

ECE 435 Laboratory Policies

Fall 2002

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1. Grade breakdown. Your lab grade will be determined from the following breakdown:

Reports	75%
Performance	25%

The lab instructor will award your performance grade based on his/her observations of your behavior during the lab period. If you are contributing to your group, then that you will receive a full 25%. If you are just standing around doing nothing, you will receive 0%.

2. Make-ups. **ALL** labs must be completed for you to receive a lab grade. If you do not complete an experiment, you will receive a "0". You must be present during lab to get credit. Make-up labs must be arranged either prior to the absence, or afterward with a doctor's excuse. Attendance will be taken during all labs.
3. Preparation. You are expected to be prepared before coming to lab. Read the lab before coming to class, complete the preliminary exercises, if any, and review any topics you are unsure of. There will NOT be a lecture during the lab period. The instructor will NOT answer questions during the lab period over topics you should know from the lab manual. The instructor's presence during the lab period is to oversee the lab and help you with any mechanical trouble you are having with the equipment. If you do not understand material from the manual, see the instructor **before** the lab period.
4. Data. All data must be taken in PEN. It must be signed and dated by the instructor before you leave the lab.
5. Lab reports. Lab reports are to be handed in at the beginning of the lab period immediately following the period during which the lab was completed. You will be graded on spelling, grammar, organization and writing style, as well as on content. Each group will turn in one report. Lab reports that do not follow the format given below in terms of style and/or content will be returned by the Lab Instructor ungraded. Such reports must be re-written and re-submitted. Each lab report may only be re-submitted once! (e.g. You only have two attempts at producing an acceptable report, the grade assigned to re-submitted reports will stand.)

All lab reports must be produced on a word processor. The lab reports need not be lengthy, but

should follow the following outline.

1. Title page: Title of lab, names of students, name of instructor, section number, date of lab, date of report (due date).
2. Goals: One paragraph outlining the goals of the lab.
3. Accomplishments: A summary of your accomplishments -- what you have learned during the lab. Discuss discoveries, difficulties, verifications of theory, etc. Relate these to the goals of the lab.
3. Discussion: A discussion of your results, which follow in the next section. You must refer to labeled tables and plots. Include answers to questions posed in the lab manual and discuss error, if appropriate. Include all calculations.
4. Results: Include your measured and calculated data. Your data must be in either a properly labeled table or graph, or both. When you refer to these, it must be by table or graph number. See the attached pages for examples of a table and graph. For small amounts of data, use a table. For large amounts of data, or when visualization is important, use a graph. Be sure to include units!
5. Raw data: Include at the end of your report the raw data you took in lab, including your instructor's signature. Label this data as APPENDIX 1: RAW DATA.

Parts 2 and 3 above are to get you to think about how the lab experience relates to the class material and how the information gained during the lab has helped your understanding of the class topics.

6. Discussion of error. When you discuss error you may, if you wish, blame the equipment. If you do, you must discuss both the source AND RANGE of the error. For example, if you can read a dial to within 5%, this range of error cannot completely explain a difference of 25% between theory and experiment, unless it is compounded. Remember, the most common cause of error is unfamiliarity with equipment.
7. Be nice. Please treat the equipment kindly. Be nice to sensitive things like connectors, switches and dials. To be safe, there will be no food or drink allowed in the lab.

EXAMPLE OF PROPERLY LABELED PLOT

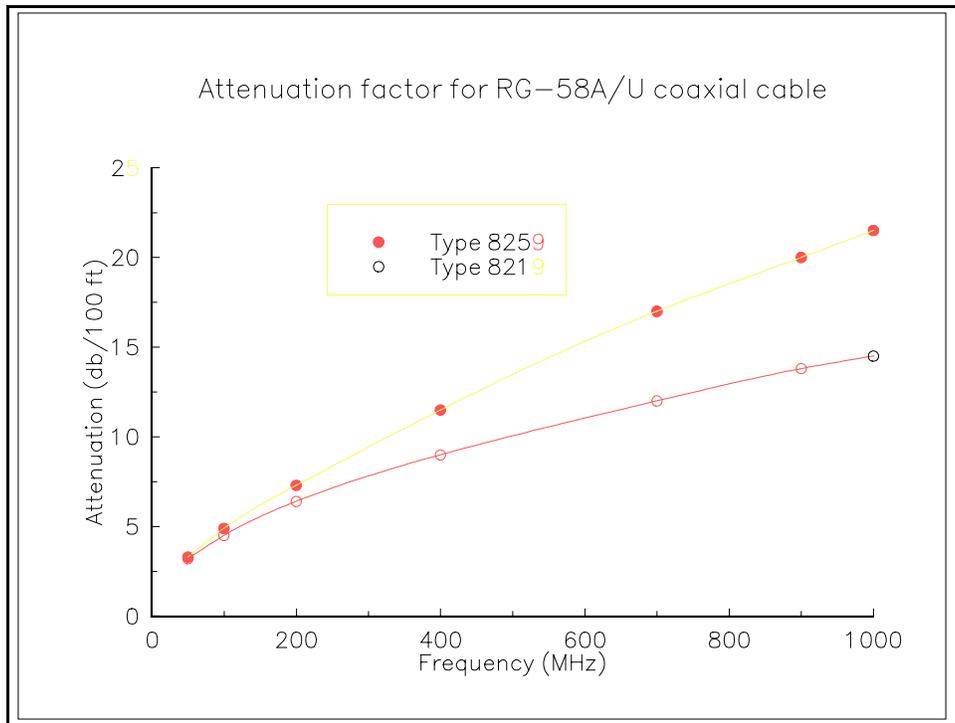


Figure 1. Attenuation factor for RG-58A/U coaxial cable.

EXAMPLE OF PROPERLY LABELED TABLE

Table 1. Properties of various soft ferromagnetic materials.

Material	Initial relative permeability	Coercive force (A/m)	Residual field (Wb/m ²)	Saturation field (Wb/m ²)	density (g/cm ³)
Commercial iron	150-250	80	0.77	2.15	7.85
Pure iron	10k	4	0.2	2.15	7.85
Silicon-steel	900-1700	35-60	0.62-0.93	1.5-2.0	7.65
Silictron	1.3k	8-24	1.4	1.5-2.0	7.65
Silicon-iron	400	40	1.2	1.5-2.0	7.65
Deltamax	400-1700	16-32	1.3-1.8	1.35-1.85	8.25
4-79 Mo Perm-alloy	10k-40k	3-12	0.4-0.55	0.7-0.8	8.74
Supermalloy	50k-120k	0.2-4	0.4-0.55	0.65-0.75	8.77