Physics for Sci & Eng I

PHYS - 2210 001

Course Description

For engineering and science majors. Mechanics and Newtons laws presented with calculus. Gravity, energy, momentum, fluid mechanics, oscillations, waves, and thermodynamics. It is recommended that students take PHYS 2215 in the same semester as this course.

Pre-Requisite(s): MATH 1210 or ENGR 1010
Semester: All

Course Student Learning Outcomes

- Students will learn to understand and recognize the following physics principles in their everyday lives: Newton's laws of motion, mechanics, work and energy, solid body motion, fluid motion, gravity, harmonic motion, vibrations and waves, thermodynamics.
- Students will learn to think critically and solve physics problems using calculus.
- Students will gain a solid foundation that will enable them to succeed in their future science courses.

Course Prerequisites

MATH 1210 or ENGR 1010

Engagement Plan

- I will respond to email within 1 business day.

- I will offer feedback on major assignments within 1 week.
- The best way to contact me is via the Canvas Inbox, as I will prioritize this email over other modes of communication.

Keys for Success (how to succeed in the course)

- Be prepared for class – read the chapter, start working on homework to prepare questions you want to ask.
- Take responsibility for your learning – form study groups, discuss class topics, do the homework early.
- Start homework the day of class and spend time every day doing more – Physics is not conducive to cramming.
- Learn how to approach problems rather than memorizing one problem and making it fit all the others. Physics is where you will learn to mathematically model problems, meaning there is not a "right equation" to apply to each problem.
- Do practice tests with enough time to ask questions.

Required Text or Materials

Title: University Physics
Subtitle: With Modern Physics
Authors: Young and Freedman
Publisher: Pearson
Edition: 15

Title: Mastering Physics
Subtitle: Textbook and Mastering Physics are available through canvas

For more information on textbook accessibility, contact Accessibility & Disability Services at ads@slcc.edu.

Additional Materials

The eText has great example and demonstration videos embedded in it. It also has Pearson AI integrated in the eText and the Study Space. In addition to these tools, there are some supplementary lecture and example videos on the Modules page. These were created when we were using a book with a different author and some of the variables used will be different with your current textbook. It's important to make sure you understand conceptually what all the variables represent and how the concepts relate together so you can identify the fundamental physics in each resource you use (eText, Modules videos, AI, Chegg, etc.). Even though different authors use different variables, the underlying concepts are the same.

The STEM Learning Center has tutors, along with tables and chairs you can sit at to work on homework. Sometimes you will find you'll click better with different tutors so be sure to try a few different days/times if you can.

Brief Description of Assignments/Exams

Assessment of your learning will be done in these ways:

Class Participation (10%): "Quizzes" (check your understanding questions) will be given most class periods. You must be on time, stay for the entire class period, and participate in discussions to get full credit for your participation. Quizzes may not be made up, but if you have an emergency come up, talk with your instructor about excusing you from class that day.

Pre-Lecture Assignments (10%): These assignments will be completed in Mastering Physics. Use the "Pearson Course Materials" link in the second module on the Canvas Modules page. These assignments will be due before class and will not be accepted late. The system is set up to give you many attempts on all problems and to give you full credit as long as you submit before the due date/time. When you have prepared for class, we can spend more time on practicing and problem solving during class time.

Mastering Physics Chapter Homework (20%): There are two introduction assignments and at least one assignment per chapter. Use the "Pearson Course Materials" link in the second module on the Canvas Modules page to access these assignments. The eText and homework system are available starting on the first day of class. About a week into the semester you'll get a message about "opting out" of this direct integration. Do NOT opt out otherwise you will not have access to the book, study area, or homework system and

will lose out on at least 30% of your grade. If you have problems with any Mastering Physics links, please reach out to Pearson Support for help. Chapter homework is accepted late, but there is a 10% per day late penalty which is calculated individually for each problem. The homework will give a small deduction (5%) for incorrect answers on multiple choice type questions but problems requiring numerical solutions are set up to give you full credit as long as you don't use up all of the 6 allowed attempts.

Exams (40%): There will be four exams throughout the semester. (The final is listed separately below) **Exams will be taken in the SLCC Taylorsville Redwood testing center.** The testing center will provide you with test notes that you may use on the exam (a link to the test notes is on the Modules page). Be sure to bring your calculator (basic scientific/non-graphing/non-programmable). Cell phones may not be used as a calculator. The testing center has basic calculators you can borrow if you don't have one.

