

Oral Presentation: At the end of the quarter, each research group will give an oral presentation on research performed during the quarter. Presentations should be approximately 20 minutes.

Lab Notebooks: Each student should keep a neat and well-maintained lab notebook. Notebooks should be bound and preferably be ruled or quad-ruled. Loose-leaf paper or 3-ring binders will not be accepted. Computer-generated graphs or other computer printouts should be cut and glued or stapled into your lab notebook. All writing in notebooks should be done in pen; work in pencil will not be accepted. Lab notebooks should be readable, but remember the purpose of a notebook is to thoroughly document your research and experiments; therefore sketches, drawings, and mistakes are acceptable and expected. If proper documentation requires that you scratch something out of the notebook that is incorrect, then do so by striking out the word(s) with one horizontal line. Even words that are stricken out should still be legible. Notebooks will be collected periodically.

Weekly Progress Reports: In lieu of a midterm/written progress report, informal verbal progress reports will occur weekly with the whole class present. Although informal, students should be prepared to present their progress from the last week. TAs should not have to elicit the information. This holds for the measurement modules and research projects. This will allow for the progress report as well as the discussion of any hindrances you and your group may be experiencing. This discussion of problems should result in expedited solutions and simulate a real research environment.

Overall Lab Performance: Lab performance will consist of time spent in the lab (expect to spend 10-12 hours a week) and your proficiency at both research and group work.

Calendar

Week #	Dates	Objectives/Material Due Dates
1	4/1 – 4/3	Introduction – Course Overview Measurement Modules and Project Examples* Form teams Schedule Lab times, lectures/weekly meetings <i>Informational Meeting Wed. 4/1 2:00 p.m Mayer Hall 4322</i>
2	4/6 – 4/10	Electrical transport Hall effect in copper Weekly Meeting Last day to add class
3	4/13 – 4/17	Electrical transport continued Hall effect in p-type Ge, measuring T_c in superconductor Weekly Meeting Notebooks due
4	4/20 – 4/24	Heat Capacity Vanadium dioxide (VO_2) powder Weekly Meeting Last day to drop a class w/o a W and change grade option
5	4/27 – 5/1	Heat Capacity continued V_2O_3 pellet, Gd foil, etc. Weekly Meeting Notebooks due
6	5/4 – 5/8	Magnetization -Vibrating Sample Magnetometry (VSM) Ferromagnetic wire, paper clip Weekly Meeting
7	5/11 – 5/15	Magnetization –VSM continued PM to FM transition in Gd, antiferromagnetism in Cr, Mn Notebooks due
8	5/18 – 5/22	Research Project Measurements Detailed outline of research measurements / paper Weekly Meeting
9	5/25 – 5/29	Research Project Measurements Rough Draft of paper due Last day to drop a class w/o an F
10	6/1 – 6/5	Research Project Measurements Presentations/Final Draft of paper due 6/6 (Saturday)

Note: While the first several weeks of the quarter will focus on learning/performing experimental measurements, it is important to begin thinking about the “final” experimental measurement projects.