

Instructor: Al Davis  
Telephone: 762-7998  
E-mail: [adavis@kettering.edu](mailto:adavis@kettering.edu)  
Web: <http://www.kettering.edu/~adavis>  
Time and place: Thursday, Electronics lab

**Description:**

This is the lab component of EE320.

**Grades:**

There are 10 weeks, 10 experiments. Each counts equally.

The grade on each is based on a 10 point scale, with 2 points each for the following:

1. Summaries
2. Presentation, neatness, organization
3. Lab technique, breadboard neatness, etc.
4. Measurements, accuracy, completeness
5. Simulation and analysis

You get full credit (2 points each, for a total of 10) if your work is of the expected quality. Expectations will increase through the term. You get half credit for the item if it is usable but below expectations. A one point bonus will be added if you work alone. If you work in a group of 3, you will be held to higher standards for items 2 and 3.

Reports are due the lab period following when the experiment is done. I will accept late reports without penalty until I start grading them. Later than that, there will be penalties: 1 point if it is submitted after I start grading, but before I finish. 2 points if it is submitted after I graded them all, but before I hand them back. 3 points if it is submitted after I hand them back. After that, along with the 3 point penalty, it will be graded according to the higher standards that are applied later in the course when I actually receive it.

**Pre-lab:**

Some experiments will have a "pre-lab". This is work that you need to do before going to the lab. It will not be graded, but if you do a good job the experiment will probably work better. If you do a poor job, it is likely that you won't be able to finish.

**reports**

A formal report is required for each experiment. These reports must be done individually, but obviously certain parts are shared between partners.

A report consists of these parts, in order:

1. Title page with executive summary

Each report will have an "executive summary" on the cover page. This is intended for the "boss's boss", who expects to learn everything in less than one minute, preferably much less than one minute. You will be told what to put on the cover. Obviously, your name, your partner's name, and the name and number of the experiment also goes on the cover.

2. More detailed summary

In one page, give more detail about what you did. You might give more detailed measurements, a summary paragraph, and answers to some questions. You will be told what to put in this section.

3. Journal

You need to supply a complete journal of what you did, with all measurements. This is the actual journal, written as you do it, complete with mistakes. You need to supply enough detail that someone else can repeat your experiment, and make the same mistakes that you did. Do not type it. Submit a copy of your actual journal. Partners may submit the same journal.

4. Analysis

Provide a manual analysis of the circuit, and relate your analysis to the actual measurements. Ideally, this analysis should be done before the experiment, but that isn't always possible.

5. Simulation

Use a simulator to predict the performance. You need to supply enough information that someone else can repeat your simulation and get the same results, complete with mistakes. It isn't necessary to include all the mistakes, because paper use could be excessive. Print it in a small font, preferably 5 point. Annotate your printout to explain what you are doing.