Final Exam (20%): The final exam will cover the last section of material and will have a few comprehensive questions. An announcement explaining more about what to expect will be posted a week or two prior to finals week.

Assignment Schedule

Due Date	Assignment Name	Assignment Type	Points
	General Class Questions	Discussion	0
8/29/25	Introduction to MasteringPhysics	Assignment	5
8/29/25	Physics Primer	Assignment	13
8/29/25	Introduce Yourself	Discussion	10
8/29/25	Syllabus Quiz	Quiz	10
9/4/25	Chapter 2 Pre-Lecture	Assignment	5
9/5/25	Chapter 1 Homework	Assignment	128

Due Date	Assignment Name	Assignment Type	Points
9/10/25	Chapter 3 Pre-Lecture	Assignment	10
9/12/25	Chapter 2 Homework	Assignment	111
9/17/25	Chapter 4 Pre-Lecture	Assignment	24
9/17/25	Chapter 3 Homework	Assignment	111
9/19/25	Exam 1 (Ch 1 - 4)	Assignment	50
10/10/25	Exam 2 (Ch 5 - 8)	Assignment	50
11/7/25	Exam 3 (PLO-PHYS-1)	Assignment	50
11/28/25	Exam 4 (Ch 12 - 13)	Assignment	50
12/17/25	Final Exam	Assignment	80

Grading Scale

A	93 – 100%	B+	87 – 89%	C+	77 – 79%	D+	67 – 69%	E	< 60%
A-	90 – 92%	B	83 – 86%	C	73 – 76%	D	63 – 66%		
		B-	80 – 82%	C-	70 – 72%	D-	60 – 62 %		

Academic Integrity

You are responsible for your own learning and there are many resources available for you within this course. You can also find many resources online. When it comes to test dates, do not share questions from the test or ask anyone else to share with you the questions or the specific topics that are on the exam. Sharing and/or requesting specific information from the exams is considered cheating and will result in a failing grade.

Institutional Policies

As members of our academic community, we would like to invite you to review the Institutional Syllabus which covers important policies and procedures. This document contains important links for students on the code of student rights and responsibilities, academic integrity, and grading policies, Title IX and other important acknowledgements. By familiarizing yourself with this information, you can help us create a safe and respectful environment for everyone.

For more information, navigate to the Institutional Policies tab on the Institutional Syllabus page.

Learning Support and Tutoring Services

We are pleased to offer a range of tutoring and learning support services to help you achieve your academic goals. Whether you need assistance with a specific subject or want to improve your study skills, you have many options for tutoring or other support.

To learn more about the services we offer and how to access them, visit the Institutional Syllabus page under the Tutoring and Learning Support tab. We encourage you to take advantage of these resources to help you succeed in your studies. If you have any questions or would like to schedule a tutoring session, please don't hesitate to reach out to us. We are here to support you in any way we can.

Advising and Counseling Support Services

At our institution, we are committed to supporting your academic and personal growth. That's why we offer a range of advising and counseling services to help you navigate the challenges of college life. To learn more about the resources available to you and how to access them, visit the Institutional Syllabus page under the Advising and Counseling Support Services tab. Our advising team and the support centers across campus are here to support you in achieving your goals and overcoming any obstacles you may face.

Student Academic Calendar

As students you should be aware of all important dates in the semester, such as the day that courses begin and end, as well as the drop date and the last day to withdraw. To learn more about those dates, navigate to the Student Academic Calendar below:

SLCC Student Academic Calendar

Additional Policies

Classroom recordings: Previous virtual classes were recorded and will be provided to the class to revisit as desired. You may not post or share these class recordings without authorization from the instructor. You may also not post any other class materials online without authorization or you have violated Privacy/Intellectual Property Rights.

Incomplete Grade and Withdraw from Class: A grade of "I" (Incomplete) is the instructor's option and is not given except only in the most extenuating of circumstances for which there is verifiable written documentation. In order to receive an incomplete, nearly all course work must have been completed (e.g. 75%) with a passing grade. See the Academic Calendar on the school's website for the last day to drop and the last day to withdraw. It is your responsibility to drop/withdraw from this class, not the instructors.