

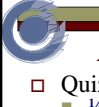
FAMU-FSU
College of Engineering

Lecture #4:
Resistive Network Analysis

EEL 3003
Introduction to Electrical Engineering
Summer Semester, 2013

Instructor: Dr. Michael Frank

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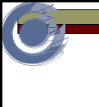


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Administrative Announcements

- Quiz #1 on Electric Circuit Fundamentals is Today!
 - ½ hour long
- Outline of Today's Lecture:
 1. Begin coverage of Chapter 3, Resistive Network Analysis
 - Solving Resistive Circuits w. Systems of Linear Equations
 - Node Voltage Method
 - Mesh Current Method
- Don't forget the current Homework Assignment:
 - Read Ch. 3 of Textbook (Rizzoni 5th ed.)
 - Practice exercises:
 - Attempt the following homework problems (randomly selected):
 - 3.6, 3.10, 3.17, 3.43, 3.60, 3.72, 3.74*, 3.75, 3.76, 3.81
 - Starred problems have solutions in the back of the book.
 - You may also want to attempt additional problems that have solutions printed in the back of the book.
 - The related quiz will be Thursday next week (May 30th).

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§3.1 – Network Analysis

- Given a circuit with sources and resistors (however complex), we can say we have *solved* the circuit once all branch currents and node voltages have been determined.
 - This is called *Network Analysis*.
- First we'll cover two basic, systematic methods for network analysis:
 - §3.2 – The Node Voltage Method
 - §3.3 – The Mesh Current Method
- Each of these involves setting up and solving a system of linear equations.
 - We'll go through some small examples doable by hand.
 - More complex cases can be solved using Matlab.
 - Will post some notes on this.

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