera.yonsei.ac.kr)
윤진성 (polo4891@tera.yonsei.ac.kr)
Room: B629, Tel: 2123-7709
- Class Hours
 - Lecture: Mon. 2:00-3:00 pm, Wed. 1:00-3:00 pm at B041
 - Tutorial: Mon. 1:00-2:00 pm at B041
- Prerequisite: A passing grade in Electronic Circuits I: What is a transistor?

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- Textbook: **Microelectronics Circuits** (5th Edition) by Sedra and Smith
- Class web page: tera.yonsei.ac.kr (Click Classes)
Lecture notes will be available in PDF files the night before the class
- Grades
 - **Projects**: 20 points x 3 times = 60 points
 - **Quiz**: 10 points x 3 = 30 points
 - **Attendance and homework**: 10 points (No reliance on electronic checking system)
(Project presentaiton in English for 15 mins.: 3 point, sign-up required)
- Attendance: Random sampling
Absent: - 0.5 point, Late: - 0.25 point
- Homeworks.: When necessary.
No homework: - 1.0 points, Suspected of copying: -3 points
Max. penalty points for attendance and H.W. : -10 points

Lect. 1: Introduction

● Lunch Meeting:

Students are encouraged to participate in lunch meetings with professor. Lunch meetings will be held on Wednesday from 12:00 - 12:50 in my office and sign-up sheets are available. We can have free conversation on electronic circuits, future career plans, etc. Sandwiches and drinks will be provided.

Lect. 1: Introduction

- Class Schedule (Tentative and subject to changes)

- Part 1: Amplifiers

- Part 2: Filters

- Part 3: Phase-Locked Loops

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- Part 1: Amplifiers

- Lect. 1: Introduction

- Lect. 2: Transistors

- Lect. 3: MOSFET

- Lect. 4: MOSFET Frequency Response

- Lect. 5: Amplifiers (1)

- Lect. 6: Amplifiers (2)

- Lect. 7: Amplifier Frequency Response

- Lect. 8: Feedback

- Lect. 9: Operational Amplifiers

- Lect. 10: Differential Amplifiers

- Lect. 11: 2-stage OTA

- Lect. 12-13: Op-Amp Applications

Quiz 1: 3/19

Project 1: Due on 3/25

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- Part 2 : Filters

Lect. 14: First-Order Filters

Lect. 15: 2nd-order passive filters

Lect. 16: Second-order active filters

Lect. 17: Two-integrator-loop biquad

Lect. 18: Higher-order filters

Lect. 19-20: Switched Capacitor Filters

Quiz 2: 4/30

Project 2: Due on 5/12

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-Part 3 : Phase-Locked Loops

Lect. 21: Inverters

Lect. 22: CMOS Logic Gates

Lect. 23: Ring Oscillator

Lect. 24-26: Phase-Locked Loops

Lect. 27-30 : PLL Applications

Quiz 3: 5/28

Project 3: Due on 6/9

March

일	월	화	수	목	금	토
				1	2	3
4	5 Lect. 1	6	7 Lect. 2,3	8	9	10
11	12 T Lect. 4	13	14 LM Lect. 5,6	15	16	17
18	19 Q 1 Lect. 7	20	21 LM Lect. 8,9 P1 Out	22	23	24
25	26 LM Lect. 10 Lect. 11	27	28 T	29	30	31

April

일	월	화	수	목	금	토
1	2 T Lect. 12	3	4 LM Lect. 13,14	5	6	7 P1 Due
8	9 P1 Presentation	10	11 LM P1 Demo Lect. 15	12	13	14
15	16 T Lect. 16	17	18 LM Lect. 17,18	19	20	21
22	23	24	25	26	27	28
29	30 Q2 Lect. 19 P2 Out					

Mid-Term Exam Period

May

일	월	화	수	목	금	토
		1	2 LM Lect. 20, 21	3	4	5
6	7 T Lect. 22	8	9 LM Lect. 23,24	10	11	12 P2 Due
13	14 LM P2 Presentation	15	16 P2 Demo C++Sim 설명	17	18	19
20	21 T Lect. 25	22	23 LM Lect. 26,27 P3 Out	24	25	26
27	28 Q3 Lect. 28	29	30 LM Lect. 29, 30	31		

June

일	월	화	수	목	금	토
					1	2
3	4 Review for Project	5	6	7	8	9 P3 Due
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

← Final Exam Period →