

Syllabus for PHYS 0174

Basic Physics for Science and Engineering 1

Fall 2020

General Information

- **Course section and number** : Section 1200 LEC (11126)
- **Times**: Mondays, Fridays, 10:00am - 10:50pm, Wednesdays 10:00am - 11:50pm
- **Place**: This course is Web Based. All meetings will take place through Zoom. Connection information for all Zoom rooms will be made available through the course website on Canvas.
- **Text**: Fundamentals of Physics, 11th Edition, (Loose Leaf)-Print Comp-W/Access by Halliday, Resnick, and Walker (ISBN: 9781119455608).

*Please note that while this is the official textbook for the course, the 10th edition of Fundamentals of Physics by Halliday, Resnick, Walker will also suffice.

- **Instructor**: Brian Batell
Office: Allen Hall 401
Email: batell@pitt.edu
- **Office Hours**: Mondays 11:00am - 12:00pm, Tuesdays 12:00pm - 1:00pm, Thursdays 1:00pm - 2:00pm, Fridays 11:00am - 12:00pm, and by appointment.

Please see the Canvas course website for Zoom link: https://canvas.pitt.edu/courses/61409/discussion_topics/289832

Course Website We will use the Pitt Canvas site for this course:

<https://canvas.pitt.edu>

Log in with your University ID and password and navigate to the PHYS 0174 page. Here you will find announcements, lecture notes, a link to homework assignments through LON-CAPA, gradebook, the syllabus, and other important materials. Please check this site regularly for course announcements.

Course Description PHYS 0174 is the first term in a two-term calculus based introductory lecture-demonstration sequence in physics primarily for science and engineering students. Calculus is used as needed and should be taken at least concurrently. Credit will not be given for both this sequence and the PHYS 0110, 0111 sequence. Subjects covered in Physics 0174 include: kinematics, Newton's laws of motion, energy, momentum, rotational motion, rigid body motion, angular momentum, simple harmonic motion, gravitation, mechanical waves, sound waves, and the kinetic theory of gases. The laboratory course associated with Physics

0174/0175, Physics 0219, should be taken after Physics 0174. Students planning to major in physics are encouraged to consider taking the equivalent honors course (Physics 0475).

Learning Objectives:

- Demonstrate knowledge and understanding of the basic physics principles covered in the course by answering conceptual physics questions.
- Describe the dynamics of a physical system using multiple representations, including written statements, mathematical equations, diagrams, graphs, and be able to translate between representations.
- Demonstrate quantitative problem solving skills by applying physical principles and mathematical techniques to analyze and solve physics problems.

Recitation You will participate in a recitation session each week, which will be led by your teaching assistant (TA). The objectives of the recitation session are to clarify and deepen your understanding about the physics concepts covered in lecture and in the text, develop your problem solving skills, provide you with an opportunity to ask questions about physics concepts or homework problems, and assess your learning through a recitation quiz.

During the recitation quiz, you will have the opportunity to work together in small groups to discuss the quiz questions. However, each student must submit their own answers to receive credit. You will receive full credit (100%) for each quiz question that you answer correctly and 25% for each quiz question that you answer incorrectly. Failure to answer a question at all results in no credit (0%), so it pays to answer the question even if you get it wrong. The recitation quizzes will be administered through the Top Hat active learning platform. More information about accessing Top Hat is available on the Canvas course website: https://canvas.pitt.edu/courses/61409/discussion_topics/287228.

The course section and number, time, and TA for the recitation sessions is listed below. Links to the Zoom rooms for each recitation section can be found on the Canvas course site.

1210-REC (11127)	We 1:15-2:05 pm	David Nero	(djn23@pitt.edu)
1240-REC (21998)	We 2:20-3:10 pm	Malcolm Jardine	(mjj45@pitt.edu)
1220-REC (11128)	Th 11:05-11:55 am	Malcolm Jardine	(mjj45@pitt.edu)
1230-REC (11129)	Th 1:15-2:05 pm	Malcolm Jardine	(mjj45@pitt.edu)
1235-REC (18603)	Th 12:10-1:00 pm	Malcolm Jardine	(mjj45@pitt.edu)

Homework There will be approximately one homework assignment each week. We will use the LON-CAPA online homework system:

<https://homework2.phyast.pitt.edu>

Your username for LON-CAPA is the same as your Pitt email account, but your initial password will be your PeopleSoft number which is available through my.pitt.edu. If you have used LON-CAPA in a previous course, then your password is the same as it was before. If you

have any trouble logging into the system then click “Forgot Password” on the login screen and follow the instructions there. Please contact Dr. Batell if you have any questions about using the system.

