

ECE 2214: Physical Electronics (Spring 2024)

Course Outline & Tentative Course Schedule

Week	Class	Date	Topics	Assignment
1		1/15	No class	
	1	1/17	Course introduction	Neamen_Ch1.1-1.3
	2	1/19	Semiconductor materials and diodes	Neamen_Ch1.1-1.3
2	3	1/22	Semiconductor materials and diodes	HW1, Neamen_Ch1.1-1.3
	4	1/24	Semiconductor materials and diodes	Neamen_Ch1.1-1.3
	5	1/26	Semiconductor materials and diodes	Neamen_Ch1.1-1.3
3	6	1/29	Field-effect transistor (FET)	HW2, Neamen_Ch3.1-3.2
	7	1/31	Field-effect transistor (FET)	Neamen_Ch3.1-3.2
		2/2	Field-effect transistor (FET)	Neamen_Ch3.1-3.2
4	8	2/5	Field-effect transistor (FET)	Lab 1, Neamen_Ch3.1-3.2
	9	2/7	Exam 1 review	
	10	2/9	Exam 1	
5	11	2/12	Basic FET amplifier	HW3, Neamen_Ch4.1-4.4
	12	2/14	Basic FET amplifier	Neamen_Ch4.1-4.4
	13	2/16	Basic FET amplifier	Neamen_Ch4.1-4.4
6	14	2/19	Basic FET amplifier	Neamen_Ch4.1-4.4
	15	2/21	MOSFET Digital Circuits	HW4, Neamen_Ch16.1 & 16.3
	16	2/23	MOSFET Digital Circuits	Neamen_Ch16.1 & 16.3
7	17	2/26	MOSFET Digital Circuits	Neamen_Ch16.1 & 16.3
	18	2/28	MOSFET Digital Circuits	Lab 2, Neamen_Ch16.1 & 16.3
	19	3/1	Vector analysis	Ellingson_Ch4
8	20	3/4	Spring Break (No Class)	
	21	3/6	Spring Break (No Class)	
	22	3/8	Spring Break (No Class)	
9	23	3/11	Exam 2 review	
		3/13	Exam 2	
	24	3/15	Vector analysis & Electrostatics	HW5, Ellingson_Ch4, & Ch5.1-5.4
10	25	3/18	Electrostatics	Ellingson_Ch5.1-5.9
	26	3/20	Electrostatics	Ellingson_Ch5.1-5.9
	27	3/22	Electrostatics	Lab 3, Ellingson_Ch5.12-5.14
11	28	3/25	Electrostatics	Ellingson_Ch5.22-5.24
	29	3/27	Magnetostatics	HW6, Ellingson_Ch7.1-7.9
	30	3/29	Magnetostatics	Ellingson_Ch7.12-7.14
12	31	4/1	Magnetostatics	Ellingson_Ch7.12-7.14
	32	4/3	Transmission line	Ellingson_Ch3.1-3.10
	33	4/5	Exam 3 review	
13	34	4/8	Exam 3	
	35	4/10	Transmission line	HW7, Ellingson_Ch3.12-3.15
	36	4/12	Transmission line	Ellingson_Ch3.20-3.22
14	37	4/15	Transmission line	Ellingson_Ch3.20-3.22
	38	4/17	Time-varying fields	Ellingson_Ch8.1-8.9
	39	4/19	Time-varying fields	HW8, Ellingson_Ch8.1-8.9
15		4/22	Time-varying fields	Ellingson_Ch8.1-8.9
	40	4/24	Time-varying fields & EM waves	Ellingson_Ch8.1-8.9 & Ch9.1-9.2
	41	4/26	EM waves	Ellingson_Ch9.1-9.5
16	42	4/29	EM waves	Ellingson_Ch9.1-9.5
	43	5/1	Exam 4 review	
17		5/6	Exam 4 (Common Time Exam)	Exam 4 time: 1:05 pm Monday (May 6, 2024)

- D. A. Neamen, Microelectronics Circuit Analysis and Design, 4th edition
- Steven W. Ellingson, Electromagnetics, volume 1