FAMU-FSU
College of Engineering

Lecture #5:
Resistive Network Analysis

EEL 3003
Introduction to Electrical Engineering
Summer Semseter, 2013

Instructor: Dr. Michael Frank

Administrative Announcements

- Outline of Today's Lecture:
  1. Some motivational remarks
  2. Review Quiz #1 Solution
  3. Continue Chapter 3, Resistive Network Analysis
     - Node & mesh analysis w. Controlled sources (§3.4)
     - Principle of Superposition (§3.5)
     - Norton/Thevenin Equivalent Circuits (§3.6)
     - Maximum Power Transfer Theorem (§3.7)
- Reminder: Current Homework Assignment:
  - Read Ch. 3 of Textbook (Rizzoni 5th ed.)
  - Practice exercises:
    - 3.6, 3.10, 3.17, 3.43, 3.60, 3.72, 3.74*, 3.75, 3.76, 3.81
  - Quiz postponed to Tue. next week (June 4th).

1. Motivational Remarks

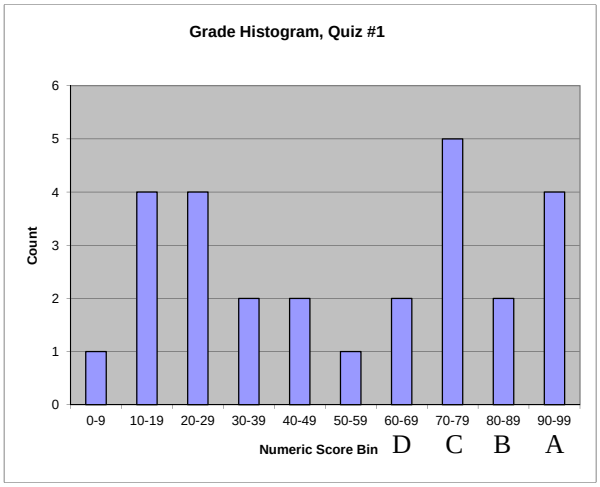
- In-Class Assignment:
  - Write 1 paragraph on the topic: "Why do I want to be an engineer?"
    - Mention your primary reason, other major reasons.
    - Be honest; I just want to understand your motivation.
      - Any serious answers will receive full credit.
- Related Presentation:
  - Some motivations

2. Review Quiz #1 Solutions

- Discuss grades
  - Need improvement
- Lowest quiz grade will be dropped
  - Can't count on this again
- Do the homework!
  - Try to solve problems on your own first.
    - If you can't figure out HW problems on your own, you can't be as confident you'll be able to pass the quizzes.
  - If you need help learning how to solve HW:
    - Work in groups, come to my office hours, or make an appointment!

Quiz #1 Preliminary Grade Histogram

Partial histogram, for the 27 quizzes graded so far:



Continue Chapter 3, Resistive Network Analysis

- ~~§3.1 – Network Analysis~~
- ~~§3.2 – The Node Voltage Method~~
- §3.3 – The Mesh Current Method
- §3.4 – Node & mesh analysis w. Controlled sources
- §3.5 – Principle of Superposition
- §3.6 – Norton/Thévenin Equivalent Circuits
- §3.7 – Maximum Power Transfer Theorem

Mesh Current Method

- We didn't have time today to finish the example on this that I started at the end of lecture last Thursday, but I posted some supplemental notes about it after the lecture.

(§3.4) Node & Mesh Analysis with Controlled Sources

- We didn't have time to cover this at all yet; I will cover it briefly at start of next lecture.
  - It's a less-important topic, since controlled sources aren't encountered as often in real circuits.