Introductory to Physics II, PHYS0111-Section 1030
Fall Term 2024, MW&F 1-1:50 pm
Official website for the course http://canvas.pitt.edu

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1. Instructor and Teaching Assistants

* Instructor: Prof. X.L. Wu
Office: 219 OEH
E-mail: xlwu@pitt.edu
Zoom ID: 777 892 2593 with Passcode 951413
Office Hour: M&W, 2-3:00 pm, outside Alumni 343; F 11-12 am on zoom.

* Graduate TAs
(1) William Musk, wim52@pitt.edu, Allen 524
Zoom ID: 839 075 3361 without Passcode
Office Hour: W 3:00-4:00 pm, F 2:00-3:00 pm, Allen 524

(2): Sergey Scoville, sas841@pitt.edu, Allen 524
Zoom ID: https://pitt.zoom.us/my/sscovill
Office Hour: M 3:00-4:00 pm, Th 1:00-2:00 pm, Allen 524 or to be specified

* Undergraduate TAs
(1) Olivia Murray, OMM24@pitt.edu

Zoom ID: 206 987 8807 no passcode
Office Hour: MW 10-11 am

(2) Bindu Chunduri, BIC28@pitt.edu
Zoom ID: https://pitt.zoom.us/j/96151310862
Office Hour: T 8-9 am on Zoom, and F 1-2 pm Hillman Study Rm 202

(3) Naia Petter, NAP126@pitt.edu
Zoom ID: https://pitt.zoom.us/j/7747451556
Office Hour: Th 3-5 pm on Zoom

(4) Cassidy S. Ermigiotti, CSE11@pitt.edu
Zoom ID: 728 040 1015 no passcode
Office Hour: Th 11-1 on Zoom

2. Textbook, Course Description, and Objectives

This is the second term of the introductory physics sequence PHYS 0110-0111. The lectures are based on the 2nd edition of OpenStax College Physics. The textbook is available online and at the University Bookstore. Although copies of the textbooks are on reserve in the Benedum Engineering library, we encourage students to purchase the book or its equivalent, such as Physics by Cutnell, Johnson, Young, and Stadler. As a reference reading, you do not need the most recent edition of the book.

The course covers many chapters in the book, spanning the whole 2nd Volume and a part of 3rd Volume. These chapters cover a wide range of physical phenomena, ranging from thermal physics to electricity and magnetism (E&M). For thermal physics, we will study microscopic motions of atoms and molecules and their effects at a macroscopic level. For E&M, the subjects can be divided into two major parts: statics and dynamics. For the former, we investigate how static electric charges interact with each other (Coulomb's law), and how electric fields and electric potentials look like for different charge distributions. For the latter, we study charges that are in motion, creating electric currents, magnetic fields, and waves. The entire E&M phenomena can be summarized concisely by Maxwell's equations. At a practical level, knowledge of electricity and magnetism helps us understand how electronic circuits work, and how light propagates in space, and how light interacts with matters.

Since the course covers many subjects in a short span of time, we will progress on average more than one chapter per week. It is a considerable amount of work in terms of reading, understanding, and exercising. In order not to fall behind, you must work diligently and seek help whenever necessary.

This course has two components. The first is the lecture. The second is a smaller recitation section that meets one hour per week, taught by a graduate TA. In a recitation class, there will be discussions about using physical concepts to solve problems that you may encountered in homework. For most of the weeks in the term, you are expected to take a short quiz in a recitation class.

3. Prerequisites

Mathematics is the language of physics. This course will require knowledge of high-school algebra, trigonometry, and simple geometry. If you studied these subjects some time ago, please read relevant textbooks to refresh on definitions, concepts, and problem solving techniques.

4. Study Resources

A *Resource Room* will be available throughout the semester to help student understand physical concepts and overcome difficulties in homework assignments. The room, 312 Thaw Hall, is available from 9am to 5pm, Monday through Friday, during University normal operation. In addition, tutoring is available through the Academic Support Center (WPU 311).

5. Physics Exploration Center (PEC)

Physics Exploration Center (PEC) is a learning center (located in 311/312 Thaw Hall), where lecture demonstrations have been modified and turned into small experiments for you to explore.

6. Homework

Homework is an integral part of the course. We will use Achieve online homework system to manage the assignments and grading. To register please follow the following steps:

* Go to https://achieve.macmillanlearning.com/ to log in or create an account if you do not already have one.
* Click on “I Need to Enroll in a Course”.

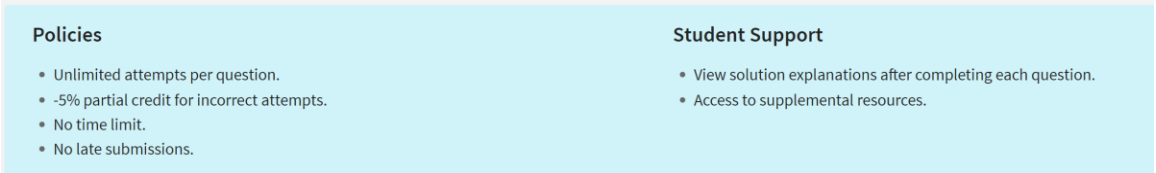
* Enter your course ID as: ja8kfu
* You then have three options:
  A. Purchase Access Online: Select the access period you want to buy. Add it to your cart. Create an account. Follow the check-out process.
  B. Start with a Grace Period: You can get 14 days of free access. Select this, create an account, and you're in. You will need to purchase long-term access to use the product beyond 14 days.
  C. Already have a code: Simply enter the code you have either purchased or received. Create an account and you're in.
* Check the course name "PHYS 0111 Fall 24 - Wu".
* For "Student ID" entry, enter your Pitt PeopleSoft 7-digit ID number.

