

Brazosport College

Syllabus for PHYS 2125 – University Physics I Laboratory - Mechanics and Heat Lab

Instructor:
Office Phone:
Alt. Phone:

Office:
Email:

I. COURSE DESCRIPTION

PHYS 2125 – University Physics I Laboratory - Mechanics and Heat Lab CIP 4008015403
Credit in **PHYS 2325** as a laboratory science is contingent upon successful completion of
PHYS 2125. **Credit Hours:** 1 (0 lecture, 3 lab)

January 2022

- A. Prerequisite:** Successful completion of, or concurrent enrollment in **PHYS 2325**.
Required skill level: College-level reading, writing and math.

II. COURSE OBJECTIVES

The general objectives of an introductory physics course are twofold: to provide the student with a clear and logical presentation of the basic concepts and principles of physics, and to strengthen an understanding of these concepts and principles through a broad range of interesting applications. In order to meet these objectives, emphasis is placed on sound physical arguments and discussions of everyday experiences. At the same time, an attempt is made to motivate the student through practical examples that demonstrate the role of physics in other disciplines.

Physics laboratory experiments amplify and demonstrate the ideas discussed in the physics classroom. Labs incorporate several features of a physics problem, including...

- (1) Testing the student's understanding of the applicable physics principle
- (2) Providing an opportunity to develop intuition
- (3) Encouraging an estimation of the result of the experiment
- (4) Giving an opportunity to test the result
- (5) Analyzing any discrepancy between prediction and measured results.

III. STUDENT LEARNING OUTCOMES

A growing body of research in physics education indicates that a majority of students have difficulty learning basic physical concepts in a course built around traditional lectures and textbook problem solving. Improved learning occurs when students actively confront difficult concepts. This effective learning is assisted by close interaction of students with their peers, and the physics laboratory can be an excellent environment for these processes. Therefore, the learning outcomes for this Laboratory course are:

1. The student will demonstrate the ability to think critically and to use appropriate concepts to analyze qualitatively problems or situations involving the fundamental principles of physics. The assessment of this outcome will be determined by periodic quizzes designed to probe conceptual understanding of physics concepts.
2. Demonstrate teamwork skills and the ability to collaborate by working in groups on laboratory experiments. The assessment of this outcome will be determined by various group laboratory exercises.

VI. TEXTBOOK OR COURSE MATERIAL INFORMATION

A. Textbook

1. No textbook required material provided by instructor.

Required course materials are available at the Brazosport College bookstore, on campus or online at <http://brazosport.edu/bookstore/home.html>. A student of this institution is not under any obligation to purchase a textbook from the college bookstore. The same textbook is/may also be available from an independent retailer, including an online retailer.

For Distance Education Courses include the following: Contact the Brazosport College Bookstore with a credit card for course materials. Phone: 979-230-3651. Fax: 979-230-3653. Email: bookstore@brazosport.edu. Website: <http://brazosport.edu/bookstore/home.html>

B. Course Outline

This is a sample outline which may vary with individual instructors. It will also vary based on whether the course is a summer course or a fall/spring course. Students should contact their instructor for the outline of the course they are taking.

Though specific laboratory exercises may vary from year to year, typical labs would include the following:

- Addition of Forces (Force Table)
- Momentum Conservation (Ballistic Pendulum)
- Moment of Inertia, Specific Heat
- Coefficient of Thermal Linear Expansion
- Centripetal Force
- Standing Waves on a String
- Air Column Resonance
- Archimedes' Principle (Buoyant Force).

Important Semester Dates:

Last Day to Withdraw from Classes– Check BC Academic Calendar at <http://catalog.brazosport.edu/index.php>

Office Hours:

For fulltime faculty, office hours may change from semester to semester. Current faculty office hours are included on the syllabus, see link: <https://brazosport.edu/faculty-and-staff/resources/course-syllabi-instructor-information/>

For an adjunct faculty, no office hours are required, and they are not assigned an office. To set up an appointment with an adjunct, contact the instructor as per the email address on the syllabus, see link: <https://brazosport.edu/faculty-and-staff/resources/course-syllabi-instructor-information/>

V. LAB REQUIREMENTS

Physics laboratory experiments amplify and demonstrate the ideas discussed in the textbook and in the classroom. Labs incorporate several features of a physics problem, including

- (1) Testing the student's understanding of the applicable physics principle
- (2) Providing an opportunity to develop intuition
- (3) Encouraging an estimation of the result of the experiment
- (4) Giving an opportunity to test the result
- (5) Analyzing any discrepancy between prediction and measured results.

Video or audio recording of class or lab activities is prohibited unless specific permission is given by the instructor.

VI. STUDENTS WITH DISABILITIES

Brazosport College is committed to providing equal education opportunities to every student. BC offers services for individuals with special needs and capabilities including counseling, tutoring, equipment, and software to assist students with special needs. For student to receive any accommodation, documentation must be completed in the Office of Disability Services. Please contact Phil Robertson, Special Populations Counselor at 979-230-3236 for further information.

