

## **Syllabus: Physics 141 Laboratory & Physics 153 Laboratory Summer 2015**

### **Required Materials**

1. *Humanized Physics I: UNL Lab Manual, Summer 2015*, distributed by the University Bookstore, City Campus Union (Yellow Cover, spiral bound).
2. Pen and calculator.

### **Official Course Descriptions**

- [PHYS 141]     **Elementary General Physics I** (5 cr) Lec 3, Rct 1, Lab 3.  
Prereq: MATH 102 or equivalent. Lab fee required.  
Mechanics, heat, waves and sound.
- [PHYS 153]     **Elementary General Physics Laboratory** (1 cr) Lab 3.  
Prereq or parallel: PHYS 151 or permission. Lab fee required.  
Laboratory experiments in mechanics, heat, and wave motion.

### **Physics 141 and 153 Laboratory Objectives**

1. Strengthen your understanding of and intuition for basic physics concepts about motion, forces, energy, momentum, heat, and waves.
2. Give you experience at relating physics concepts to real-world and human-based applications.
3. Develop your skills at collecting and analyzing data and formulating meaningful conclusions based on this data.
4. Enhance your ability to communicate results and ideas through scientific writing, graphical models, and functional models.
5. Introduce you to various computer-based tools for studying different sciences.
6. Practice your skills at working cooperatively within a group to achieve solutions to given problems.

### **Changes to Syllabus**

This syllabus is subject to change. Any changes will be approved by the Laboratory Manager and will be announced and posted in the laboratory room.

### **Laboratory Manager**

Shawn Langan; 139 Jorgensen; 402-472-2199; slangan@unl.edu

### **Laboratory Requirements and Procedures**

1. If you have previously completed the Physics 141 labs, you may discuss your situation with your lecture professor (Dr. Yenen). Some (but not all) Physics 141 lecture professors will

allow you to re-use your past lab grade and be excused from attending the labs this semester. If this is the case, this is an arrangement between you and your lecture professor. You would still be required to register for a lab section and pay the required tuition and lab fees.

2. All work for this laboratory will be completed in lab during the scheduled lab times. Your logbook must be submitted to the instructor before you leave the lab each lesson. Late work will not be accepted. Your laboratory instructor will grade each lesson report according to the *Grading Guidelines*.
3. In the workplace, supervisors don't generally use letter grades or percents to rate an employee's performance. Instead, they use verbal scores (such as competent and commendable) and comments. To help prepare you for that, your work for each lab will be rated in a similar fashion. At the end of the semester, a formula will be used to calculate your final percent. See the *Grading Guidelines* section of this syllabus for more information.
4. If you have a question about a score given for a lab, you should discuss this with your lab instructor. Please do not discuss personal grading issues during lab time. You should discuss concerns privately with your lab instructor at the end of lab or at a time outside of lab. If you feel a score is inappropriate, you should explain why, **in writing**, and give this written explanation to your lab instructor **within one week of when you received the score**. Scores will not be reconsidered after the one-week time has passed.
5. Attendance at all laboratory meetings is mandatory. **Only the Physics 141 lecture professor can grant an excused absence to a Physics 141 student**. Physics 153 students should discuss their situation with the Laboratory Manager and the Lab TA.
6. Having experience working successfully in teams is highly valued by scientific and technical careers. Therefore, part of the intention of the laboratory experience is to give you practice working with different people. You will start working in groups the first day, and you will be assigned different lab partners twice during the term, after quiz #1 and again after quiz #2.
7. Each group will submit one Group Lab Report. It is important that EACH group member participate in the experiment, but only ONE "scribe" should record data and answer questions in such a way that each group member is in agreement. At the end of lab, each group member must peruse the report and agree to its contents.
8. The scribe for each experiment must be a different group member each lab. Every member of a group should be the scribe at least ONCE before the quiz. In the case that a group has all members having been a scribe in the previous experiment (during a group change), the TA will decide which student is the first scribe.
9. During quizzes, a group may share the group lab notebook to assist them in answering quiz questions, however they may NOT share answers from a group members quiz.
10. When you are the scribe, be sure to write neatly in your logbook and organize your work so that it is presented clearly. If the instructor can't read your work, then he/she doesn't have to grade it! If you make a mistake, just cross it out with one or two lines and rewrite your response. You will not be graded down for things being neatly crossed out.
11. Be sure to answer carefully and fully (using sentences) all questions in the laboratory handouts. Careful, well-thought-out answers will be worth more throughout the lessons than

a lot of brief, unexplained answers. One-word answers such as "yes," "bigger," or "4.2" are meaningless and will be graded accordingly.

