

# PHYSICS 1408/1409/1420/1430

## Fall 2009 Laboratory Syllabus

*Failure to read the syllabus will not be an excuse for an exception to any policy stated within the syllabus.*

The objectives of the laboratory are for you to

- Gain practical experience with concepts presented in your lecture section
- Gain familiarity with physical measurement equipment
- Present data and results in a clear and logical manner
- Analyze data and draw conclusions
- Describe and calculate uncertainty.

**Physics Lab Webpage:** <http://www.baylor.edu/physics/labs>

**Lab Supervisor:** Dr. Linda Kinslow, BSB E332, x2272, [Linda\\_Kinslow@baylor.edu](mailto:Linda_Kinslow@baylor.edu)

Office Hours: See the lab webpage

**Required Texts:** For physics 1: *Baylor University Physics 1408/1420 Lab Handbook.*  
For physics 2: *Baylor University Physics 1409/1430 Lab Handbook.*

### Safety

1. You are expected to be familiar with the entire safety section in the lab handbook. Failure to follow these rules may result in your removal from the laboratory and will have a negative impact on your grade.
2. **Food and beverages are not allowed in the lab room.** You must leave these things outside or keep them in your closed backpacks. This includes personal water bottles! *Students with food or beverage containers in the lab room will be asked to leave the lab room and will receive a zero for that lab. NO exceptions. This is your warning.*
3. **You must wear closed-toed shoes in lab, no sandals.** If you forget to wear closed-toed shoes, and the teaching staff judges the risk of injury to be greater than 20%, then you will be required to leave the lab room, and you will receive zero for that experiment. If the teaching staff judges the risk of injury to be less than 20%, then your TA may allow you to stay, but 15 points will be deducted from your lab report grade for that experiment. Your TA will note the permission and the point deduction on your data sheet. *If Dr. Kinslow visits the lab room, and you are not wearing the appropriate footwear, and there is no note on your lab worksheet giving you permission to stay without closed-toed shoes, then you will have to leave the lab room and will receive a zero for that experiment.*

### Lab Grade:

1. No lab grades are dropped.
2. Your numerical lab average is provided to your lecturer at the end of the semester.
3. Your weekly laboratory grades will be entered into *Blackboard*. **Check your grades frequently to ensure that your grades have been recorded correctly.** If your grades are not posted or the grades are posted incorrectly, notify your TA or Dr. Kinslow.
4. **Save all your graded work until the end of the semester**, then, in case a grade is incorrect, your TA or Dr. Kinslow can verify the correct grade and revise the recorded grade accordingly.
5. **No lab grades will be changed after 4 pm on December 7, 2009.**

**Laboratory:** There are three components: the prelab, the experiment, and the lab report.

Prelabs: Prelab exercises are posted on the physics lab webpage. You will need to print the prelab for each experiment. Your answers must be handwritten. Prelab exercises are due *without exception* at the beginning of the laboratory period. Late prelabs will receive no credit. The purpose of prelab exercises is to prepare you for the lab, not to stump you; you are welcome to receive help before lab from the physics tutors. If a large number of students come to lab unprepared, then your TA may give a pop quiz. In this case, the average of the prelab and the pop quiz grade will be used for the prelab grade.

Experiment: Bring your lab handbook to each meeting. The teaching staff will give a brief lecture. Ask questions when you do not understand. After the lecture, groups of two students will work together to collect data.

If you do not bring your lab handbook, then take the data on notebook paper. (The teaching staff will not provide data sheets!) Do not assume that you will get data from your lab partner later. Lack of data, because you could not get it from your lab partner, will not be an excuse for a late lab report.

Lab Reports: Some lab reports must be completed in class. You will turn in what you have completed at the end of lab. There should be time to complete the lab if you are prepared and work diligently. You will need to manage your time.

On other days, a longer lab report is required, and you will be allowed to complete the lab report at home and turn it in the following week at the beginning of lab. On those days, you must leave the lab room with your own **data in ink** and with **your TA's initials** on the data sheets. Lab reports turned in lab in after the beginning of lab will be considered late. You will have 5 points deducted for each day the lab report is late. **Lab reports more than one week late are not accepted.** There is a box in Room D311 for late lab reports.

Although you may work with your lab partner or others in analyzing your data, you must submit your own lab report, in your own words. You may not submit tables, graphs, figures, or any other parts of a report that are duplicates of someone else's work. You are not allowed to photocopy data sheets. If you are absent, you may not obtain experimental data from other members of your class. Lab reports will be graded on *originality* as well as *completeness* and *correctness*. There is a sample lab report on the Physics Lab Webpage.

Grade: Eighty-five percent (85%) of your lab report grade is from your written lab report and fifteen percent (15%) is from your prelab assignment/quiz.

Your lab handbook has a rubric for each experiment. **You will turn in that rubric with your lab report.** Your TA will return the scored rubric with your graded lab report. Most of the rubric is easy to understand. In order to keep the rubric on one sheet of paper, the "Achievements and Flaws in Discussion" section on the rubric is abbreviated. Below is a chart with more details on how that section is graded.

<b>Readability</b>	<b>Points in Discussion</b>	<b>Points</b>
Very easy to read, logical, flows well	80% or greater	+ 5
Okay to read, minor flaws that are not too distracting	80% or greater	0
Difficult to read, major flaws that are distracting <sup>+</sup>	80% or greater	-5 to -15
Very easy to read <sup>*</sup>	80% to 50%	0
Okay to read <sup>*</sup>	80% to 50%	0
Difficult to read <sup>+</sup>	80% to 50%	-5 to -15
All cases <sup>*</sup>	Less than 50%	0 to -15

\* An incorrect or incomplete, but readable, discussion is not an achievement!

