

**SEE 1003 Basic Electrical Engineering  
MAPPING OF COURSE CONTENTS TO TEXTBOOK**

Topic	Chapters from Nilsson
<b>Week 1 – 2 : Topic 1:Basic Electric Circuit Law</b>	
a) Basic definition of electrical elements	Chapter 1 (1.1 – 1.6), Chapter 2 (2.1)
b) Ohm's Law and Kirchoff's	Chapter 2 (2.2 – 2.5)
<b>Week 3 - 7: Topic 2:Resistive circuits and methods of analysis</b>	
a) Resistive circuit - series and parallel circuits, combination circuits	Chapter 3 (3.1 – 3.4), Chapter 3 (3.5 – 3.6 →good to read)
b) Star-delta transformation and source transformation	Chapter 3 (3.7), Chapter 4 (4.9)
c) Circuit analysis: node/branch analysis, loop/mesh analysis (independent and dependent source)	Chapter 4 (4.1 – 4.8)
<b>Week 8 : Topic 3: First order circuits</b>	
a) Introduction to energy storage elements.	Chapter 6 (6.1 – 6.3)
b) Analysis to first order circuits	Chapter 7 (7.1 – 7.5)
<b>Week 13 - 15 : Topic 4:AC circuits and methods of analysis</b>	
Introduction to alternating current	
a) Characteristics of Sinusoidal Function	
b) Phasor representation of sinusoids	
c) Impedance and Admittance	
d) Reactance and susceptance	
e) Parallel and series combinations in the frequency domain	
<b>Week 16 : Topic 4 : AC circuits and methods of analysis (cont..)</b>	
Circuit analysis: node/branch analysis, loop/mesh analysis (independent and dependent source).	Chapter 9 (9.8 – 9.9)