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

Office Hours: Th 11:00 AM to 1:00 PM or by appointment

Lecture: MW 10:00 AM to 11:20 AM; NTDP B242

TA: Veena Chidurala, NTDP B251, veenachidurala@my.unt.edu, W 2:00 PM to 5:00 PM

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.


Course Outline: (tentative)

- Introduction and Circuit Concepts ................................week 1
- Circuit Laws ..........................................................week 1
- Analysis Methods ......................................................week 2-3
- Operational Amplifiers ..............................................week 4
- Additional Analysis Methods .....................................week 5
- Inductors and Capacitors .............................................week 6
- 1st Order RL and RC Circuits .....................................week 6-7
- Midterm Exam .........................................................week 8
- 2nd Order RLC Circuits ..............................................week 9
- Sinusoidal Steady-State Analysis ..................................week 10-11
- Steady-State Power Analysis ......................................week 12
- Transformers and Three-Phase Circuits .......................week 12-13
- Variable Frequency-Response Analysis .......................week 14
- Bode Plots, Resonant Circuits, and Passive Filters ..........week 14-15
- Final Exam ............................................................

Grading:
Midterm 30%
Final Exam 30%
Bi-weekly Quizzes 30%
Attendance 10%

Course Objective: To understand and analyze basic RLC and op-amp circuits.
**Blackboard:** Course material and grades will be maintained on the course Blackboard site. You should check this page often to keep current on important information.  
https://learn.unt.edu

**Rights and Responsibilities:**

- **Attendance** is required and will be recorded each class. 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.