



Louisiana Tech University
Department of Electrical Engineering



ENGR 221 – Electrical Engineering and Circuits I

Course Information

Winter 2008

- Description: Fundamental concepts, units and laws. Network theorems, network simplification, phasors and AC solution of circuits, power and electronic applications.
- Instructor: Dr. Rastko R. Selmic, Email: rselmic@latech.edu,
Web: <http://www.latech.edu/~rselmic/Courses/>
Tel: 257-4641, Office: Nethken Hall 229.
- Class Hours: MWF, 12:30pm – 2:20pm, Bogard Hall 305
- Office Hours: MTWRF 8:00am–10:00am or by appointment
- Prerequisites: MATH 243, and credit or registration in MATH 244.
- Textbook: *Electrical Engineering Principals and Applications*, 4th Edition, Allan R. Hambley, Prentice Hall, 2007.
- Recommended Software: PSPICE
- Grading: There will be homework, two exams and final exam. If you have a question on grading of an assignment or an exam, please contact instructor about your question within one week of the time the grade is received. Here is weighting of grades:
- Homework and Participation in Class -- 10%
 - Labs -- 20%
 - PSPICE Assignments – 5%
 - Exam I -- 20% (closed book and notes), Wednesday 01/09/2008
 - Exam II -- 20% (closed book and notes), Wednesday 01/30/2008
 - Final Exam -- 25% (closed book and notes), Friday 02/22/2008
- Scale used: A = 100-90%, B = 89-80%, C = 79-70%, D = 69-60%, F = below 60%.
- Tests: All tests will be closed book and closed notes. You will be allowed to bring one sheet of notes (8.5" x 11") one side for the final exam, and a calculator. Students will be required to clear the memory of the calculator prior to beginning the test. No make up exams unless approval is obtained prior to the scheduled test date.
- Homework: Weekly homework will be assigned. Homework will be graded. No late homework will be accepted. Some homework may require computer simulation using PSPICE.

- Other Policy:
- a. Class attendance is governed by university regulations published each year in the university bulletin (page 26).
 - b. In the event of the appeal, student is responsible for keeping all original graded materials (exams, homework, projects).

Laboratory Policy:

- Students will be given one week after the date of the lab to prepare and submit a lab report complete with measured data as well as PSPICE simulations where applicable.
- No make up laboratory classes unless approval is obtained prior to the scheduled lab date.
- No food or drinks are permitted in the room during labs.

Lab Reports:

1. Type your report. Equations may be either hand printed or word processed. Circuits may be neatly drawn or they may be constructed with PSPICE.

2. All reports should contain the following sections.

- A. Manila Lab Report Cover (5 pts) with the group number and names of all participating lab members on the cover along with the lab number and the title.
- B. Title Sheet - (5 pts). Must contain the date of the lab experiment, the lab number, the lab experiment title, and the names of your coworkers.
- C. Procedure - (10 pts) A record of what you and your group did in the laboratory and the results that were obtained. (This record is not a copy of the lab handout, but rather a statement of what you did in your own words.)
- D. Sample Calculation - (20 pts) Calculation of results obtained from data taken in the laboratory.
- E. Tabulated Results and Graphs - (30 pts) Tables and graphs of data taken in the laboratory and from both calculations and modeling. Make very sure that data taken in the lab is marked as such and at the same time mark data from modeling and calculations as such. Do not pass off data taken from models and calculations as data obtained in the laboratory.
- F. Analysis - (20 pts). An analysis of the results obtained in the laboratory. It should contain comparisons to what was expected based upon modeling. Try to justify your answers mathematically. If you feel that equipment is at fault for poor data, you must try to defend this claim. Saying equipment didn't work correctly is not an acceptable statement. What went wrong? Why did something go wrong?
- G. Original Data Sheets - (10 pts). These are the original data sheets which were taken in the laboratory. These sheets should contain the data taken and clearly marked in the laboratory along with identifying tag and model numbers of all equipment used in the laboratory.

Finally, be sure to cover the areas required by the lab handout. Answer all questions. Do all calculations. Your lab report should reflect what really happened in the lab.