

College Physics I Lab (PHY2053L_L05_2238) Fall Semester 2023

Meeting Time: We 8:00 AM – 10:30 AM

Course Description

This course is an introductory level laboratory physics course that is designed to enhance student learning of physics concepts from Mechanics to the physics of Fluids through an interactive virtual laboratory experience. The course is designed as one part of a two-semester, one-year physics course based on algebra and trigonometry for students majoring in pharmacy, biology, (pre)-medicine, architecture, occupational therapy and many other disciplines. By the end of this course, students will be able to analyze real-world physics applications in their own fields on the basis of a few laws of physics. Students will be able to create new models using their laboratory experience to solve a variety of physics problems.

Course Textbook: College Physics courtesy of OpenStax.

Course Pre-requisites

The following Math courses are accepted as pre-requisites for PHY 2053L (College Physics I Lab):

MAC 1105 - College Algebra (3)

MAC 1114 - Algebra & Trig Function (3)

MAC 1147 - Pre- Calculus (4)

Course Purpose

The purpose of this course is to present a series of virtual experimental learning activities that present physics concepts in a clear and straightforward manner that non-physics majors need to know for their specific disciplines and related fields. It is designed to help you understand that physics is not a collection of equations and hypotheses but a description of everyday phenomena in your own environments. In this way, you can identify the important connections and relationships between these phenomena and the fundamental laws of nature. This goal will be achieved through eleven virtual, interactive simulation experiments that will be assessed on the basis of laboratory reports and online quizzes.

Required Technology

- Internet connection (DSL, LAN, or cable connection desirable)
- Access to Canvas
- Web Camera
- Headset with microphone

LMS Access (Access to Learning Management System used by the university)

To ensure that you are using a supported browser and have required plug-ins please run the Check Browser (Links to an external site.) from your course.

IMPORTANT: Install the Respondus LockDown Browser on your laptop prior to taking any mid-semester test or the final quiz. Students who do not have this program downloaded on their laptops will NOT be able to take the unit tests and final quiz.

Expected Student Learning Outcomes

Upon completion of this course, students will be able to:

1. Extract information from physics text and worded problems to analyze and solve a range of real-world physics problems in mechanics, wave phenomena and thermodynamics.
2. Apply algebra and trigonometry to analyze the motion of an object in real-world situations by integrating concepts in kinematics (motion) with Newton's Laws of Motion (forces).
3. Explain a variety of everyday observations on the basis of a few principles of physics and apply their tools acquired through extensive practice to specific problems in their own field.
4. Develop their own competency in problem solving techniques for application to a variety of fundamental physics problems.

Methods for Assessing the Expected Learning Outcomes

The expected learning outcomes for the course will be assessed through Quizzes and Laboratory Reports.

Instructions for the online virtual lab experiments are posted in the applicable Module. **You can do these labs at any time**, and it is **STRONGLY RECOMMENDED** that you attempt them at least one day prior to the "due date" on the schedule. This will allow you time to solve any computer issues, or to contact your instructor with any questions regarding how the lab works. Quizzes will appear on Canvas **ONLY** during the time that this laboratory meets (11:15 am-1:45 pm) on the date that they are due for your group. You will not be able to complete the quiz at any other time, however you can do the virtual experiment in advance. Most of the quiz will consist of data from the tables in the laboratory manual for the virtual lab. You will be given 2 attempts to take the quiz, just in case you have internet difficulties during your first attempt.

LAB REPORTS ARE DUE AT 11:59 PM ON THE MONDAY IMMEDIATELY FOLLOWING THE LAB.

Lab reports should be typed and prepared according to the [lab report format](#). All graphs should be displayed in Microsoft Excel with the proper labels, or if drawn by free hand, on scientific graph paper. You must also answer any questions that are given at the end of each lab assignment. Sloppy work, which is too complicated to follow, will receive a poor grade.

Under no circumstances should your lab report or any section thereof be the same as anyone else's. Should this occur, both (or all) students with identical reports or sections of reports will receive ZERO credit for this work.

