EE/CE/TE 3101 – Network Analysis Laboratory

Prerequisite: EE/CE/TE 1202 Introduction to Electrical Engineering
Co-requisite: EE/CE3301 Electrical Network Analysis

Instructor: Prof. Hoi Lee
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TA Office Hours:
Yinan Li (for section 1): Wednesday: 2:00pm-3:00pm
Gen Li (for section 2): Tuesday: 1:00pm-2:00pm

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

Course Website: elearning.utdallas.edu. Check the website each week for any announcements and changes in schedule

Lab Materials:
The Lab procedures for experiments are available at the course website described above. Acrobat reader is required for the lab manual files.
Safety: 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.

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

Experiment 1:
Download and print out the documents for experiment#1 from the web site. A description of the lab equipment is in the Appendix. The appendix also gives handy tips for using the equipment. Bring it with you to lab for reference.

Lab Preparation:
1. Download the lab manual and bring it with you to lab.
2. Students should **read the labs carefully** and **complete the prelab procedures** before coming to class and submit their prelab reports to TAs (keep a photocopy to complete experiments).
3. Be prepared for the experimental procedures by understanding the relevant theory.
4. Prelab report should be typed and turned in hardcopy.

Lab Procedure:
1. Arrive on time. Turn in your lab reports when you walk in the laboratory.
2. Components will be assigned to you.
3. TA will assist students to complete the experiment. Ask for help when you are in trouble with circuits and equipment. **However, TA is not responsible for completing the experiment for you!**

4. Tables in the lab handouts should be filled out and showed to TA before you can leave. Sometimes, there are graphs you need to take a screen shot from the lab equipment and show them to TA as well.
5. Clean the workstation area and return all wires to their storage location. Turn off the power on any equipment used during the experiment.

Lab Reports:
1. Read the descriptions of the formal lab report in the preface of the lab manual.
You must follow the designated lab report format to receive full credits.
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.
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 (generated by a word processor).
6. Reports must be turned in hardcopy when you walk into the laboratory.
7. Two copies for prelab reports are required (original copy for TAs and photocopy 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.

Course Grading Policy: Grades are based on the lab reports
Lab reports: 80%
Prelab reports: 20%
You need to score better than 40% (overall) to secure a passing grade (a grade of C- or better).
Safety rules: Read the safety rules that are presented in the preface of the lab manual and understand them for your safety.
Note: Students will work on experiments in two-person teams. Please have your teammate selected before Lab 1. If you cannot find a lab partner, ask your TA for partner assignment.

Read and follow the lab report requirements in the preface of the lab manual carefully!

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. #***	***Descriptions***	***Report Type and Due date***
6/6/2016	1	Introduction to lab equipment and basic components	Formal report due on 6/13
6/13/2016	2	Measurements on DC circuits	Prelab report due on 6/13 and Formal report due on 6/20
6/20/2016	3	Techniques of circuit analysis	Prelab report due to 6/20 and Formal report due on 6/27
6/27/2016	4	Computer design and analysis	Prelab report due on 6/27 and Formal report due on 7/11
7/11/2016	5	Operational amplifiers	Prelab report due on 7/11 and Formal report due on 7/18
7/18/2016	6	Response of first order RL and RC circuits	Prelab report due on 7/18 and Formal report due on 7/25
7/25/2016	7	Response of second order RLC circuits	Prelab report due on 7/25 and Formal report due on 8/1
8/1/2016	8	Sinusoidal steady state analysis and power calculations	Prelab report due on 8/1 and Formal report due on 8/8

Grading Details:

1. There is no prelab in Experiment #1. So 100% grade are based on your formal lab report.
2. Type and turn in both report (prelab report and lab report) in hard copy.
3. Follow the format designated in the preface of the lab manual.
4. Clearly indicate how you derive those calculated results. For those procedure involves calculation, if you only show the results without process, you will lose half of the original credit for that part even if your results are correct!
5. For those parts that need the graphs from the lab equipment, the best way is to take a USB drive and save those pictures. You may also use your cellphone to take pictures and attach the pictures to the lab reports. **However, you are responsible for the quality of the picture! If the TA or the instructor cannot read your results, it may be considered incorrect!**
6. You **cannot** take pictures of your handwriting calculation. You need to learn how to type functions in WORD.
7. Most experiments will require that you perform some calculations and do some research before coming to the lab. Each student is expected to be prepared for each experiment. For the prelab report, there is no specific format. You need to read the "Preparation" part of the lab handout carefully and fill out all the Tables or generate required graphs. Don't forget to show work, not just the results.

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.