EE/CE/TE 3101
ELECTRICAL NETWORK ANALYSIS LAB
Fall 2015 Syllabus

Lab sessions: Tuesday 1:00 pm – 3:45 pm (Section 103), and 4:00 – 6:45 pm (Sections 101, 102, and 104).
Instructor: Amitava Chatterjee, **E-mail:** axc144730@utdallas.edu
Office Hours: ECSN 4.608: During lab sessions only. Make appointment by email.

Co-requisite and Other Restrictions: Co-requisite EE/CE/TE3301 Electrical Network Analysis. *Students must actively participate in performing all the designated experiments for this course*.

Course Description: This course is designed to provide students with professional skills for lab experiences. Students will assemble and test linear electrical networks and systems. Students will learn how to troubleshoot in those procedures. Students will also use computers to simulate circuits with PSpice (MicroSim). Lab classes are designed to accompany the co-requisite EE/CE/TE3301 Electrical Network Analysis class.

Student Learning Objectives/Outcomes

- Ability to use Pspice program to analyze electrical circuits
- Ability to measure and interpret basic electrical circuit parameters
- Ability to measure and interpret DC circuits parameters
- Ability to use various techniques for electrical circuit analysis
- Ability to analyze the behavior of an operational amplifier circuit
- Ability to measure and interpret response of first order RL and RC circuits
- Ability to measure and interpret response of second order RLC circuits.

Web site: eLearning. Check the website each week for any announcements and changes in schedule.

Lab Procedures: The Lab procedures for experiments would be made available at eLearning.

Safety Rules: Download and study the safety brochure EE_Lab_Safety_Brochure.pdf

- Avoid metal jewelry on hands, e.g., rings, silk clothing, and ties or other dangling accessories.
- Do not touch energized circuits with bare skin. Disable power supplies before handling components.
- Read the safety rules presented in the preface of the lab manual and understand them for your safety.

Spice: PSpice 9.1 student version (http://www.electronics-lab.com/downloads/schematic/013)
LTSpice (http://www.linear.com/LTspice)

Experiment:
Instructions for each experiment would be available at eLearning. Print out /exp#.pdf and bring to lab.
A description of the lab equipment is in the /appendix.pdf. Download and bring it with you to lab for reference.

Lab preparation:

1. Students should read the labs carefully and complete the prelab procedures *before* coming to class. Bring two copies and submit one prelab report to TAs when you enter the lab**.** Keep one copy to complete the experiment. Without pre-lab preparation and report **you would not be allowed to do the experiment.**
2. Be prepared for the experimental procedures by understanding the relevant theory. **Contact the TA/Instructor with questions ahead of time**. Read the pre-lab instructions early in the week.

Lab procedure:

1. Arrive on time. Turn in your lab reports (final report and pre-lab report) to the TA when you enter the lab. Instructor / TA will give a brief introduction in the beginning.
2. After the introduction go to a workstation (two students per station). Start only with TA's permission.
3. TA will assist students to learn how to complete the experiment. Ask for help when you are in trouble with circuits and equipment. However, **you are responsible for performing the complete experiment.**
4. The TA will evaluate your performance in the lab, **give a grade, and sign the data sheet**. You keep the data with the TA's initials to use in the lab report.

5. When done, clean the workstation and return all wires to their storage location. Turn off the power on equipment you used. **Do not leave** till your TA has signed your data sheet and inspected your workstation.

Note: Students will work on experiments in no larger than two-person teams. Please have your teammate selected before Lab #1. If you cannot find a teammate, ask your TA for a partner assignment.

Lab reports:

1. Read the descriptions of the lab report in the preface of the lab manual. You must follow the designated formats. Ask the TA if you have questions.
2. Lab reports must be completed independently. You can share only the collected data sets with your lab partner. Copying any part of the report from others is strictly prohibited and is against the school's scholastic integrity policy. "*Integrity is doing the right thing when nobody is looking*."
3. Lab reports are always due at the beginning of the next lab. The last lab report is due the week after at a time to be announced.
4. No late lab reports are allowed.
5. Students should generate lab reports in a professional manner. Lab reports should be typed.
6. Reports must be turned in when you enter the laboratory.
7. Two copies for prelab reports are required (original for TAs and a second copy for students).
8. In your prelab report, you have to make a components list in the circuits for the experiment. In the lab manual, prelab report portion is given under the preparation section. *You must complete the prelab work before the lab starts.*

Grading: Grades are based on the performance in the lab (executing the experiment) as well as the lab reports.
Lab performance: 30% (TA will grade in the lab *before you leave the lab*. **Do not leave unless this is complete**.)
Final Lab reports: 50%,
Pre-lab reports: 20%

You have to participate in performing all experiments to secure a passing grade (C- or better).
Absence without a valid documented reason is not acceptable. A makeup lab for excused absence has to be scheduled with the TA on one of the designated weeks. Makeup labs are allowed if student failed to perform satisfactorily, but this has to be arranged ahead of time with the TA.

Scholastic Integrity: Scholastic dishonesty at The University of Texas at Dallas includes, but is not limited to, plagiarism and/or collusion. Scholastic dishonesty will not be tolerated. For details refer to the Scholastic dishonesty policy of University of Texas at Dallas at (http://www.utdallas.edu/deanofstudents/dishonesty)

Lab schedule: Lab schedule is subject to change.

Date	Expt. #	Description
9/8/15	1	Introduction to laboratory equipment and basic components
9/15/15		Makeup Lab (need to arrange ahead with TA)
9/22/15	2	Measurements on DC circuits
9/29/15		Makeup Lab (need to arrange ahead with TA)
10/6/15	3	Techniques of Circuit Analysis
10/13/15	4	Computer Design and Analysis
10/20/15		Makeup Lab (need to arrange ahead with TA)
10/27/15	5	Operational Amplifiers
11/3/15	6	Response of First Order RL and RC circuits
11/10/15	7	Response of Second Order RLC circuits
11/17/15	8	Sinusoidal Steady State Analysis and Power Calculations
12/1/15		Makeup Lab (need to arrange ahead with TA)

UT Dallas Syllabus Policies and Procedures

The information contained in http://go.utdallas.edu/syllabus-policies constitutes the University's policies and procedures segment of the course syllabus.

This syllabus is subject to change without notice at the discretion of the lab instructor. Check announcements on eLearning for updated syllabus on a weekly basis.