

# EENG 2610.003 - Circuit Analysis

## Spring 2024

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**Instructor:** Colleen Bailey PhD, NTDP B252, Colleen.Bailey@unt.edu

**Office Hours:** TR 3:00 PM to 4:00 PM or by appointment

**Lecture:** TR 4:00 PM to 5:20 AM; NTDP B155

**TA:** Nicholas Esponda, M/W 2:30 PM to 3:30 PM, NTDP B207/B206, nicholasesponda@my.unt.edu

**Prerequisite:** MATH 1720 Calculus II

**Co-requisite:** PHYS 2220/PHYS 2240 Electricity and Magnetism

**Course Description:** Introduction to electrical elements, sources and interconnects, Ohm's law, Kirchoff's law, superposition and Thevenin's theorems are introduced. The resistive circuit, Op-Amp, RL, RC circuits, Sinusoidal analysis.

**Textbook:** (required)

C. Alexander and M. Sadiku, *Fundamentals of Electric Circuits*, 7th ed., McGraw Hill, 2020.

**Reference:** (suggested)

J. W. Nilsson and S. Riedel, *Electric Circuits*, 11th ed., Pearson, 2019.

**Course Outline:** (tentative)

Topic 1	.....	Introduction to Circuit Concepts and Components
Topic 2	.....	Circuit Laws
Topic 3	.....	Circuit Analysis Methods
Topic 4	.....	Operational Amplifiers
Topic 5	.....	Inductors and Capacitors
Topic 6	.....	1st Order RL and RC Circuits
Topic 7	.....	2nd Order RLC Circuits
Topic 8	.....	Sinusoidal Steady-State Analysis
Topic 9	.....	Additional Topics

**Grading:**

Homework 25%

Quizzes 50%

Final Exam 25%

**Final Exam Date:** Thursday, May 9, 1:30 PM

**Course Objective:** To understand and analyze basic RLC and op-amp circuits.

**Canvas:** Course material and grades will be maintained on the course Canvas site. You should check this page often to keep current on important information. <https://unt.instructure.com>

**Course Policies:**

- Homework is due at the beginning of class. Homework turned in after class will be penalized 50%. No homework accepted after 24 hours.
- No make up quizzes or exams will be offered unless prearranged with the instructor for a university approved absence.
- You have one week to contest any grade once returned.

**Rights and Responsibilities:**

- Students are expected to communicate to the instructor any issue regarding their performance in class ahead of time.
- Students aware of an authorized absence (religious observance, military service, official university function, etc.) should notify the instructor as soon as possible according to UNT Policy 15.2.5.
- Students with disabilities should inform the instructor of their needs at the beginning of the semester according to UNT Policy 18.1.14 in order to receive proper attention and accommodations.
- Cheating and academic dishonesty will not be tolerated. Any student found to have participated in academic dishonesty will receive an F in the class, and may be subject to further disciplinary action. Acts of academic dishonesty include: academic fraud (e.g. changing solutions to appeal a grade), copying or allowing one's work to be copied, fabrication/falsification, plagiarism, sabotage of others' work, substitution (e.g. taking an exam for someone else). For more details, see UNT Policy 18.1.16.
- Letter grades will not be assigned until the end of the term, after the final exam has been graded. Any letter grade assignment posted before the end of the class should be regarded as tentative and subject to change.