EE-2302
EE Lab 2

Catalog Description:
Second laboratory course in electrical engineering. Investigates electric circuits and linear systems. Credits: 1.0 Lec-Rec-Lab: (0-0-2) Semesters Offered: Fall Spring Prerequisites: EE 2110(C) and EE 2160(C)

Textbooks(s) and/or Other Required Materials:
None

Prerequisites by Topic:
Mastery of dc circuit analysis by node and mesh methods.
Mastery of ac circuit analysis using phasors.
Familiarity with network theorems including superposition and Thevenin’s equivalents.
Introduction to the transient analysis of first-order and second-order electric circuits
Familiarity with the use of the Laplace transform in circuit analysis.
Introduction to the frequency response of electric circuits.

Course Objectives:
1. Familiarity with electrical measurement techniques and equipment
2. Familiarity with circuit modeling techniques and software
3. Mastery of transient analysis of 1st and 2nd order electric circuits
4. Familiarity with passive and active filter design
5. Introduction to control systems
Topics Covered:

1. Basic measurements; Multimeters, Function Generators, Oscilloscopes, Power Supplies
2. P-Spice; DC, AC and Transient Analysis
3. Op Amp Networks; Amplifiers, Filters
4. Transient modeling and measurement of 1\textsuperscript{st} and 2\textsuperscript{nd} order circuits
5. Active filter design
6. Introduction to feedback control systems

Relationship of Course to Program Objectives (See UPAC SOP, Tables 1 and 2):

- **EE:**
  - Objective: 1 via Outcome: b via topic(s): 1, 2, 3, 4, 5, 6
  - Objective: 1 via Outcome: l via topic(s): 1, 2, 3, 4, 5, 6
  - Objective: 4 via Outcome: g via topic(s): 1, 2, 3, 4, 5, 6

- **CpE:**
  - Objective: 2 via Outcome: n via topic(s): 1, 2, 3, 4, 5, 6

Contribution of Course to Meeting the Professional Component (See UPAC SOP, Tables 1 and 2):

N/A

Class/Laboratory Schedule (note: 1 hour = 50 minutes):

- Instructional Lab: 30 hours = (1 session/week @ 2 hours/session) for 15 weeks

Prepared by:

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