Physics for Sci & Eng I

PHYS 2210 Online

Instructor Information

Phone:
Email:
Office Location:
Office Hours
Best Time to Contact:

Communication Plan

I will respond to email within one weekday (Mon-Fri). Because I get a lot of emails, there have been times I've missed a message, though this is never my intent. Feel free to reach out again if I haven't responded to you within a day.

I will offer feedback on major assignments within a week. There will be extra credit opportunities related to the midterm exams. If you submit these, I will have those graded prior to the next, upcoming exam.

The best way to contact me is via the Canvas Inbox, as I will prioritize this email over other modes of communication.

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

Physics 2210 and 2220 are designed to teach you the concepts that will provide a solid foundation for your future science and engineering studies. PHYS 2210 specifically covers Newton's laws of motion, work, energy, solid body motion, gravity, and an introduction to thermodynamics.

Not all majors require the physics lab (PHYS 2215) so talk to your Academic Advisor to find out if the lab is required for your degree.

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

Calculus I (with a passing grade), recommended concurrent enrollment in PHY 2215 (lab). Not all degrees require you to take the lab so talk with your Academic Advisor to see if you need to take the lab as part of your degree.

Required Text or Materials

Title: Physics for Scientists & Engineers 5e (you have access to the eText on the Modules page)
For more information on textbook accessibility, contact Accessibility & Disability Services at ads@slcc.edu.

Brief Description of Assignments/Exams

Assessment of your learning will be done in three ways:

- **PhET Simulation Activities (15%)**: Theses assignments have you use an online simulation system to gain a better conceptual understanding of the concepts you are learning throughout the semester. Some of the assignments are in Mastering Physics and some are here in Canvas. The title of the assignment will explain which system has the assignment.
- **Assignments (25%)**: Assignments are required to be done online through the Canvas portal to "Mastering Physics" by the due date given. You can find the links on the Modules page. You have access to the eText and homework system starting on the first day of class. Click on "Mastering Physics Course Home" the first time you access the course. Do NOT opt out otherwise you will not get any homework points. Other links you will see are for the eText and a study area. If you have problems with any mastering physics links, please reach out to Pearson Support for help. Each assignment has a link to the grading policy. You can see the specifics of grading there.
- **Exams (40%)**: There will be four exams throughout the semester. (The final is listed separately below) Exams will be taken in the SLCC testing center. You will be provided 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. Cell phones may not be used as a calculator.
- **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.

Grading Scale

I round your final grade to the nearest whole number

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 %		

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 trying to make it fit other problems. Memorization is not a way to be successful in physics. 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.
- Embrace and maintain a Growth Mindset (Growth Mindset), watch Michael Jordan's experience with a Growth Mindset

Mastering Physics Tips

- Read the submission instructions carefully. Many problems specifically state how the answer is to be submitted, including the number of significant figures required.
- When doing your calculations, do not round too early in the problem. Mastering accepts answers within a certain percent error tolerance. Rounding numbers early will often push your answer outside of this tolerance and you will be told your answer is incorrect.
- Use the hints! You are NOT penalized for reading the hints. (You are penalized if you incorrectly answer a question within the hints).
- Do the problems on paper and save them for later. You will probably want to refer to them later.
- Each numerical answer asks for specific units. Be sure you pay close attention to these.
- Ask questions! Don't keep submitting answers over and over and over again, only to get them wrong. Ask for help! Send a message to your instructor with the work you have done and they can help you find your mistake. Tutors are available in the STEM Learning Centers and through the Online Tutoring here in Canvas.
- Use the numerical values given in the problem. Most problems randomize the numbers, so you and your classmates will have different numbers.

