

Lecture Schedule

Section A1 – Prof. Miloš Popović, Section A2 – Prof. Mark Horenstein, Section A3 – Prof. Min-Chang Lee

Lec	Date		Topic	Reading: Chapter
	Sec. A1	Sec. A2,A3		
1	9/5	9/6	System of Units; Charge, Current and Voltage; Power and Energy; Circuit Elements; Ohm's law	Chapter 1, 2.1–2.2
2	9/8	9/11	KVL, KCL, Resistors in Series and voltage division, Resistors in parallel and current division	2.3–2.6,
3	9/12	9/13	Node-Voltage Method, Solving circuits with linear algebra	3.1–3.3
4	9/14	9/18	Mesh-current method, Application: Transistors, LED	3.4–3.7, 3.9-3.10
5	9/19	9/20	Circuit theorems: Linearity, superposition, source transformation	4.1–4.4
6	9/21	9/25	Thevenin & Norton theorems	4.5–4.7
7	9/26	9/27	Maximum Power Transfer, Examples: Source modeling, Bridge circuits, Interface circuits	4.8, 4.10–4.11
8	9/28	10/2	Introduction to operational amplifiers, Inverting and non-inverting amplifiers	5.1–5.5
9	10/3	10/4	Op-amp circuit analysis, Examples: Voltage follower, Summing and Differencing Amplifiers,	5.6–5.7
10	10/6	10/10	Cascaded OP AMP circuits	5.7-5.8
11	10/12	10/11	Op-amp circuit design, Applications: D/A conversion, Instrumentation amplifier.	5.10-5.11
12	10/17	10/16	MIDTERM EXAM 1 (Sections 1 & 2) Introduction to Capacitors, Inductors Applications: Integrator, Differentiator	Chapter 6
13	10/19	10/18	First order circuits: Source free RL and RC circuits	7.1–7.3
14	10/24	10/23	Singularity functions, RL and RC step response	7.4–7.6
15	10/26	10/25	First order op-amp circuits	7.7, 7.9–7.10
16	10/31	10/30	Intro to second order circuits Series/Parallel RLC circuits, damping	8.1–8.4
17	11/2	11/1	RLC circuits, step response Second order op-amp circuits	8.5–8.8
18	11/7	11/6	Sinusoidal steady state and phasors Phasor relations for circuit elements	9.1–9.4
19	11/9	11/8	Impedance and Admittance	9.5–9.8
20	11/14	11/13	MIDTERM EXAM 2 (Sections 1 & 2) Circuit analysis techniques with phasors: Thevenin and Norton.	10.1–10.6
21	11/16	11/15	OP AMP AC Circuits, maximum average power transfer	10.7, 11.3
22	11/21	11/20	Intro to filter circuits: Low-pass filters, High-pass filters, Decibel and Bode plots	14.1–14.3, 14.7
23	11/28	11/27	Band-pass filters, RLC frequency response, Resonance	14.4, 14.7
24	11/30	11/29	Active Filters	14.8
25	12/5	12/4	Filter design, Applications	14.12, Notes
26	12/7	12/6	Mutual inductance and transformers	13.1–13.5
27	12/12	12/11	Mutual inductance and transformers, Applications	notes
28	TBA	TBA	Review for final exam	
	TBA	TBA	FINAL EXAM	