

**ECE 2214: Physical Electronics (Spring 2023)**  
**Course Outline & Tentative Course Schedule**

Week	Class	Date	Topics	Assignment
1		1/16	No class	
	1	1/18	Course introduction & Semiconductor	Lab 1, Neamen_Ch1.1-1.3
	2	1/20	Semiconductor materials and diodes	Neamen_Ch1.1-1.3
2	3	1/23	Semiconductor materials and diodes	HW1, Neamen_Ch1.1-1.3
	4	1/25	Semiconductor materials and diodes	Neamen_Ch1.1-1.3
	5	1/27	Semiconductor materials and diodes	Lab 2, Neamen_Ch1.1-1.3
3	6	1/30	Field-effect transistor (FET)	Neamen_Ch3.1-3.2
	7	2/1	Field-effect transistor (FET)	HW2, Neamen_Ch3.1-3.2
		2/3	Field-effect transistor (FET)	Neamen_Ch3.1-3.2
4	8	2/6	Exam 1 review	Exam 1 review
	9	2/8	Exam 1	Exam 1
	10	2/10	Basic FET amplifier	HW3, Neamen_Ch4.1-4.4
5	11	2/13	Basic FET amplifier	Neamen_Ch4.1-4.4
	12	2/15	Basic FET amplifier	Lab 3, Neamen_Ch4.1-4.4
	13	2/17	Basic FET amplifier	Neamen_Ch4.1-4.4
6	14	2/20	MOSFET Digital Circuits	HW4, Neamen_Ch16.1 & 16.3
	15	2/22	MOSFET Digital Circuits	Neamen_Ch16.1 & 16.3
	16	2/24	MOSFET Digital Circuits	Neamen_Ch16.1 & 16.3
7	17	2/27	Exam 2 review	Exam 2 review
	18	3/1	Exam 2	Exam 2
	19	3/3	Advanced topics	
8	20	3/6	Spring Break (No Class)	
	21	3/8	Spring Break (No Class)	
	22	3/10	Spring Break (No Class)	
9	23	3/13	Vector analysis	Ellingson_Ch4
		3/15	Vector analysis & Electrostatics	Ellingson_Ch4
	24	3/17	Electrostatics	HW5, Ellingson_Ch5.1-5.9
10	25	3/20	Electrostatics	Ellingson_Ch5.1-5.9
	26	3/22	Electrostatics	Lab 4, Ellingson_Ch5.12-5.14
	27	3/24	Electrostatics	Ellingson_Ch5.22-5.24
11	28	3/27	Magnetostatics	HW6, Ellingson_Ch7.1-7.9
	29	3/29	Magnetostatics	Ellingson_Ch7.12-7.14
	30	3/31	Magnetostatics	Ellingson_Ch7.12-7.14
12	31	4/3	Transmission line	Ellingson_Ch3.1-3.10
	32	4/5	Exam 3 review	
	33	4/7	Exam 3	
13	34	4/10	Transmission line	HW7, Ellingson_Ch3.12-3.15
	35	4/12	Transmission line	Ellingson_Ch3.20-3.22
	36	4/14	Transmission line	Ellingson_Ch3.20-3.22
14	37	4/17	Time-varying fields	Lab 5, Ellingson_Ch8.1-8.9
	38	4/19	Time-varying fields	Ellingson_Ch8.1-8.9
	39	4/21	Time-varying fields	Ellingson_Ch8.1-8.9
15		4/24	Time-varying fields	HW8, Ellingson_Ch8.1-8.9
	40	4/26	EM waves	Ellingson_Ch9.1-9.5
	41	4/28	EM waves	Ellingson_Ch9.1-9.5
16	42	5/1	EM waves & Advanced topics	Ellingson_Ch9.1-9.5
	43	5/3	Exam 4 review	
		5/5	Classes End, Common Time Exam	Exam 4: Friday, May 5, 2023, (4:25pm - 5:25pm)

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