Assignment Schedule

Due Date	Assignment Name	Assignment Type	Points
	General Class Questions	Discussion	0
	Section 1: Linear and Projectile Motion (Chapters 1 - 4)	Discussion	0
	Section 2: Newton's Laws (Chapters 5 - 8)	Discussion	0
	Section 3: Work, Energy, and Momentum (Chapters 9 - 11)	Discussion	0
	Section 4: Rotational Motion and Gravitation (Chapters 12 & 13)	Discussion	0
	Section 5: Fluids & Intro to Thermodynamics (Chapters 14, 18 - 19)	Discussion	0
	Section 6: Thermodynamics (Chapters 18 - 21)	Discussion	0
8/22	Introduce Yourself	Discussion	20
8/23	Introduction to MasteringPhysics	Assignment	36
8/23	Physics Primer and Math Review	Assignment	72
8/30	Chapter 1 Homework	Assignment	91

Due Date	Assignment Name	Assignment Type	Points
9/3	Ch 2 PhET Activity (Mastering)	Assignment	36
9/3	Chapter 2 Homework	Assignment	183
9/6	Chapter 3 Homework	Assignment	125
9/6	Ch 3 PhET Activity (Canvas)	Assignment	43
9/10	Ch 4 PhET Activity (Mastering)	Assignment	39
9/10	Chapter 4 Homework	Assignment	139
9/11	Exam 1 (Ch 1 - 4)	Assignment	50
9/17	Ch 5 PhET Activity (Mastering)	Assignment	36
9/17	Chapter 5 Homework	Assignment	114
9/24	Ch 6 PhET Activity (Mastering)	Assignment	34
9/24	Chapter 6 Homework	Assignment	165
9/27	Chapter 7 Homework	Assignment	139
10/1	Chapter 8 Homework	Assignment	66
10/1	Chapter 8 PhET Activity (Canvas)	Assignment	22

Due Date	Assignment Name	Assignment Type	Points
10/2	Exam 2 (Ch 5 - 8)	Assignment	50
10/2	Exam 1 Extra Credit	Assignment	0
10/11	Chapter 9 Homework	Assignment	156
10/11	Chapter 9 PhET Simulation Activity (Canvas)	Assignment	33
10/15	Ch 10 PhET Activity (Mastering)	Assignment	36
10/15	Chapter 10 Homework	Assignment	70
10/23	Chapter 11 Homework	Assignment	111
10/24	Exam 3 (Ch 9 - 11)	Assignment	50
11/1	Chapter 12-A Homework	Assignment	77
11/1	Chapter 12 PhET Simulation Activity	Assignment	65
11/8	Chapter 12-B Homework	Assignment	93
11/13	Chapter 13 Homework	Assignment	63
11/13	Chapter 13 PhET Simulation Activity	Assignment	60
11/14	Exam 4 (Ch 12 - 13)	Assignment	50
11/26	Chapter 14 Homework	Assignment	86

Due Date	Assignment Name	Assignment Type	Points
11/26	Chapter 14 PhET Simulation Activity	Assignment	42
12/3	Chapter 18 Homework	Assignment	60
12/3	Chapter 18 PhET Simulation Activity	Assignment	20
12/6	Chapter 19 Homework	Assignment	102
12/6	Chapter 19 PhET Simulation Activity	Assignment	34
12/12	Final Exam	Assignment	80

How to Navigate to Canvas

Online Tutoring

Students at SLCC have access to online tutoring through Canvas. From your Canvas course click Online Tutoring in the course navigation and follow the steps to set up an appointment. If this is your first time using the Online Tutoring we recommend you click "Take a Tour" to familiarize yourself with the service.

Note that students only receive 480 minutes of tutoring time each semester. After that we encourage you to use the resources found through this link: https://www.slcc.edu/tutoring/index.aspx

If you have any additional questions reach out to elearningsupport@slcc.edu.

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.

You can access the document by clicking on the following link: https://slcc.instructure.com/courses/530981/pages/institutional-syllabus

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, please visit the Institutional Syllabus under the Tutoring and Learning Support tab: https://slcc.instructure.com/courses/530981/pages/institutional-syllabus. 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, please visit the Institutional Syllabus under the Advising and Counseling Support Services tab: https://slcc.instructure.com/courses/530981/pages/institutional-syllabus. 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 are provided on the Modules page. This is to allow you to review concepts that were more challenging again. o 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.