

Angelina College
Science and Mathematics Division
PHYS 1105 Elementary Physics Laboratory
Instructional Syllabus

I. BASIC COURSE INFORMATION**A. Course Description**

Elementary Physics Laboratory PHYS 1105. One hour credit. Laboratory experiences to supplement Physics 1305. Three laboratory hours each week. Prerequisite or co-requisite: PHYS 1305. Lab fee.

B. Intended Audience This course is available as an option for students taking PHYS 1305 who want a four-hour laboratory course in physics.**C. Instructor -**

Name:

Office Location:

Office Hours:

Phone:

E-mail Address:

II. INTENDED STUDENT OUTCOMES:**A. Core Objectives Required for this Course**

1. **Critical Thinking:** to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
2. **Communication:** to include effective development, interpretation and expression of ideas through written, oral and visual communication
3. **Empirical and Quantitative Skills:** to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
4. **Teamwork:** to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

B. Course Learning Outcomes for All Sections

Upon successful completion of this course, students will:

- Read and use basic instruments accurately.
- Understand the importance of repeated measurements.
- Recognize and apply importance of indirect measurements.
- Use electronic data gathering and graphing programs.
- Work in a cooperative manner with other students.

III. ASSESSMENT MEASURES**A. Assessments for the Core Objectives:**

1. **Critical Thinking:** Students will demonstrate critical thinking skills through written responses to lab report questions about lab activities. Critical thinking skills will be assessed using an appropriate rubric.
2. **Communication:** Students will demonstrate effective communication skills by writing lab reports that convey results and an understanding of the laboratory procedures. Communication skills will be assessed by an appropriate rubric.
3. **Empirical and Quantitative Skills:** Students will collect and analyze data using various methods and instruments. Students will interpret and display data accurately and use the data to draw conclusions. Empirical and qualitative skills will be assessed using an appropriate rubric.

4. **Teamwork:** Students will work in pairs or small groups to produce lab reports. Teamwork skills will be assessed using an appropriate rubric.

B. Assessments for Course Learning Outcomes

Each of the learning outcomes is assessed through analysis of specific designated activities and analysis of results.

IV. INSTRUCTIONAL PROCEDURES:

A. Methodologies common to all sections

This course is taught principally by lecture and supervision of laboratory activities, along with critiques of written work.

B. Methodologies determined by the instructor

Copies of lab procedures are available through Blackboard®

V. COURSE REQUIREMENTS AND POLICIES:

A. Required Textbooks, Materials, and Equipment –

1. There is no separate textbook required for this course.
2. A basic calculator will occasionally be necessary.

B. Course Policies – (This course conforms to the policies of Angelina College as stated in the Angelina College Handbook.)

Educational Accommodations – If you have a disability (as cited in Section 504 of the Rehabilitation Act of 1973 or Title II of the Americans with Disabilities Act of 1990) that may affect your participation in this class, you may fill out the Educational Accommodations application within your AC Portal, under the “Student Services” tab. A Student Success team member will contact you once the application is received. At a post-secondary institution, you must self-identify as a person with a disability in order to receive services; for questions regarding the application process you can visit the Office of Student Success and Inclusion in the Student Center (Room 200) or email access@angelina.edu. To report any complaints related to accommodations, you should contact Annie Allen, Director of Student Success & Inclusion, in Room 200 of the Student Center. You may also contact Ms. Allen by calling (936) 633-4509 or by emailing aallen@anglina.edu. To report discrimination of any type, contact Steve Hudman, Dean of Student Affairs, at (936) 633-5292 or shudman@angelina.edu.

Attendance – You must be present and participate in any lab that has your name on it. If you drop the lecture class, you may not continue in the laboratory portion, but the laboratory can be dropped without affecting the lecture course. A student can be dropped from this class for excessive absences (two consecutive or three cumulative). If you should need to drop this class for any reason, be sure to process an official drop request with the admissions office: do not assume that the instructor will do this for you.

Additional Policies Established by the Individual Instructor –

- Promptness is necessary as explanation of the procedures is given at the beginning of the period.
- The lab starts at 1:00 (not 1:10).
- No food, drink, or smoking is allowed during the class.
- The instructor is available for help and consultation during the lab and any questions or problems should be directed to him.
- Be careful in everything you do. Safety is of vital importance for yourself and others.
- Any child care problems must be handled outside the classroom.
- Turn off cell phones and any other device that could disturb the class.

VI. COURSE CONTENT:

Required Content/Topics Common to All Sections

Normally a separate lab is performed each week. Usually the topics will cover material that has been introduced in class although some deviation may occur.

A copy of the lab will be available on Blackboard to look over before class.

VII. EVALUATION AND GRADING:

A. Grading Criteria

Grades are determined by numerical scores on the following written components:

Group Laboratory Reports (90%)

An assignment or handout sheet is given out at the beginning of class. Each report must be accompanied by any related worksheet, spreadsheet, or graph. Reports are graded on a basis of 25 points each. Laboratory reports for each experiment are due by the beginning of the next laboratory meeting. Two points are deducted for each late period. Your final report grade is the average of these individual grades, with the lowest two eliminated, which may include missed labs. There is an opportunity near the end to make up *one* lab for anyone who has *missed* more than two lab sessions.

Final Exam (10%) This is a summary of important topics and procedures used in the lab.

B. Determination of Grade

Letter grades are determined from your course average based on the following guidelines:

Course Average	Grade
90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D
Below 60	F

LABORATORY SCHEDULE AND TOPICS

<u>Week</u>	<u>Date</u>	<u>Topic</u>
1	Jan 16	Measurements
2	23	Accelerated Motion
3	30	Newton's Second Law
4	Feb 6	Collisions in Two Dimensions
5	13	Work and Energy
6	20	Torque
7	27	Elastic Properties of Matter
8	Mar 6	Size of a Molecule, Buoyancy
9	20	Specific Heat
10	27	Simple Harmonic Motion
11	Apr 3	Electric Circuits
12	10	Reflection & Refraction of Light
13	17	Spectra
14	24	Lab Final, Make-up Lab