Physics for Sci & Eng II

PHYS 2220

Instructor Information

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

Communication Plan

I will respond to messages from the Canvas Inbox within one weekday (Mon-Fri). Since I receive a lot of email messages, there have been times I have missed a message, though this is never my intent. Please reach out again if I haven't responded within a day.

I will offer feedback on major assignments within a week. You will have the opportunity for extra credit related to midterm exams. If you complete this extra credit, I will provide feedback by 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

Continuation of PHYS 2210. Laws of electricity and magnetism, AC circuits, optics and waves. It is recommended that students take PHYS 2225 in the same semester as this course.

Pre-Requisite(s): PHYS 2210 and (ENGR 1010 or MATH 1220)
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 2220 specifically covers electricity, magnetism, basic circuits, optics, and waves. Teamwork will be encouraged so students may develop a deeper understanding of physics principles as well as develop skills required in the scientific work place.

Course Student Learning Outcomes

- Learn to understand and recognize the following physics principles in their everyday lives: Electricity, Magnetism, DC Circuits, AC Circuits, Light/Optics.
- Learn to think critically and solve physics problems using calculus.

- Gain a solid foundation that will enable them to succeed in their future science courses.

Course Prerequisites

PHYS 2210 and (ENGR 1010 or MATH 1220)

Recommended registration in PHYS 2225. Not all degrees require you to take the lab so talk with your Academic Advisor to see if you need to take the lab.

Brief Description of Assignments/Exams

Assessment of your learning will be done in three ways:

- **Quizzes (15%)**: Quizzes will be given most class periods. You must stay for the entire class period and participate in discussions to get credit for the quiz. Quizzes may not be made up. Your average quiz score will be updated in Canvas at the time I post exam scores.
- **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 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
	Average Quiz Score	Assignment	100
	General Class Questions	Discussion	0

Due Date	Assignment Name	Assignment Type	Points
	Section 1: Chpts 15, 16, 17 -- Oscillations & Waves	Discussion	0
	Section 2: Chpts 22 - 24 -- Electric Force & Electric Field	Discussion	0
	Section 3: Chpts 25 - 28 -- Electric Potential & Intro to DC Circuits	Discussion	0
	Section 4: Chpts 29 - 32 -- Magnetic Field, EM Induction, EM Waves, & AC Circuits	Discussion	0
	Section 5: Chpts 33 - 35 -- Wave Optics	Discussion	0
8/22	Introduce Yourself	Discussion	20
8/26	Chapter 15 Homework	Assignment	143
9/3	Chapter 16 Homework	Assignment	143
9/9	Chapter 17 Homework	Assignment	108
9/10	Exam 1 (Ch 15 - 17)	Assignment	50
9/19	Chapter 22 Homework	Assignment	156
9/21	Exam 1 Extra Credit	Assignment	0
9/23	Chapter 23 Homework	Assignment	157

Due Date	Assignment Name	Assignment Type	Points
9/30	Chapter 24 Homework	Assignment	113
10/1	Exam 2 (Ch 22 - 24)	Assignment	50
10/10	Chapter 25 Homework	Assignment	107
10/14	Chapter 26 Homework	Assignment	173
10/21	Chapter 27 Homework	Assignment	56
10/24	Exam 3 (Ch 25 - 28)	Assignment	50
10/24	Chapter 28 Homework	Assignment	175
11/4	Chapter 29 Homework	Assignment	130
11/7	Chapter 30 Homework	Assignment	111
11/14	Chapter 31 Homework	Assignment	105
11/18	Chapter 32 Homework	Assignment	120
11/19	Exam 4 (Ch 29 - 32)	Assignment	50
12/2	Chapter 33 Homework	Assignment	130
12/5	Chapter 34 Homework	Assignment	165
12/9	Chapter 35 Homework	Assignment	50
12/12	Final Exam	Assignment	80

How to Navigate to Canvas

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 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.