EEL 3118L Laboratory 1

Credits: 2

Text book, title, author, and year: Course material supplied by FAU Instructor

Specific course information
   a. Catalog description: Introduction to basic electronic test equipment; measurement techniques, experimental analysis and design of linear and non-linear circuits.
   b. Prerequisites: EEL 3111
   c. Required, elective, or selected elective: required

Specific goals for the course
Specific outcomes of instruction:
   a. By the end of the course students will be able to: (i) work effectively as a team member on a project team; (ii) demonstrate knowledge of proper study skills and time management habits; (iii) demonstrate the ability to communicate effectively orally and in writing a report; (iv) demonstrate understanding of the problem solving process.

Brief list of topics to be covered:
1) Handle basic electronic instruments/equipment such as Power supplies, Oscilloscope’s, Multi-meters, signal generators, etc.
2) Identify passive components (R, L, and C) and active devices like transistors, diodes, and operational amplifiers.
3) Perform measurements procedures to assess R, L, C values.
4) Perform tests to measure voltage and current using measuring instruments including Oscilloscope.
5) Use Oscilloscope (digital) to study various electrical waveforms
6) Characteristics such as amplitude, phase, and frequency.
7) Wire–up relevant circuits to emulate differentiation/integration.
8) Determine the characteristics of diodes and transistors.
9) Analyze the transient and steady-state behavior of RLC circuits and understand resonant circuits.
10) Perform basic experiments to understand operational amplifier applications.