Lecture Schedule, EK 307, Fall 2022 (tentative)

Lec#	Date	Topic	Reading
1	T 9/6	Course Introduction, System of Units Charge, Current and Voltage; Power and Energy Basic Circuit Elements	Chapter 1
2	Th 9/8	Ohm's law; KVL, KCL, Dependent sources	1.6, 2.1-2.4
3	T 9/13	Resistors in Series and voltage division Resistors in parallel and current division	2.5-2.6, 2.8-2.9
4	Th 9/15	Node-Voltage Method Solving circuits with linear algebra	3.1-3.3, 3.6
5	T 9/20	Transistor model and dependent sources	3.9-3.10
6	Th 9/22	Linearity, superposition, source transformation Thevenin & Norton circuits, Part I	4.1-4.5
7	T 9/27	Thevenin & Norton circuits, Part II Maximum Power Transfer	4.6 - 4.8, 4.10, 4.11
8	Th 9/29	Exam Review. Introduction to operational amplifiers Inverting and non-inverting amplifiers	5.1-5.5
9	T 10/4	Op-amp analysis techniques Basic op-amp circuits: Voltage follower, Summing Amplifier, Difference Amplifier.	5.6 -5.8
10	Th 10/6	**EXAM 1 (up to Chapter 4)**	
	T 10/11	Monday schedule	
11	Th 10/13	Op-amp circuit design D/A conversion, Instrumentation amplifier	5.10, 5.11
12	T 10/18	Introduction to Capacitors, Inductors Op-amp examples	Chapter 6
13	Th 10/20	Intro to first order circuits: source free RL and RC circuits	7.1-7.3
14	T 10/25	Singularity Functions Step response of RL and RC circuits	7.4-7.6
15	Th 10/27	First order op-amp circuits	7.7, 7.9-7.10
16	T 11/1	Intro to second order circuits Series/parallel RLC circuits	8.1-8.4
17	Th 11/3	RLC circuits, step response	8.5-8.8, 8.11, 8.12
18	T 11/8	Sinusoidal steady state and phasors Phasor relations for circuit elements	9.1 - 9.4
19	Th 11/10	Impedance and admittance. Exam Review	9.5-9.9
20	T 11/15	**EXAM 2 (up to Chapter 8)**	
21	Th 11/17	Circuit analysis with phasors: KVL, KCL, Thevenin, Norton	10.1-10.2, 10.4 – 10.7, 10.9,10.10
22	T 11/22	AC Power Analysis: instantaneous vs. average, RMS	11.1-11.4
23	T 11/29	Intro to frequency analysis. Transfer Functions, Decibel and Bode plots	14.1-14.4
24	Th 12/1	Passive filters (high pass, low pass, band pass), Resonance	14.5-14.7
25	T 12/6	Active Filters: Analysis	14.8
26	Th 12/8	Active Filters: Design and Applications	14.12
	TBD	**FINAL EXAM (Entire course, emphasis on lectures 18-26)**	