Payment: Achieve has kindly agreed to offer our students a good price. For detailed help on registration and other Achieve aspects, go to Achieve Tech Support.

On Monday each week, there will be one homework assignment. The due day for the assignment is on Friday midnight (11:59pm) the week after. Late homework will be accepted but will be penalized for each day of delay. The assignment will be closed permanently two weeks after it is due.

All homework assignments should be completed on Achieve, and no paper copies are accepted. Each problem may be generated uniquely for each student in an assignment. Therefore, the problems assigned to you will be similar, but not necessarily identical, to problems assigned to other students.

If you have questions and requests concerning homework assignments, please direct them to Instructor/TA office hours or send them by email (see "Instructor and TAs" for information). Questions or requests posted on the website (in any form) will not be answered! We do not use Achieve or Canvas websites for communication. Solutions to the homework problems will be available online at Achieve after the due dates.



7. Recitation and Quiz

To help you develop problem-solving skills, there is a recitation class each week, and it is mandatory. It is important for you to attend the recitation class that is originally assigned to you.

The recitation classes provide opportunities for you to ask questions, and your TA will help address those questions. Your TA will also discuss problem-solving strategies and administrate an *in-class quiz* each week.

The information about times/sections/rooms is given on the University's course schedule, copied below for your quick reference.

Time	**Section**	**Location**	**TA**
12:00-12:50 PM, M	1050	103 Allen Hall	Sergey Scoville
2:00-2:50 PM, M	1040	11 Thaw Hall	Sergey Scoville
11:00-11:50 AM, T	1060	11 Thaw Hall	Sergey Scoville
3:00-3:50 PM, T	1070	226 Cathedral	William Musk
4:00-4:50 PM, T	1045	11 Thaw Hall	William Musk
5:00-5:50 PM, T	1055	11 Thaw Hall	Sergey Scoville
12:00-12:50 PM, W	1075	103 Allen Hall	William Musk
2:00-2:50 PM, W	1631	104 Allen Hall	William Musk

8. Exam

There will be two mid-term (in-class, 50-min) exams and a 1-hour-50-min cumulative final exam. These exams tentatively are scheduled as follows:

* Midterm1: Sept 27 at 1 pm, 343 Alumni
* Midterm2: Nov 1 at 1 pm, 343 Alumni
* Final: Dec xx at xx pm, 343 Alumni

All midterms will be held during the regular class times and in Alumni 343 unless otherwise announced. There will be no make-up midterm exams unless there is a legitimate reason, such as sickness or death in the family. Supporting materials are needed in these special cases. The location and timing of the final exam are set by the University and will be announced once it is announced.

For each midterm exam, you are allowed to bring one (double-sided) summary sheet of handwritten or typed formulas. The very act of creating such a summary sheet should help you organize concepts in your mind. For the final, you are allowed to bring three such formula sheets.

9. Grading Police

Your final grade for the course is determined by the two midterms (20%x2), the final (30%), the HW (10%), and the quizzes (20%).

Late and Absent Assignments: We do not accept late homework assignments nor makeup quizzes unless there is a legitimate reason (such as athletes going out for games on behalf of the University, being in emergency room during a recitation, or a case as strong). Supporting materials are required in these circumstances.

10. Course Schedule (tentative)

The schedule (subject to change) lists the material covered, exam dates, and assignments. You are recommended to read the relevant chapter or material BEFORE coming to class.

Week of	**Due**	**Chapters for reading**
Aug 26		Ch13 kinetic theory, ideal gas
Sep 2	HW1: temperature and ideal gas, Q1	Ch14 heat and its transfer
Sep 9	HW2: heat, Q2	Ch15 thermodynamics
Sep 16	HW3: thermodynamics, Q3	Ch18 electric force and field
Sep 23	HW4: Coulomb's law and E field	Ch19 potential , midterm1 (9/27)
Sep 30	HW5: electric potential, Q4	Ch20 current, ohm's law
Oct 7	HW6: current and resistance, Q5	Ch21 DC ckts, instruments
Oct 14	HW7: DC ckts and instruments, Q6	Ch22 magnetism
Oct 21	HW8: magnetic field, Q7	Ch23 induction, AC ckts.
Oct 28	HW9: induction and AC ckts	Ch24 EM wave, midterm2 (11/1)
Nov 4	HW10: E&M waves, Q8	Ch25 optics
Nov 11	HW11: geometric Optics, Q9	Ch26 human vision, optical instruments
Nov 18	HW12: vision, Q10	Ch27 wave optics, interference
Nov 25	HW13: interference	thanksgiving break
Dec 2	HW14: quantum physics, Q11	Ch29 intro to quantum physics
Dec 9		final (12/xx)

11. Academic Integrity

Students in this course will be expected to comply with the University of Pittsburgh's Policy on Academic Integrity. Any student suspected of violating this obligation for any reason during the semester will be required to participate in the procedural process, initiated at the instructor level, as outlined in the University Guidelines on Academic Integrity. This may include, but is not limited to, the confiscation of the examination of any individual suspected of violating University Policy.

12. Disabilities

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact your instructor and Disability Resources and Services (DRS), 140 William Pitt Union, (412) 648-7890 / (412) 383-7355 (TTY), as early as possible. DRS will verify your disability and determine reasonable accommodation for this course.