<sup>+</sup> The amount of points deducted depends on the number of flaws. Five points will be deducted for not being written well. But if the discussion section includes the term "human error" and does not use units with a number in the discussion, and was poorly written, then 15 points will be deducted.

Videos: In Blackboard in Course Information, you will find videos showing how to use the lab equipment for most experiments. You are not required to view these. These videos were created to help you better understand the experiment before laboratory.

**The Baylor University Honor Code will be strictly enforced.**  
(<http://www.baylor.edu/student%5Fpolicies/index.php?id=32287>)

**ABSENCES:** No lab report grades are dropped. The process for make up labs is provided below.

1. **Scheduled Absences:**

- University Sanctioned Event: If you will be absent from laboratory for a *university sanctioned* event (athletic contest, band trip, debate, etc.), then email Dr. Kinslow at least one week before leaving for the event to schedule a time to make up the lab. It might be possible to arrange make-up labs with less than one week's notice, but it is not guaranteed. (Lab equipment is set up for two weeks; a make up lab may not be possible if you wait until the week of the event or until after the event.) Circumstances that absolutely prevent you from giving one week's notice will be considered. Unless circumstances have prevented providing timely notice, if less than one week's notice is provided and it is not possible for the lab to be performed with another section, then you declined the opportunity to make up the lab and you will receive a zero for that experiment. *Club-related events are included.*
- Other Scheduled Absences: If you have any other reason that keeps you from attending lab, then email Dr. Kinslow at least one week before your absence. A make up lab will be arranged, *if possible.*

2. **Unscheduled Absences:** If you miss lab, then email Dr. Kinslow within two days after the absence to request a make up lab time. A make up lab will be arranged, *if possible.* There can be scheduling conflicts or no available space in other lab sections that can make it impossible to schedule a make up lab. The teaching staff will not allow you to attend a lab that you are not assigned to, unless you have permission from Dr. Kinslow.

**Requesting a Make Up Lab:** Dr. Kinslow must authorize all make up labs. Email the request for a make up lab time to [Linda\\_Kinslow@baylor.edu](mailto:Linda_Kinslow@baylor.edu), include the email

- Course number,
- Name of the experiment that was missed,
- Name of your TA, and
- Your lab section (A1, B2,...)
- Alternate times that you could attend lab.

Requests without the above information will be delayed until you provide that information.

**End of Semester Make Up Lab:** 2:30 pm on November 23.

- ***This make up lab is only for those with an appropriate and documented reason for having missed lab.*** For example, if you miss lab due to illness, and you email Dr. Kinslow within 2 days of missing lab, and it is not possible to schedule a time for you to make up the missed experiment during the time period that the experiment is being performed, and you provide a note from a doctor documenting that you were ill that day, then you may attend the end of semester make up lab.
- Documentation must be provided to Dr. Kinslow before 4 pm on November 20.
- **Without documentation, you may not attend an end-of-semester make up lab.**
- See examples of appropriate and inappropriate reason from missing lab on the physics lab webpage.

**Lab Equipment:** Do not place your book packs on the equipment! The equipment used in these laboratories is often expensive and difficult to replace. If you damage lab equipment, we will send you a bill.

**Special Circumstances:** If you have specific physical or learning disabilities and require special accommodations, please tell Dr. Kinslow early in the semester, so that your learning needs may be appropriately met. Letters from the Office of Access and Learning Accommodation should be presented to Dr. Kinslow, not our TA.

**Free Physics Tutors:** Physics tutors are available through the physics department. The tutor schedule is on physics webpage. The tutoring area is between room E.331 and Stairway # 7 in the Baylor Science Building.

**Conflicts:** If you have any problem with this course, you should first discuss it with your TA. They are there to help. You will find that they are generally willing to assist in any way that they can. In the event that you encounter a problem that you are unable to resolve with your TA, feel free to contact Dr. Kinslow.

### **Expectations:**

#### General

1. You will be proactive in understanding what is needed to do well in lab. When you do not understand something, ask!
2. You will only attend the lab section that you are assigned.
3. You will bring your textbook, lab texts, calculator, and writing materials to each lab meeting.
4. You will not assemble or manipulate the lab equipment until told to do so by the teaching staff.
5. You will immediately report anything out of order or a shortage of materials to the teaching staff. You will not substitute equipment between tables.
6. You will leave your area neat and organized. (Lab rooms will be randomly inspected by Dr. Kinslow at least twice during the semester. If after lab, the lab room is not clean and orderly, then everyone in that lab section will have 5 points subtracted from their lab report grade for that experiment.)

#### Experiments

7. You will read every experiment prior to coming to class to do that experiment. You will thoroughly as possible examine the physical principles involved with the experiment being performed. It is your responsibility to ask questions about any theory not covered in lecture. (You will enjoy this course and be more successful if you come to lab each week having prepared for the experiment.)
8. You will turn in the prelab for the experiment at the beginning of lab.
9. You will form teams of two students. Each of you will participate in all aspects of the experiment; you will not break an experiment into "sub-tasks" to be performed separately.
10. You will use the Laboratory Report Record in your lab handbook to keep a record of when you turned in your lab reports.