Each problem in LON-CAPA is generated uniquely for each student in the course. Therefore the problems assigned to you will be similar, but not identical, to problems assigned to other students. Each problem has a discussion board and you are encouraged to use this feature to ask questions and offer insights to other students. The discussion boards will be monitored by Dr. Batell and the TAs. You may not post solutions to the problems on the discussion board.

Lecture Questions

During the lectures the instructor may pose multiple choice questions. You will be given some time to think about each question. These questions are intended to give you a chance to apply the concepts being covered during lecture and provide the instructor with feedback on how well you understand the material. You will receive full credit (100%) for each question that you answer correctly and 80% for each question that you answer incorrectly. Failure to answer a question at all results in no credit (0%), so it pays to answer the question even if you get it wrong.

The lecture questions will be administered through the Top Hat active learning platform. More information about accessing Top Hat is available on the Canvas course website: https://canvas.pitt.edu/courses/61409/discussion_topics/287228.

Tests and Final Exam There will be four tests during the semester and one final comprehensive exam. The tests and final exam will consist of a set of multiple choice questions and written problems.

During the tests and final exam you may use a scientific calculator, the textbook, your notes, the lecture notes and lecture slides provided by the instructor. No other resources may be used during the tests and final exam. In particular, you may not attempt to find solutions or other guidance online. Additionally, you may not collaborate or communicate with any other person. Failure to comply with these guidelines will be considered a violation of the of the academic integrity code.

The tentative dates of the tests are as follows:

- September 11 (Friday) - Test 1
- October 2 (Friday) - Test 2
- October 23 (Friday) - Test 3
- November 13 (Friday) - Test 4

The date and time of the final exam is still to be determined and will be announced at a later date.

Grades Your grade in this course will be based on questions asked in the lecture, the homework assignments, recitation quizzes, tests, and the final exam. These grades will be weighted according to the table below:

Lecture Questions	5%
Recitation Quizzes	10%
Homework	20%
Test 1	10%
Test 2	10%
Test 3	10%
Test 4	10%
Final Exam	25%

If you achieve the following final grade percentages in the course, you will receive at least:

Percentage	Minimum Grade
90%	A-
80%	B-
70%	C
65%	C-
55%	D-

The final grading scale for the course will only be determined after the final exam. Grades may be curved up by a few percentage points depending on the outcomes of the tests and final exam. Grades will never be curved down.

Extra Credit An extra credit activity will be assigned every 2-3 weeks. You can earn up to a total of 3% extra credit on your final grade by completing these assignments.

Where to Get Help If you have any questions about the homework problems or anything else, you have several resources at your disposal:

- Dr. Batell holds weekly office hours on Mondays 11:00am - 12:00pm, Tuesdays 12:00pm - 1:00pm, Thursdays 1:00pm - 2:00pm, Fridays 11:00am - 12:00pm, or by appointment. Please see the Canvas course website for links to the Zoom room: https://canvas.pitt.edu/courses/61409/discussion_topics/289832.
- Your TAs hold weekly office hours. Please see the Canvas course website for times and links to the Zoom rooms: https://canvas.pitt.edu/courses/61409/discussion_topics/289832.
- The Physics Resource Room is staffed with Physics graduate student TAs who can answer questions on homework and physics concepts. This is a free service provided by the Department of Physics and Astronomy and you are encouraged to use it. For more information, including a link to the Physics Resource Room schedule with Zoom room links, please visit <https://www.physicsandastronomy.pitt.edu/resource-room-information>).
- Undergraduate TAs (UTAs) hold regular office hours where you can get help with your physics questions. For more information on getting help from UTAs, please see the announcement on our Canvas course site: https://canvas.pitt.edu/courses/61409/discussion_topics/362521).

