

## Physics 122L

Sections 3 & 4

Fall 2009 - Workman 107

Section 3 - Wednesday 2:00-4:30pm □ Section 4 - Wednesday 6:30-9:00pm

Instructor: Luke Schmidt

Office: Workman 323

e-mail: lschmidt@nmt.edu

Class Website: <http://infohost.nmt.edu/~lschmidt/teaching/122L/122lab.html>

Help Session (Room 110): T 9:00am - 11:00am or check my office.

---

**Materials** - 8 1/2 x 11 graph paper, lab manual, black or blue pen and a calculator is a good idea.

**Attendance** - Attendance is Mandatory. Except in the case of extreme emergencies (hospitalization, Nobel Prize acceptance speech, zombie attack, etc.) and you have already used up your free lab, NO make-up labs will be given. If you do not attend, you will not receive a grade for the lab. Please let me know BEFORE the lab that you will not be there. E-mail is the best way to contact me. A better option is to attend another lab section during the same week. I realize that things happen; therefore I will not count one lab grade towards your final grade. If you miss a lab, that lab will not be counted, if you attend all the labs, your lowest grade will be dropped.

If for any reason you find yourself falling behind, talk to me as soon as possible, no mercy will be shown to those who bring me excuses during the last week of class!

**Grading** - Each lab is worth 14 points broken down as follows: (In 1/2 point increments)

4 points - attendance/lab behavior- If you show up, participate, clean up after lab and do not disrupt/disturb the class these are easy points.

10 points - Written or typed lab report

- Lab Title, Name, Date, Lab Partners at the top of the 1st page
- Lab Summary: a big picture description of the lab, goals, etc.
- Data presentation & analysis: - Use the same order as the lab book.
- Drawings of lab equipment setup, notes of any changes made
- List all data taken in an organized fashion (tables), with labels. Any graphs or diagrams labeled as well. (Computer printouts can be taped in your lab writeup). Include notes of any deviation from lab book procedures.
- Analysis/calculations - At least one example of each type of calculation should be written out. After the sample calculation, list results in a separate table with an explanation of what they mean.
- Correct labels/units/uncertainty should be included on all data.
- Error analysis - comment on sources of error, do they account for discrepancies with theory etc. Use % error calculation where possible.
- Conclusion - Did the lab work? What did you find out? What problems did you encounter? Include a brief summary of results. Note qualitative and quantitative results.
- Neatness, are your tables well organized, can I read your writing.
- Attach your graph paper with raw data.

**Due Dates** - Lab reports are due under the door of my office by 1:00pm the following Monday. I will hand your lab reports back at the beginning of the next lab.

**Late Work** - 1 point off for every day late up to the due date of the next lab. It is worth your time to hand in late lab reports, they can really help your grade.

**Report Hints** - Doing these things will help you receive a good grade.

- Write neatly.
- Each lab includes report (typed or neatly written) and original data (in that order).
- If you write something down incorrectly do not erase (you should be using a blue or black pen) cross it out with a single line.
- Don't try and cram the whole lab on one or two pages, use space to separate sections. If you want to put each section on a separate page that is fine.
- Label each section with a title that is underlined/bold/highlighted.
- All graphs must be computer generated, can be glued/taped into a handwritten report. See website for resources.
- Equations - if typed, must be correctly formatted with an equation editor, or neatly hand-written. You may leave blank space in a typed report to add hand-written equations later. Word and Open Office both have adequate equation editors, LaTeX is the gold standard. See [www.texify.com](http://www.texify.com) for an easy way to get insertable images of equations.  
good  $\rightarrow \frac{1}{\lambda} = \frac{1}{\lambda_0} \left[ \frac{1}{m^2} - \frac{1}{n^2} \right]$   
bad  $\rightarrow 1/\lambda = 1/\lambda_0 [1/m^2 - 1/n^2]$
- Highlight/Circle final answers.

**Honesty** - I will treat you with respect and make every effort to grade your work fairly. It is your responsibility to maintain your academic reputation by only using work that is yours. The student handbook is very clear on this subject. I am not grading you on how close your data comes to theory (although every effort should be made to gather good data). Do not falsify data to make it "work out better". You may have a lab partner, but your lab reports should not be identical.