Objective

The primary purpose of laboratory sessions is to reinforce concepts presented in the lectures. An important secondary purpose is to expose students to the various practical issues encountered in the design and construction of circuits, including package geometry, weight, temperature effects, limited availability of devices, and so forth. In addition, the laboratory serves as a forum in which to introduce professional practices such as maintaining records and organizing and presenting results. These secondary considerations will therefore factor heavily into your overall laboratory grade.

Lab Meetings

Attendance at laboratory sessions is mandatory. Sessions will meet each week of the semester during which classes are in session on both Monday and Wednesday. Thus, lab exercises will not take place on Aug. 28 (first week of classes), Oct. 14 and 16 (week of Fall Recess), Nov. 25 and 27 (week of Thanksgiving Recess), and Dec. 9 and 11 (last week of classes). However, it is possible that those lab times could be used for other purposes such as review sessions, quizzes, or make-up opportunities. An unexcused absence from a lab session will result in a grade of zero for that week’s assignment.

Lab Groups

Most lab groups will consist of two-person teams, but one team will have to consist of three people if an odd number of students are enrolled in a particular lab section. Lab groups normally will be randomly assigned for each new lab exercise, and the pairings will be listed in the associated handout.

Structure of Lab Exercises

Each week a handout will be posted at the course web site outlining the activities scheduled for the upcoming lab exercise. Most exercises will require you to demonstrate a functioning circuit and/or an appropriate set of measurements. Generally, you will be given an open-ended design and/or analysis task that will usually require some preparatory work before the lab session.

I will be available during office hours and at other times throughout the week to provide assistance. Please note that the assistance will be advisory but not confirmatory. That is, I will not answer questions such as “Does this look right?” or “Does this answer look reasonable?” You will need to devise means of answering those questions on your own.

Lengthy reports will not be required after each lab exercise, but some type of reporting of results will be assigned. Specific requirements will be outlined in the handouts. The written work will usually be in the form of a summary of results and/or design decisions and will be due a few days after the lab session. The summary must be of high quality and professional in style since its primary purpose is to communicate technical information accurately, clearly, and concisely. A detailed set of guidelines for preparing lab summaries will be posted at the course web site.

Pre-Laboratory Exercises and Quizzes

Preparatory work in the form of a preliminary design or assigned readings could be required for some lab exercises. Short quizzes might be given at the beginning of lab sessions to check your preparation. If a quiz is scheduled, it will be announced well in advance. The preparatory work and/or quizzes will be incorporated into the grade for the associated lab session.
Grading

The laboratory component comprises 15% of the overall course grade for ELEC 350. A lab grade will be assigned each week based on criteria listed on the associated handout. These could include preparatory work, the degree to which the circuit and/or test procedure meets specifications, and a summary of results and/or design decisions. Grading criteria will vary from week to week and will depend on the nature of the lab exercise but will always be stated clearly in the handout. The lowest two lab grades of the semester will be dropped for the purpose of computing the overall lab grade. This system should allow you to adjust to the lab summary writing expectations without incurring a significant grade deduction.

The last two summaries of the semester will be used for assessing your and your partner’s technical communication skills and must therefore be written by only one member of each lab group. Each week the grade of one group member will be based solely on the writing assignment, and that of the other group member will be based solely on lab performance. Details of the writing assessment will be provided at that time.

In most cases only one summary will be required per lab group, and it will usually be due a few days after the lab exercise. Summaries submitted after the deadline but before 5 pm on the following day will result in a 20% grade deduction applied to the lab grade. No credit will be given for a summary submitted later. Specific grade deductions unique to particular lab exercises will be specified in the handouts.

Please note that it is absolutely vital that you properly credit others’ intellectual property (including any diagrams and/or text copied from lab handouts). Improperly cited or unreported references will result in severe grade penalties. Copying of another group’s written work and design and/or test procedures is considered plagiarism and is not acceptable. Violations of the University’s academic responsibility policy will be referred to the Board of Review.

Any student who leaves a lab session without prior permission before his/her group is finished with their work will receive a 20% grade penalty for that session. Because your lab partner(s) depends on your presence, significant lateness to a session will result in a grade reduction proportional to the amount of time missed, quantized in 10% increments. If you know you will have to miss an upcoming lab for a valid reason and you wish your absence to be excused, you must notify me at least 48 hours in advance.

Lab Notebook

You are not required to maintain a formal laboratory notebook for this course. However, doing so is highly recommended to help you organize and keep track of recorded data, test procedures, and results. A record of lessons learned in the lab might help you considerably as you study for exams and as you prepare for subsequent lab exercises.

Web Site

Most of the handouts, instructions, and other resources for the lab sessions will be available at the following site:

http://www.facstaff.bucknell.edu/dkelley/elec350/lab/lab.html