EE/CE/TE 3101
ELECTRICAL NETWORK ANALYSIS LAB
Spring 2016 Syllabus

Instructor: Prof. Won Namgoong
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Lab sessions: Sec 101; TA: Pratheep Bondalapati; ECSN 3.112-3.114; Time 10:00-12:45
Sec 102; TA: Pratheep Bondalapati; ECSN 3.112-3.114; Time 1:00-3:45
Sec 103; TA: Anish Nair and Yuchen Liang; ECSN 3.108-3.110; Time 10:00-12:45
Sec 104; TA: Yinan Li; ECSN 3.112-3.114; Time 4:00-6:45
Sec 105; TA: Yinan Li; ECSN 3.118-3.120; Time 4:00-6:45

Course objective: 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) or LTspice. Lab classes are designed to accompany the **co-requisite EE/CE/TE3301 Electrical Network Analysis** class.

Website: Check elearning.utdallas.edu each week before preparing for lab.

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

Lab Procedures: The Lab procedures for experiments are available in elearning.utdallas.edu.

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

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.

Lab preparation:
1. Download the lab handout from elearning and bring it with you to lab.
2. Students should read the labs carefully and complete the prelab procedures. **Before coming to class**, **submit the prelab reports via elearning.** Bring a copy of the prelab to class to complete the experiment. Points will be deducted for submitting the prelab report after the beginning of class.
3. Be prepared for the experimental procedures by understanding the relevant theory.

Lab procedure:
1. Arrive on time.
2. After a brief introduction, go to a workstation (two students per station) to start the experiment. If necessary, ask TA for components.

3. TA will assist students 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. TA will evaluate your performance in the lab, **give a grade**, and **sign the data sheet**. Show your data sheet to the TA and get their initials on it when experiment is completed and **before you leave the lab**.
5. When done, clean the workstation area and return all wires to their storage location. Turn off the power on any equipment used during the experiment. Do not leave until your TA has signed your data sheet and inspected your workstation.
Note: Students will work on experiments in 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.
3. Lab reports are always due one week after the experiment date. Lab report is submitted via elearning.
4. No late lab reports are allowed.
5. Students should generate lab reports in a professional manner. Lab reports should be typed.

Grading: The grading weight distribution is:

Lab performance:	30 %
Lab report:	50 %
Prelab report:	20 %

Final Grade Cutoff:

100% -- 93%:	A
93% -- 90%:	A-
90% -- 87%:	B+
87% -- 83%:	B
83% -- 80%:	B-
80% -- 77%:	C+
77% -- 73%:	C
73% -- 70%:	C-
70% -- 0%:	F

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.

Lab schedule: Lab schedule is subject to change.

Date	Lab	Title
2/2	1	Introduction to laboratory equipment and basic components
2/9	2	Measurements on DC circuits
2/16	3	Techniques of Circuit Analysis
3/1	4	Computer Design and Analysis
3/22	5	Operational Amplifiers
3/29	6	Response of First Order RL and RC circuits
4/12	7	Response of Second Order RLC circuits
4/19	8	Sinusoidal Steady State Analysis and Power Calculations

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.