

Syllabus

Physics 115: Physics Laboratory*

Course Material

This course will take the student through eleven laboratories that will introduce the student to the techniques of experimental physics in the areas of mechanics and thermal physics.

The individual lab exercises are designed to complement the material taught in Physics 135. While we have attempted to have the labs stay synchronized with the course, they will occasionally present material that has not been covered in class. In these cases, the lab instructors will present a brief introduction to the physics that is needed to complete the lab.

Laboratory Supervisor

The laboratory supervisor for this class is:

Dr. Rex Isham
204 Farrington Building
Phone: (936) 294-1607
Email: phy_eri@shsu.edu

Attendance

Attendance is mandatory at each of the scheduled lab sessions except for valid excuses. There will not be any make-up labs. In the event that a student misses a lab session, the student will receive a zero grade in both that days quiz and in the lab report that was due.

The only exceptions to the above policy will be for illness documented by a physician's note, or other documented emergencies. Excuses will be considered on an individual basis. You should contact the lab's faculty supervisor to discuss this matter - **lab instructors are not permitted to accept excuses, you will need to see Laboratory Supervisor.**

*This laboratory is associated with Physics 135. Therefore, the general university policies states in the course syllabus for PHY 135 are applicable in this laboratory.

Quizzes

A short quiz will be administered at the beginning of each lab session. These quizzes are designed to ensure that the student has both prepared for class and participated in the previous lab. The quizzes will be written and graded by the lab instructor. These quizzes will be

averaged to obtain an overall quiz grade for the course. The quiz grade represents 30% of the final grade.

Final Exam

A final exam will be given in the final session of the lab program. The lab final will be written and will test whether or not the student participated in all of the labs. It will be worth 20% of the final grade.

Laboratory Reports

Written reports are an important part of a practicing scientist. In order to develop your technical writing skills, complete written laboratory reports will be required for each laboratory that you perform. Your laboratory reports will be graded for spelling, grammar and content. Deductions will be made for any errors in each of these three areas.

The rules and format guidelines for preparing these reports are given below. Deviations will result in penalties being assessed against your lab grade.

Rules

- 1) The reports shall be submitted in type written form on 8.5" x 11" paper. One side of each sheet is used. **Note:** the university computer labs have a number of computers and printers available for students to use.
- 2) The reports will use the format given below. Any other format will result in a 25 point reduction from your lab report grade.
- 3) Reports are due at the beginning of the following lab session. **Late reports will not be accepted. Late or missing reports will be given a grade of zero.**
- 4) Graphs may be hand-made, however, they must be prepared in accordance with standard graphing methods. Figure captions and numbers are required.
- 5) Each section that is missing from the format given below will result in a penalty of 20 points.
- 6) If any of the questions are missing, you will be given an automatic deduction of 10 points. Wrong answers will result in additional deductions.
- 7) Conclusions that are not supported by the data will be given a mandatory 10 point deduction.

Report Format

- 1) Introduction – The introduction is a brief description of the material that will be presented, a description of the theory being tested, etc. It should be written in the form a several paragraphs.
- 2) Procedure – This section is a set of paragraphs that tell how you performed the experiment. They should be written as prose, and should not copy the terse format of the lab manual.

- 3) Results and Discussion – Here the results of your measurements should be presented. Please avoid using this section to perform calculations. Discuss your results.
- 4) Questions – These are the answers to the questions found at the end of each lab in the textbook. The answers should be numbered according to the numbers in the textbook.
- 5) Conclusions – This section presents the conclusions that you can draw from the data presented in section 3. Please note that you need to get your conclusions from the data. Do not give a conclusion that is what you think we want to hear. Logical consistency is important!

Final Grades

Final grades will be calculated by taking the weighted average of your lab reports (50%), quizzes (30%), and final (20%). The following scale will be used to determine your grade: $90 \leq A \leq 100$, $80 \leq B < 90$, $70 \leq C < 80$, $60 \leq D < 70$, $0 \leq F < 60$.