Course Evaluation/Description of How Grades are Determined

The course evaluation will be as follows:

All laboratory exercises will be weighted the same. Each lab report or lab graded quiz will be assigned 10 points. (80%)

Two (2) Quizzes (20%)

[Two short (i.e. half-hour) quizzes will be given during the semester. Quiz 1 will cover material from Labs 1-6, and Quiz 2 will cover material from Labs 7-12.]

Grades: A $\geq 85\%$ B $\geq 75\%$ C $\geq 60\%$ D $\geq 50\%$ F $< 50\%$

Attendance & Make-Up Policy

Attendance is mandatory. It is the University's policy that at four unexcused absences, the student can receive a failing grade. In this course, students learn a lot from their interactions with each other and with me while working collaboratively. However, I know that extenuating circumstances may arise that make it difficult to do every lab or take both the mid-term quiz and the final quiz. If you cannot do the lab at the specified time, please let me know. With a University approved excuse, I can arrange for you to do the lab at another time or to drop a missed test. If circumstances make you miss more than one class, you may be overextended and, in that case, you may consider dropping the class in accordance with the University attendance policy.

Extra Credit Policy

There is no extra credit offered in this course.

Late Assignment Policy

All assignments are considered late if they are not submitted before the due date/time as indicated.

Academic Learning Compact:

www.famu.edu/DepartmentofPhysics/UserFiles/File/physics.pdf

Policy Statement on Non-Discrimination

It is the policy of Florida Agricultural and Mechanical University to assure that each member of the University community be permitted to work or attend classes in an environment free from any form of discrimination including race, religion, color, age, disability, sex, marital status, national origin, veteran status and sexual harassment as prohibited by state and federal statutes. This shall include applicants for admission to the University and employment.

Academic Honor Policy

The University's Academic Honor Policy is located in the FANG Student Handbook, under the Student Code of Conduct-Regulation 2.012 section, beginning on page 55-56.

ADA Compliance

To comply with the provisions of the Americans with Disabilities Act (ADA), please advise instructor of accommodations required to ensure participation in this course. Documentation of disability is required and should be submitted to the Learning Development and Evaluation Center (LDEC). For additional information please contact the LDEC at: (850) 599-3180.

Dropping This Course

It is the student's responsibility to understand when they need to consider dropping a course. Refer to the FAMU Course Schedule for dates and deadlines for registration. After this period, a serious and compelling reason is required to drop from the course. Serious and compelling reasons includes: (1) documented and significant change in work hours, leaving student unable to attend class, or (2) documented and severe physical/mental illness/injury to the student or student's family.

Incomplete Policy

Under emergency/special circumstances, students may petition for an incomplete grade. An incomplete will only be assigned if supporting documentation is submitted. All incomplete course assignments must be completed within the first five weeks of the next semester.

Academic Honesty/Plagiarism

Students will be expected to adhere to standards of academic honesty and integrity, as outlined in the Student Academic Honesty Policy. All assignments must be original work, clear and error-free. All ideas/material that are borrowed from other sources must have appropriate references to the original sources.

FAMU's Academic Honesty Policy & Procedures

“All members of, and participants in, the academic life of the University are to be governed by academic honesty in all of their endeavors. Students and faculty are expected to uphold

academic integrity and combat academic dishonesty”. Read more about FAMU's Academic Honesty Policy & Procedures

Accommodation

If you have a documented disability and verification from the Center for Disability Access and Resources (CEDAR) and wish to discuss academic accommodations, please contact your instructor as soon as possible. It is the student's responsibility to provide documentation of disability to CEDAR and meet with a CEDAR counselor to request special accommodation before classes start. CEDAR is located at 667 Ardelia Court, Tallahassee, FL 32307 and can be contacted by phone at 850.599-3180.

FAMU Protocols on Faculty Recording

The document below details the university's protocols on student recording of faculty. Please take a moment to review it.

[HB 233 FAQs.pdf](#)