VII. TITLE IX STATEMENT

Brazosport College faculty and staff are committed to supporting students and upholding the College District's non-discrimination policy. Under Title IX and Brazosport College's policy FFDA (Local), discrimination based on sex, gender, sexual orientation, gender identity, and gender expression is prohibited. If you experience an incident of discrimination, we encourage you to report it. While you may talk to a faculty or staff member at BC, please understand that they are "Responsible Employees" and must report what you tell them to college officials. You can also contact the Title IX Coordinators directly by using the contact information below. Additional information is found on the Sexual Misconduct webpage at www.brazosport.edu/sexualmisconduct.

Alex Crouse, Director of Student Life and Title IX Coordinator
979-230-3355; alex.crouse@brazosport.edu

Mareille Rolon, HR Coordinator and Deputy Title IX Coordinator
979-230-3303; mareille.rolon@brazosport.edu

VIII. ACADEMIC HONESTY

Brazosport College assumes that students eligible to perform on the college level are familiar with the ordinary rules governing proper conduct including academic honesty. The principle of academic honesty is that all work presented by you is yours alone. Academic dishonesty including, but not limited to, cheating, plagiarism, and collusion shall be treated appropriately.

Academic dishonesty violates both the policies of this course and the Student Code of Conduct. In this class, any occurrence of academic dishonesty will be referred to the Dean of Student Services for prompt adjudication, and may, at a minimum, result in F, in this course. Sanctions may be imposed beyond your grade in this course by the Dean of Student Services. Please refer to the Brazosport College Student Guide for more information. This is available online at <http://brazosport.edu/students/for-students/student-services/>.

IX. ATTENDANCE AND WITHDRAWAL POLICIES

Class attendance contributes to your final grade, but you must attend class to successfully complete the course. If you are unable to complete this course, you must complete and submit a withdrawal form with the registrar's office. If the student decides to drop out of the class, it is the responsibility of the student to initiate a withdrawal before the withdrawal deadline in order to get a "W" on their transcript. If this is not done the student will receive a grade based on test grades and class grades earned during their attendance and absence (i.e., zeros on all missed materials, exams, skills tests, and final exam).

Administrative Policy states that it is the responsibility of the student to withdraw from a class (if this option is what the student wants) by completing the appropriate paperwork with the registrar. However, a faculty member may withdraw a student for excessive absences.

X. COURSE REQUIREMENTS AND GRADING POLICY TESTING MAKE-UP POLICY

A. Grading

Your grade will be determined by your work on laboratory exercise. The average of your lab grades will be your course grade. Your grade is determined according to the following scale: $90\% \leq A \leq 100\%$; $80\% \leq B < 90\%$; $70\% \leq C < 80\%$; $60\% \leq D < 70\%$; $0 \leq F < 60\%$.

Grades are assigned as follows:

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

B. Make-Up Policy

Make-up labs can be given at the discretion of the instructor (usually only for excused absences).

XI. STUDENT CONDUCT STATEMENT

Students are expected to be aware of and follow the Brazosport College Student Code of Conduct. Students have violated the Code if they “fail to comply with any lawful directions, verbal or written, of any official at BC.” Lawful directions include precautions and requirements taken to prevent the spread of COVID-19 at Brazosport College. Students who do not follow safety requirements, including the wearing of a mask, may be removed from class by their instructor and referred to the Dean of Student Services.

XII. CAMPUS CLOSURE STATEMENT

Brazosport College is committed to the health and safety of all students, staff, and faculty and adheres to all federal and state guidelines. The College intends to stay open for the duration of the semester and provide access to classes and support services on campus in the safest way possible. The College will also comply with lawful orders given by applicable authorities, including the Governor of Texas, up to and including campus closure. It is possible that on campus activities may be moved online and/or postpone if such orders are given.

XIII. STUDENT RESPONSIBILITIES

Students are expected to fully participate in this course. The following criteria are intended to assist you in being successful in this course:

1. Understand the syllabus requirements
2. Use appropriate time management skills
3. Communicate with the instructor
4. Complete course work on time, and
5. Utilize online components (such as Desire2Learn) as required.

XIV. OTHER STUDENT SERVICES INFORMATION

Information about the Library is available at <http://brazosport.edu/students/for-students/places-services/library/about-the-library/> or by calling 979-230-3310.

For assistance with online courses, an open computer lab, online and make-up testing, audio/visual services, and study skills, visit Learning Services next to the Library, call 979-230-3253, or visit <http://brazosport.edu/students/for-students/places-services/learning-services/>.

For drop-in math tutoring, the writing center, supplemental instruction and other tutoring including e-tutoring, visit the Student Success Center, call 979-230-3527, or visit <http://brazosport.edu/students/for-students/student-success-center/math-center/>.

To contact the Physical Sciences and Process Technologies Department call 979-230-3618.

The Student Services provides assistance in the following:

Counseling and Advising	979-230-3040
Financial Aid	979-230-3294
Student Life	979-230-3355

To reach the Information Technology Department for computer, email, or other technical assistance call the Helpdesk at 979-230-3266.



Get the information you need – when you need it. Click <http://geni.us/BRAZO> to install **BC Connect** on your mobile device to receive reminders, explore careers, map your educational plan, be in the know about events, find out about scholarships, achieve your goals and much more.