University of North Texas, College of Engineering  
Department of Electrical Engineering

EENG 2610: Circuit Analysis

Summer 2010  
Wednesday, 1:00 PM – 3:50 PM  
Classroom: NTDP B217

Instructor
• Oluwayomi Adamo, Office: NTDP B208, Tel: (940) 891-6874,  
  Email: Oluwayomi.adamo@unt.edu  
  Office Hours: Tuesday, 10:00 AM - 12:00 PM  
  (Additional appointments can be requested by email.)  
• Teaching Assistant: Sashi Robbi, Email: SashiPrabhaRobbi@My.UNT.EDU

Required Textbook
  Authors: J. David Irwin and R. Mark Nelms  

Prerequisites
• MATH 1720, co-requisite: PHYS 2220/2240

Course Objectives
• Understand basic concepts of DC and AC circuit behavior;  
• Develop ability to apply circuit analysis techniques to simple RLC and op-amp circuits;  
• Develop ability to develop and solve circuit analysis problems.  
  (ABET outcomes: a, e)

General Policies
• Class attendance is mandatory. You will need to sign attendance sheet regularly, which will affect your final grade.  
• Everyone must turn in her/his own individual homework. Simply copying other's homework will be treated as a violation of academic honesty.  
• It is the responsibility of students with certified disabilities to provide the instructor with appropriate documentation from the Dean of Students Office (see http://www.unt.edu/oda).  
• Please visit http://www.unt.edu/csrri/ for your rights and responsibilities.

Grading Policies
• Quiz, 15%  
• Labs, 5%  
• Homework, 20%
- 3 Exams, 60% (20% for each)
- Late homework will be accepted with penalty and make-up exams will not be given except in extenuating circumstances.

**Course Outline and Tentative Schedule**

1. Basic Concepts, Ohm's Law
3. Resistor Combinations, Wye Delta Transformations, Dependent Sources
4. Nodal Analysis
5. Loop Analysis
6. Op-Amp
7. Op-Amp, Linearity, Superposition
8. Thevenin's Theorem
9. Norton's Theorem, Maximum Power Transfer
10. Capacitors, Inductors
11. C L Combinations, RC Op-Amp
12. First-order Circuits
13. Second-order Circuits
14. Sinusoids, Phasors, Impedance, Admittance
15. AC Circuit Analysis Techniques
16. Power, Power Transfer, RMS, Power Factor
17. Complex Power, Power Factor Correction, Single-Phase Three-Wire Circuits
18. Mutual Inductance
19. Energy Analysis, Ideal Transformer
20. Polyphase Circuits
21. Variable Frequency-Response Analysis, Sinusoidal Frequency Analysis
22. Resonant Circuits, Filter Networks