

Physics 122 Lab

Syllabus

SPRING 2015

Instructor: Dana Baylis

Time and Location: Wednesday: 3:30-6:00 pm, Workman 107

Contact: email: dbaylis@nmt.edu

Office Hours: By appointment, Workman 356

Overview and Objectives

Lab is a crucial part of your general physics course. It provides the opportunity to interact with the physics of the world around you.

Students will:

- Have a deeper understanding of physical relationships described in lecture.
- Understand the process of experimentation: Write down a theory, make observations, and analyze data.
- Develop the skills to write technical reports.

Required Materials

- Physics 122 Lab Manual
- Blank paper to create a raw data sheet

Recommended Materials

- Lab notebook—You can use a notebook to record and analyze your experiments (this makes writing them up easier).
- straight edge, colored pencils, calculator

Attendance and Participation

Attendance is **mandatory** and is a significant portion of your grade. No make up labs are allowed. If you want to use an absence as your drop grade (see grading section), you need to inform me **well in advance**. If your absence is due to an emergency, I will require proof (such as a doctor's note), and you may make up the lab by attending another section, as long as you have permission from that lab's TA.

Collaboration

Working together can be a highly effective way to learn and is strongly encouraged. However, **each** student must do his/her own analysis and lab report. **Please turn in your own work!** Labs are a group effort but plagiarism will not be tolerated and will be dealt with according to New Mexico Tech standards. Data obtained during lab session will be the same within each group, as well as some of the data analysis, but all other sections of the lab report *must be your own work*. The first offense of any plagiarized, cheated, or improperly collaborated work submitted will receive a zero (this grade **cannot** be dropped) and will be reported to the department chair. Any second offense will cause the automatic failure of the course and possible discharge from the university. *Simply put*: Do not turn in anything that is not from your own mind without giving due credit, which does include the lab manual!

Grading/Assignments

Assignments

There will be thirteen total assignments. Most will be lab reports, but occasionally we will also turn in worksheets. Each week the lab report for the previous experiment will be collected and graded. You may either type up your reports or hand write them, but be warned: *If I cannot read what you have done then you will not receive credit*. Please write in complete sentences and paragraphs. **Each report must contain the following:**

1. At the beginning of the report, include the name of the lab, your name, the TA's name, the date, and the names of all your group members.
2. Raw Data: Each report must contain the raw data worksheet, with the TA's signature (these count as your attendance grade as well).
3. "Pre-Lab"–Introduction: write several sentences that describe the purpose of the lab (consider what the lab is about and what you are trying to accomplish). **DO NOT COPY FROM THE MANUAL!!!** Each experiment's "pre-labs" must be turned in the week before; that is bring your pre-lab before you do the experiment.
4. Methods: this section should be a brief description of the lab set-up and procedures, and it should *include a labeled sketch or picture of the set-up*.
5. Analysis: Organize the data in clearly labeled tables (when necessary), and include any graphs (which also must be clearly labeled!). Include your error analysis in this section of the report. Discuss your results and compare them to your theories and predictions. Provide sources of error and explain how they can affect your results. *Make sure to answer any questions stated in the lab, with COMPLETE sentences*.
6. Conclusion: Write a small paragraph discussing the results of your experiment(s) and describe the physics that you learned.

Lab reports will be graded on these criteria; I am also providing you with a rubric that outlines the grading may be broken down in more detail.

Grading

Lab reports will be graded on the stated requirements in the previous section. Some weeks you will turn in a worksheet instead of a lab report. At the end of the semester I will drop your lowest lab report grade. This does NOT mean that you have a "freebie"; it simply allows for some cushion in case you have an emergency. Each lab report will be worth 20 points, with 40% devoted to attendance/participation and 60% to the actual report. The lab score is reduced by 10% for every day it is turned in late; I will not grade lab reports that are more than a week late.

Classroom Policies

Please be respectful of those working around you—please leave your cell phone on vibrate. Feel free to bring coffee, water, etc. If you have to bring food try to keep it small and simple; if not please step into the hall to eat.

Reasonable Accommodations

New Mexico Tech is committed to protecting the rights of individuals with disabilities. Qualified individuals who require reasonable accommodations are invited to make their needs known to the Office of Counseling and Disability Services (OCDS) as soon as possible. To schedule an appointment, please call 835-6619.

Counseling Services

New Mexico Tech offers mental health and substance abuse counseling through the Office of Counseling and Disability Services. The confidential services are provided free of charge by licensed professionals. To schedule an appointment, please call 835-6619.