

ECE 2214: Physical Electronics (Summer 2025)

Course Outline & Tentative Course Schedule

Week	Class	Date	Topics	Assignment
1	1	7/8	Course Introduction	Neamen_Ch1.1-1.3
	2	7/9	Semiconductor materials and diodes	HW1 , Neamen_Ch1.1-1.3
	3	7/10	Semiconductor materials and diodes	Neamen_Ch1.1-1.3
	4	7/11	Semiconductor materials and diodes	Neamen_Ch1.1-1.3
2	5	7/14	Field-effect transistor (FET)	HW2 , Neamen_Ch3.1-3.2
	6	7/15	Field-effect transistor (FET)	Neamen_Ch3.1-3.2
	7	7/16	Field-effect transistor (FET)	Lab 1 , Neamen_Ch3.1-3.2
	8	7/17	Exam 1 review : Basic FET amplifier	HW3 , Neamen_Ch4.1-4.4
	9	7/18	Exam 1	
3	10	7/21	Basic FET amplifier	Neamen_Ch4.1-4.4
	11	7/22	Basic FET amplifier	HW4 , Neamen_Ch4.1-4.4
	12	7/23	MOSFET Digital Circuits	Neamen_Ch16.1 & 16.3
	13	7/24	MOSFET Digital Circuits	Lab 2 , Neamen_Ch16.1 & 16.3
	14	7/25	Exam 2 review : Vector analysis	Ellingson_Ch4
4	15	7/28	Exam 2	HW5
	16	7/29	Vector analysis & Electrostatics	Ellingson_Ch4; Ch5.1-5.9
	17	7/30	Electrostatics	Ellingson_Ch5.1-5.9
	18	7/31	Electrostatics	Lab 3 , Ellingson_Ch5.12-5.14
	19	8/1	Magnetostatics	HW6 , Ellingson_Ch7.1-7.9
5	20	8/4	Magnetostatics	Ellingson_Ch7.12-7.14
	21	8/5	Exam 3 review : Transmission line	Ellingson_Ch3.1-3.10
	22	8/6	Exam 3	HW7
	23	8/7	Transmission line	Ellingson_Ch3.12-3.22
	24	8/8	Time-varying fields	Ellingson_Ch8.1-8.9
6	25	8/11	Time-varying fields	HW8 , Ellingson_Ch8.1-8.9
	26	8/12	EM waves	Ellingson_Ch9.1-9.5
	27	8/13	EM waves	Ellingson_Ch9.1-9.5
	28	8/14	Exam 4 review	
	29	8/15	Exam 4	Mandatory (count towards grade)

- D. A. Neamen, Microelectronics Circuit Analysis and Design, 4th edition
- Steven W. Ellingson, Electromagnetics, volume 1
- Fundamentals of Applied Electromagnetics, Ulaby & Ravaioli (Pearson) (Reference book)

7/18, 7/28, 8/6, and 8/15 are Exam dates (Take a note and put it on your calendar)