

PHYS 0175 Basic Physics, Science and Engineering II (Fall 2021)

Lectures on MF 7:50-8:40 AM; B20 WPU; ID: 981 4667 4215; code: 1202

Lectures on W 7:50-9:40 AM; G50 WPU; ID: 944 7029 1851; code: 1202

[\(The lectures will be online until further notice.\)](#)

GENERAL REMARKS:

This is the second term of the introductory physics sequence PHYS 0174-0175. The lectures are based on the 11th edition of Holliday, Resnick, and Walker's textbook, Fundamentals of Physics but the 10th edition will work just fine. We begin with Chapter 21 and end with Chapter 36. These chapters cover a wide range of physical phenomena relating to electricity and magnetism (E&M). The subject can be divided into two major parts: statics and dynamics. In the former case, we investigate how static electric charges interact with each other (Coulomb's law), and how electric fields and electric potentials look like for different distribution of charges. In the latter case, we study charges that are in motion, creating electric currents, magnetic fields, and waves. The entire subjects can be summarized concisely by the Maxwell's equations, which is Chapter 32. At a practical level, knowledge of electricity and magnetism helps us understand how electronic circuits work, and how light propagates in space, and how it interacts with matters. If time permits, we will also briefly present Einstein's special theory of relativity (Chapter 37) and make connections with E&M theory in early chapters. Einstein's theory fundamentally changed our view on simple concepts such as space and time.

Since altogether there are 16 chapters, neglecting Chapter 37, more than one chapter will be covered 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 if needed.

As long as exams are administrated on-line, they will be open-book, but you have to work independently. Any exchange of information between students or with a third party is strictly forbidden. When such a fraudulent behavior is found, all parties involved will be severely penalized with an F letter grade.

EXAMS AND GRADING:

There are two midterm exams and a final exam. Your grade will be determined primarily based on these three exams. Unless there is a legitimate reason, which must be communicated to me beforehand, there will be no make-up exams.

We will use the on-line homework management system, NewWileyPlus, for this class. I hope that most students are already familiar with the system; its predecessor is WileyPlus. If you are not, please contact me or TA for help. Currently, the platform is not integrated with Canvas, but it will be integrated within few weeks. For now, to use the NewWileyPlus, you follow the steps described in the CourseFlyer in the attached pdf. You will be asked to enter the Course ID, which is A36112. There will be a fee of \$69.00 for one semester unless you already have an access code from a previous class. There are many resources available within NewWileyPlus, including the textbook and practice problems. For an easy access, using the following link: <https://learn.wileyplus.com/courses/69189>.

We will assign homework once a week on Monday. The deadline for each assignment is at midnight (11:59pm) on Friday the week after. You should attempt all the problems assigned. To help you develop problem-solving skills, there is also a recitation class each week. This is an occasion when you can ask many questions, and your TA will demonstrate and help you solve some problems that you consider “tough”. As Prof. Russell Clark correctly puts it, “one cannot play a violin just by watching someone doing it. You have to play and practice yourself.” Thus, if you want to do well in this class, practicing and working out the assigned homework each week is the *very minimum* that you must do. Short quizzes will be given in the recitation classes and will contribute to your final grade. You can access your recitation classes by using Canvas and by clicking Zoom on the Navigation menu on the left-hand side of the screen. Altogether, the scores you earned from the two midterms (20% each), the final (30%), the HW (10%), and the quizzes (20%) are counted towards your final grade.

Note: the homework, the recitation classes, and the quizzes are not insignificant. Together they are more than one midterm and are equivalent to the final. It is the determining factor for the borderline cases.

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.

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 accommodations for this course.

Prof. Wu's Office Hours:

9-10 on Monday and Friday. These time slots are right after the lectures on Monday and Friday, and therefore I am using the same zoom meeting ID: 981 4667 4215. You can take these opportunities to ask questions about the lectures or about homework assignments. Other than these two time slots, I can also be reached by e-mail, xlwu@pitt.edu, and by additional zoom meetings if needed.

Information about your TAs:

Mr. Thomas Hyatt (tch42@pitt.edu, OEH-108B), Ms. Atreyie Ghosh (atg33@pitt.edu, Allen-G10A or NPL 325), and Dr. Melanie Good (mlgood@pitt.edu, OEH-113D) will be your TAs for this term. Their office hours are as follows:

Thomas Hyatt: 10:30-11:30 T and Th <https://pitt.zoom.us/j/2733708292>

Atreyie Ghosh: 10-11 M and 9-10 T <https://pitt.zoom.us/my/atreyie> Meeting ID: 356 235 9541

Melanie Good:

12-1 M <https://pitt.zoom.us/j/99402753936> and 3-4 Th <https://pitt.zoom.us/j/96428904744>

Departmental Resource Room:

Thaw 312, weekdays (M-F), 9am-4pm. There will be at least one graduate student there to answer questions.