- You may also receive help from peer tutors through the Academic Resource Center (<https://www.asundergrad.pitt.edu/connected-community/peer-tutoring>).

Academic Integrity: All students are expected to adhere to the standards of academic honesty. Cheating/plagiarism will not be tolerated. Students suspected of violating the [University of Pittsburgh Policy on Academic Integrity](#) will be required to participate in the outlined procedural process as initiated by the instructor.

Examples of violations that were prosecuted during the Spring 2020 term include collaborating with another person during an examination, looking up answers to a graded assignment online (using Chegg or any other website), and submitting another person's work as their own.

Disability Services: If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and [Disability Resources and Services](#) (DRS), 140 William Pitt Union, (412) 648-7890, drsrecep@pitt.edu, (412) 228-5347 for P3 ASL users, as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.

Statement On Classroom Recording: To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student's own private use.

Student Opinion of Teaching Surveys: Students in this class will be asked to complete a Student Opinion of Teaching Survey. Surveys will be sent via Pitt email and appear on your CourseWeb landing page during the last three weeks of class meeting days. Your responses are anonymous. Please take time to thoughtfully respond, your feedback is important to me. Read more about Student Opinion of Teaching Surveys here: <http://www.cidde.pitt.edu/omet/student-information/>.

Code of Conduct: Communication is key to a productive learning environment, and we can maintain productive communication by exhibiting respect for one another. The success of the course for yourself and others depends on all of our commitment to behavior that demonstrates respect for differences, understanding towards others and a willingness to listen and learn. For these reasons, it is unacceptable to harass, discriminate against, or abuse anyone because of race, ethnicity, gender, disability, religious affiliation, sexual orientation, or age. If you witness or are subject to such harassment, please report it to the instructor or to the Office of Diversity and Inclusion (<https://www.diversity.pitt.edu/civil-rights-title-ix-compliance/make-report>).

Title IX: Legal text: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance."

As a professor I am a mandatory reporter, and I am required to report violations of Title IX that I observe or am made aware of to the Title IX office (<https://www.titleix.pitt.edu>). Title IX violations include, but are not limited to, sexual harassment, sexual violence and verbal or sexual abuse. Within the classroom, behavior in violation might appear as: suggestive

jokes or innuendos, inappropriate touching, and unwanted sexual behavior or advances, but my capacity and obligation to report does not end at the classroom.

Health and Safety Statement: In the midst of this pandemic, it is extremely important that you abide by public health regulations and University of Pittsburgh health standards and guidelines. While in class, at a minimum this means that you must wear a face covering and comply with physical distancing requirements; other requirements may be added by the University during the semester. These rules have been developed to protect the health and safety of all community members. Failure to comply with these requirements will result in you not being permitted to attend class in person and could result in a Student Conduct violation. For the most up-to-date information and guidance, please visit <https://www.coronavirus.pitt.edu> and check your Pitt email for updates before each class.

Take Care of Yourself: Do your best to maintain a healthy lifestyle this semester by eating well, exercising, avoiding drugs and alcohol, getting enough sleep, and taking time to relax. Despite what you might hear, using your time to take care of yourself will actually help you achieve your academic goals more than spending too much time studying. All of us benefit from support and guidance during times of struggle. There are many helpful resources available at Pitt. An important part of the college experience is learning how to ask for help. Take the time to learn about all that's available and take advantage of it. Ask for support sooner rather than later – this always helps. If you or anyone you know experiences any academic stress, difficult life events, or difficult feelings like anxiety or depression, we strongly encourage you to seek support. Consider reaching out to a friend, faculty or family member you trust for assistance connecting to the support that can help.

The University Counseling Center is here for you: call 412-648-7930 and visit their website.

If you or someone you know is feeling suicidal, call someone immediately, day or night: University Counseling Center (UCC): 412 648-7930

University Counseling Center Mental Health Crisis Response: 412-648-7930 x1 Resolve Crisis Network: 888-796-8226 (888-7-YOU-CAN)

If the situation is life threatening, call the Police: On-campus: Pitt Police: 412-268-2121

Off-campus: 911

If you have any concerns about the course, please do not hesitate to contact me.