

Syllabus ELEE 2120 Electrical Circuits Laboratory Fall 2016

COURSE DESCRIPTION

Laboratory experiments in electric and electronic circuits.

LAB INSTRUCTOR

Dr. Nazmul Islam

Email: nazmul.islam@utrgv.edu

Teaching Assistant:

Jorge Castillo

Email: jorge.a.castillo01@utrgv.edu

TEXT

Laboratory manuals for each lab will be provided.

PREPARATION

Preparation for the lab involves printing the laboratory assignment and reading it before class. It is essential that you read and understand the lab before class in order to have enough time to complete it in the time given. The laboratory assignments will be available via email or blackboard, depending on the available tool.

LAB STRUCTURE

Lab assignments will be performed in groups of two students. A lab report is due the class after a lab is completed. In order to receive credit for a lab report, you must be present in the lab and participate in the experiment. Attendance will be taken at the beginning of every class. If you are not present when attendance is taken you will be considered absent. A record will also be kept of all lab reports that are submitted at the beginning of class. It is your responsibility to ensure you have marked as present and that your report was submitted.

LAB EQUIPMENT

Groups will be required to buy a breadboard along with wire cutters and wire strippers, since you will be using them throughout your entire collage curriculum. Parts and/or components will be provided at the beginning of class and should be returned upon completing of the assignment or at the end of class.

GRADING

Final Exam: 20%

Lab Reports: 70%

Attendance: 10%

ANY AMOUNT of plagiarism will be given a grade of **ZERO** for all parties involved.

ABSENCES

Due to the difficulty in preparing the lab for an individual student, no make-up labs are allowed!

Do not turn in a lab report for a lab you were not present for, it will not be graded!

LATE REPORTS

Lab reports are due one week from the assigned date. Lab reports must be submitted by the end of the lab session. Late reports will lose 25% of the credit, and will not be accepted after one week from the day of the lab. If you know you will not attend class it is your responsibility to submit your report before the scheduled class date. If an emergency prevents you from submitting your report on time, it will be accepted if documentation of the emergency is provided.

LAB REPORT FORMAT

Objective (10%)

Purpose of activity and expected outcomes.

Materials and Equipment used (10%)

This information should be consistent through the complete experiment.

Procedure (30%)

The steps taken to investigate the topic.

Data and after the lab procedure (40%)

Collected data, graphs, schematics and calculations being displayed in a readable fashion.

Conclusions (10%)

Analysis of the data/calculations.

SCHEDULE (Subject to change)

Introduction and Safety Measurements

Lab 1: Multimeters & Kirchhoff Laws

Lab 2: Superposition and Thevenin Circuits

Lab 3: pSpice Simulation

Lab 4: Thevenin and Norton Circuits

Lab 5: Oscilloscope

Lab 6: Operational Amplifiers

Lab 7: Non-Inverting Operational Amplifiers

Lab 8: RC Lab and pSpice

Lab 9: LC Lab and pSpice

Lab 10: Sinusoidal Signals and Phases

Lab 11: AC Power and Impedance

Lab 12: AC Line Voltage and Transformers

Lab 13: Passive Filters

Final Exam