

Tentative Course Outline

Weeks	Chapters	Topics	Homework problems
1	Appendix B	Precursors; Complex numbers	HW1.pdf in Module "Complex numbers"
2	Ch. 1.1-1.6	Basic concepts of electricity	1.1, 1.3, 1.5, 1.6, 1.8, 1.9, 1.10, 1.11, 1.12, 1.15, 1.18
2/3	Ch. 2.1-2.3	Voltage and Current Sources, Ohm's Law, Circuit Models	2.1, 2.3, 2.4, 2.6, 2.7, 2.8, 2.10, 2.13
3/4	Ch. 2.4-2.5	Kirchhoff's Laws, Dependent Sources in circuits	2.17, 2.18, 2.19*, 2.22, 2.27, 2.32, 2.33, 2.34
5	Ch. 3.1-3.4	Resistance in Parallel and Series connections	3.3, 3.4, 3.5, 3.6, 3.7, 3.9*, 3.12, 3.13, 3.14, 3.17, 3.21, 3.29*
6	Ch. 3.5-3.7	Current and Voltage Dividers, Concept of Load Resistance, Measurements of Current and Voltage. Wheatstone Bridge, PI to TEE transforms	3.33, 3.35, 3.37, 3.38, 3.52, 3.53, 3.61
7	Ch. 4.1-4.4	Circuit Calculations, Node-Voltage Method,	4.1, 4.3, 4.6, 4.9, 4.10, 4.11, 4.15*, 4.17, 4.21, 4.23, 4.24, 4.27, 4.28
8	Ch. 4.5-4.9	Mesh Current Method, Source Transformations,	4.37*, 4.38, 4.39, 4.40, 4.42, 4.45, 4.48, 4.52, 4.55, 4.58, 4.61, 4.60, 4.62, 4.63
9	Ch. 4.10-4.13	Norton/Thevenin Equivalents Maximum Power delivery, Superposition	4.64, 4.66*, 4.68, 4.74, 4.75, 4.77, 4.78, 4.79, 4.81, 4.87, 4.88, 4.92, 4.94, 4.101*
10-11	Ch. 6.1-6.5	Inductors and Capacitors in Circuits, Mutual Inductance	6.2, 6.3, 6.4, 6.5, 6.8, 6.17, 6.18, 6.19*, 6.21, 6.23, 6.29, 6.35 6.37, 6.38, 6.43, 6.45, 6.54
12-13	Ch. 5.1-5.7	The Operational Amplifier	5.1, 5.5, 5.6, 5.15, 5.19, 5.22, 5.23, 5.33, 5.41*
14	Ch. 9.1-9.4	Sinusoidal Steady State Analysis	9.1, 9.4, 9.5, 9.7, 9.8, 9.11, 9.12
	Ch. 10.1, 10.2	Instantaneous, Average, RMS Power	10.1, 10.2

* Problems (marked with asterisk) should be solved using Multisim. You may sign up for a free Multisim account: <https://www.multisim.com/>