PHYS 0175 (CRN: 13359)
Basic Physics for Science and Engineering 2
2026 Summer 6-week-1

Course Information

Class: 300 Old Engineering Hall; Mo/We 12:30 – 3:30 PM and Tu/Th 12:30 – 2:25 PM
Recitation: 300 OEH or 105 Allen Hall; Tu/Th 2:30-3:30 PM
Textbook: *Fundamentals of Physics* by Halliday, Resnick, and Walker (12th edition)
Prerequisites: PHYS 0174 and MATH 0235

Instructor: Dr. Istvan Danko
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Office: 329 Old Engineering Hall
Office hours: Monday to Thursday, Time: TBD (or by appointment)

TAs: TBD

Course Description and Objectives

Physics 0175 is the second half of a two-semester calculus-based introductory physics course primarily for students majoring in a field of science or engineering. You should have successfully completed Physics 0174 (*Basic Physics for Science and Engineering 1*) or its equivalent with a C or better before enrolling in this course. Calculus is used as needed and should be taken at least concurrently.

The goal of the course is to learn the basic principles of electricity, magnetism, and optics, and to develop the skills of critical thinking and problem solving. The course will cover the following topics:

- Electricity and magnetism (Coulomb's, Gauss', Ampere's Law)
- Circuit theory (Ohm's Law, resistors, capacitors, inductors)
- Electromagnetic induction (Faraday's Law, Lenz Law)
- Electromagnetic waves and light (Maxwell's equations)
- Geometrical optics (reflection, refraction, polarization)
- Physical optics (interference and diffraction)

For more details, see the learning objectives posted in Canvas!

The course has two main components. The first is a **lecture** that meets in person Monday to Thursday at 12:30 pm for either 2 or 3 hours depending on the day (see above). The second component is a **recitation** that meets in person for one hour on Tuesdays and Thursdays right after the lecture. Attendance is mandatory in both the lectures and the recitations. Exams will be given during the lecture section according to the course schedule below.

Tentative Schedule (subject to change):

Lecture	Date	Chapter	HW Due
1	May 18 (Mo)	21, 22	
2	May 19 (Tu)	22	1
3	May 20 (We)	22, 23	2
4	May 21 (Th)	23	3
	May 25 (Mo)	No Class	
5	May 26 (Tu)	24	4
6	May 27 (We)	25	5
	May 28 (Th)	Exam 1 (ch 21-24)	
7	June 1 (Mo)	25, 26	6
8	June 2 (Tu)	27	7
9	June 3 (We)	27, 28	8
10	June 4 (Th)	28	9
11	June 8 (Mo)	29	10
12	June 9 (Tu)	29, 30	11
13	June 10 (We)	30	12
	June 11 (Th)	Exam 2 (ch 25-29)	
14	June 15 (Mo)	31	13
15	June 16 (Tu)	31	14
16	June 17 (We)	32	15
17	June 18 (Th)	33	16
18	June 22 (Mo)	33, 35	17
19	June 23 (Tu)	35	18
20	June 24 (We)	36	19
	June 25 (Th)	Exam 3 (ch 30-36)	

Since this is a summer course, the material will be covered very fast, and you will need to work very hard to keep up. If you do not have the time to commit, you should not take the class at an accelerated rate over the Summer. I will not accommodate vacations, extended illness, or job commitments. If anything causes you to miss substantial class time, you should strongly consider taking this course in a different session. Note that the add/drop period ends Wednesday, May 20, 2026 for Summer 6-week-1.

Class Etiquette

Phones and all other electronic devices must be silenced during class. In addition, students are expected to refrain from texting. Laptops, tablets, and smart phones may be used for note taking or reference purposes only. Watching videos, playing games, or browsing the internet is not appropriate during lectures and recitations.

Be courteous to your classmates. Carrying on a conversation, habitually coming in late or leaving early, or misusing technology are disruptive to the class. Students who fail to show common courtesy will be asked to leave.

Course Grades

Your final score in this course will be calculated from the homework assignments (20%), recitation quizzes (15%), and three exams (20% each). An additional 5% extra credit will be awarded for participation and possibly other activities. The final grade will be assigned based on the total score percentage as follows >90% (A), >80% (B), >70% (C), >60% (D) with the top and bottom 1/3 in each decade earning a + or – designation. However, I reserve the right to curve the final scores up (never down) if deemed necessary.

Exams: There will be three exams taking place every other Thursday. Each exam will cover a subset of the materials as indicated in the schedule above. You cannot collaborate with others or use any external help during the exams. Because of the fast pace of the course, it is not possible to make up for missed exams.

Homework: Problem solving skills are very important to learning and understanding physics, and so homework is an essential part of this course. There will be homework following every class and they will be administered online using WileyPlus. Each homework assignment is due before the start of the next class. However, homework assigned a day before an exam will be due at the next class after the exam as indicated in the schedule above. Homework submitted a day after the due date is subject to a 20% penalty. No late submission will be accepted beyond that.

Recitations and Quizzes: You are expected to attend recitations on Tuesdays and Thursdays following the lecture. The recitations will be held by a graduate TA. Most recitations will include a short quiz to gauge your understanding of the material. The rest of the time will be used to discuss homework problems, go over additional problems, and review material covered in the class. There will be no recitation right after an exam; instead, a 1-hour review (Q&A) session will be held by the TAs prior to the exam.

Canvas

You will find all relevant course materials such as the syllabus, lecture slides, homework and other assignments posted in Canvas: **https://canvas.pitt.edu**. You may have to do or upload some of your assignments to the site. You can also check all your scores in Canvas.

Grade Change Policy

Grade cutoffs are chosen to be as fair as possible but ultimately the line must be drawn somewhere, and it has to be drawn straight. Extra credit opportunities will not be offered to individual students. Once your final grade for the semester has been submitted to the Registrar it will not be changed unless there is a verifiable error, such as a missing score or a score that was entered incorrectly.

Academic Policies

The university Academic Policies are posted as a separate document in Canvas.