12. Always write an "Accuracy and Implications" discussion to complete each lab. Each group member must assist the scribe when writing concluding statements. No group member should leave until the lab report is complete and approved by all members.
13. Clean up your work area and arrange the equipment neatly before leaving. Your station must be ready for the next students. Report equipment problems to the lab instructor.
14. Your final lab score will be based on the quality of your lab work and written reports (85%) and quiz scores (15%). All quizzes and lessons will count towards your final lab score. **The group lab report will be the grade each group member receives for each experiment, so be sure to come to a group consensus in answers in your group lab report.**
15. The TA reserves the right to down grade any individual student's lab score if that student is not participating in the experiment and/or lab report answers.
16. Final scores will be reported to the lecture professor (Dr. Yenen) at the end of the term. Please refer to the Physics 141 course syllabus to see how the lab score will be factored into your overall course grade.  
  
Your lab instructor and the Laboratory Manager will determine the final Physics 153 lab grades.
17. In order to maintain grading uniformity among sections, the Lab Manager or lecture professor has the option of scaling the lab instructors' scores. No lab scores will be scaled "down."
18. Any student caught copying another student's work or using lab reports from previous terms will automatically receive a zero for that experiment. In addition, your lecture professor and/or the Department Chair will be notified for further possible action.
19. Students are expected to maintain a positive educational environment for all students in this class as outlined in the Students Rights and Responsibilities section of the Undergraduate Bulletin.

### **Scheduling a One-Time Makeup Lab**

- If at all possible, students needing to makeup a lab should contact the Lab Manager (slangan@unl.edu; 402-472-2199) about rescheduling a lab. **You do not need to ask the lecture professor or the secretaries in the main office.**
- Students will be given permission to make up a lab in any section as long as there is room for that person. No lab can be made up after the last section of the day the required lab is being performed.
- If a student has permission to do a makeup lab in a different section, the Lab Manager will notify both the regular instructor and the instructor of the makeup lab.
- When a student makes up a lab, he/she MUST turn in his/her lab papers to the make-up instructor before leaving the lab room. Be sure to write the name of the regular instructor on the papers before turning them in. The regular instructor will grade the lab.

- When making up a lab, the student attending a different section is responsible for their OWN lab report. The make-up student will work in a group, but they must submit their individual lab report to the TA.
- If a student shows up unexpectedly to a lab asking to do a makeup, the instructor **may** let that student stay if there is sufficient room. However, in general students **MUST** talk to the Lab Manager before scheduling a makeup if at all possible. If a student repeatedly shows up unannounced to lab sections in which they are not registered, then his/her lesson grades will be lowered on each occasion.
- If a student misses all lab sections in a given day, he/she can discuss the situation with the lecture professor (if a 141 student). Only the lecture professor may excuse a lab absence. 153 students should provide information about the absence **in writing** to the Lab Manager.

### **Absences from Lab**

#### Physics 141:

- There will be no makeup given once an experiment is put away at the end of each day. If you miss a particular lesson, feel free to discuss the situation with your lecture professor or the lab manager.
- In the unlikely event of an emergency, which is supported by appropriate documents, you must see your lecture professor to discuss your situation.
- The lab instructors cannot excuse any absences. No exceptions. Only the 141 lecture professor can excuse an absence from lab.

#### Physics 153:

- There will be no makeup given once an experiment is put away at the end of each week. If you miss a particular lesson, feel free to discuss the situation with the Lab Manager.
- In the unlikely event of an emergency, which is supported by appropriate documents, you must notify the Lab Manager as soon as possible.
- **Professional Ethics**
  1. Students will behave in a professionally responsible manner in class.
  2. Students will make every attempt to be to class on time and be ready to work.
  3. Students will treat the scientific tools and processes with care and respect.
  4. Students are expected to maintain a positive educational environment for all students in this class as outlined in the Students Rights and Responsibilities section of the Undergraduate Bulletin.
  5. Students are expected to utilize the computers in this laboratory room in accordance with the policies as outlined in the Student Code of Conduct and Disciplinary Procedures section of the Undergraduate Bulletin.