Prerequisites: Electronics II. Analog electronics, including incremental modeling, frequency response, negative feedback.

Text: "Electronics Lab II," rev. 2, January 2002, R. King, ed. (lab manual). Available from the bookstore, or on-line at my web site. Note: the complete manual includes data sheets for components used in the lab; on-line copies may require that you download your own data sheets.

References: "Electronics Lab I," R. King, ed., 1999 (lab manual for EECS 3400). Retain your copy for access to the equipment descriptions and some of the component data sheets. It is also posted on-line.


This course is designed to apply your knowledge of analog electronics to a hands-on laboratory experience. You will use SPICE to simulate analog circuits, assemble and make performance measurements on analog circuits, perform hand-worked analytical analysis of these circuits, and write formal laboratory reports summarizing the results obtained, and discussing the correlation between the analytical predictions and the observed behaviors.

Material: There are 12 experiments in the lab manual, which will be done in numerical sequence. Most require formal lab reports, a few require only summary (homework style) reports. Follow the reporting directions given in the lab manual, or as given by the lab instructor. Be sure your lab report specifically addresses each question asked in the lab experiment.
Student Learning Objectives for EECS 3440

The student will be able to…

1. Experimentally measure incremental gains and resistances of analog amplifiers at midband

2. Experimentally measure and plot frequency response curves of analog amplifiers

3. Produce a written lab report in a standard format, which includes a brief discussion of relevant theory

4. Make meaningful evaluations of the degree of experimental correlation with the results of SPICE simulations and/or calculations based upon simplified models

5. Correctly use the basic analog laboratory instruments

ABET OUTCOMES SUPPORTED
Outcome b
Supported by SLOs 1, 2, 4, and 5
Outcome g
Supported by SLO 3
Outcome k
Supported by SLOs 4 and 5
**Web Site:** To locate the course web site, go to http://www.eng.utoledo.edu/~rking/ and navigate to the course page. The link will be labeled "Electronics Lab II."

**Withdraw Policy:** The student may withdraw (W) through the date published on the University academic calendar. The instructor cannot initiate a withdrawal or drop.

**Grading Policy:** The course grade will depend upon the average scores on your formal laboratory reports (required for most experiments) and brief homework-style reports (required for a few experiments). The grading scale is 90-A, 80-B, 70-C, 60-D.

**Formal Laboratory Reports:** A copy of the standard format for your formal lab report is on the course web site. In it you will find the format modeled, but the content of this model report is a discussion of the items to be included in each of its sections, and their weights in the report grading. You are responsible for downloading and using this format, and also for reading the discussion in it to know what should be in your lab report.

**Attendance Policy:** The official University policy on absences can be found at http://web00.utad.utoledo.edu/publicinfo/policy/newapril2002/3360-20-15.htm. The attendance policy in the lab is that the lab instructor will refuse to accept lab reports from a student who was not present to perform the lab; however, he will assist the student in gaining access to the lab during normal business hours to make up experiments missed due to illness or other reasons acceptable under the University absence policy.