

PHY 161.005/.006 Syllabus – Spring 2017

Course and Instructor Info

Course Name: General Physics I

Text: *Fundamental of Physics, 9th edition* by Halliday, Resnick, and Walker

Class Material: Text, student workbook/portfolio and scientific calculator

Pre-requisite: MAT 191

Lecture: MWF, 11:00 – 11:50, Room: EGC 203

Lab: Tuesday, 9:25 – 12:05, Room: SEB 219

Instructor: Dr. Mani Pokharel, Office: SEB 207, Phone: (478) 301-2897

Email: Pokharel_mr@mercer.edu

Office hours: Mondays and Wednesdays: noon – 1:00 pm; Tuesdays: 1:00 pm – 2 pm or by appointment

SI leader: Alex Waldron

Course Description

This course is the first part of a one-year calculus-based course in physics for science major students. Subject matter of this course offers a broad introduction to principles of physics primarily for scientists and engineers. Topics covered include vectors, kinematics, laws of motion, work and energy, rotational motion and fluids.

Learning Outcomes

By the end of the session, students will be able to

- Apply kinematic equations and Newton's laws to study translational and rotational motion.
- Demonstrate an understanding of conservation laws related to momentum and energy.
- Apply fundamental laws of physics to fluids.
- Perform basic physics laboratory experiments.
- Develop critical thinking and problem solving skill.

Course Structure (Lecture)

Homework: There will be one or two homework set(s) per chapter consisting of end of chapter problems from your textbook. You will use WebAssign (<http://www.webassign.net>) to submit your homework online. A year-long subscription is included in the package from the bookstore, or you can purchase one online from the website. Make sure that you have access to WebAssign before the class starts.

You are encouraged to work together on the homework, but each person must work and submit his/her own homework. Don't rely on your classmates so much that you cannot solve problems by yourself on tests or exams. I do not expect you to get perfect scores on new material, but I do expect you to try hard. Keep a detailed note of your work which would be useful in preparing for tests and exams. If you need help with homework, come see me during office hours.

Midterm Tests: There will be three midterm tests. Each test will be approximately 50 minutes in length. Tentative dates of the tests can be found in the schedule presented on the last page of this syllabus. Test dates may be moved to match the material covered in the class. For a missed midterm test, an official excuse letter will be required to set up a make-up test.

In-class Quizzes: There will be a 15 – 20 minutes quiz at the beginning of the class on each Friday. These quizzes will have both conceptual and problem solving type questions covering the material discussed that week. If you miss a quiz you will receive no credit. In general, there are no make-up quizzes. The lowest quiz grade will be dropped at the end of the semester.

Final Examination: There will be a cumulative final exam at the end of the semester. It will be structured like the midterm tests but it will be approximately twice as long. Refer to the schedule on the last page for detail information on date and time of final examination.

Course Structure (Lab)

We will meet once a week for lab work. You will be working in group of two or three. You will have to work with each other to manage your work on each lab. Each member is responsible for the content of the lab report, but only one report will be submitted per group. A print out of lab instructions will be provided to each group during the lab. You can also access the lab instructions, worksheets and guidelines for lab report by clicking “Physics Lab Homepage” button of physics department website. You will write **at least three** formal lab reports by the end of the semester. Guidelines on formal and informal lab reports will be provided in the lab class.

Final Grade Breakdown

Your final grade is calculated based on the following five parts, weighted appropriately.

Attendance and class participation - 3 %

Homework – 7 %

In-class Quizzes - 10 %

Midterm tests - 45 %

Final Exam – 20 %

Lab Reports – 15 %

Letter Grade	A	B+	B	C+	C	D	F
Percentage	89.5-100	86.5-89.4	79.5-86.4	76.5-79.4	69.5-76.4	59.5-69.4	0 - 59.4

If you received a failing grade during the course, you are urged to arrange a meeting with me and discuss the work/assignment in question.

Attendance

Attendance is not mandatory but you are expected to attend each class. Failure to attend class on the day an assignment is assigned or is due does not mean that you may turn in a late assignment without penalty. If you miss class for an excusable reason the day assignments or new test dates are announced, it is your responsibility to find out about it. So, please come to every class, participate, take good notes, read the book, and do the problems.

Documented Disability Statement

Students requiring accommodations for a disability should inform the instructor at the close of the first class meeting or as soon as possible. The instructor will refer you to the Disability Support Services Coordinator to document your disability, determine eligibility for accommodations under the ADA/Section 504 and to request a Faculty Accommodation Form. Disability accommodations or status will not be indicated on academic transcripts. In order to receive accommodations in a class, students with sensory, learning, psychological, physical or medical disabilities must provide their instructor with a Faculty Accommodation Form to sign. Students

must return the signed form to the Disability Services Coordinator. A new form must be requested each semester. Students with a history of a disability perceived as having a disability or with a current disability who does not wish to use academic accommodations are also strongly encouraged to register with the Disability Services Coordinator and request a Faculty Accommodation Form each semester. For further information, please contact Carole Burrowbridge, Disability Services Coordinator, at 301-2778 or visit the Disability Support Services website. <http://www.mercer.edu/studentaffairs/disabilityservices>

Electronic Submission of Assignment

Students bear sole responsibility for ensuring that papers or assignments submitted electronically to a professor are received in a timely manner and in the electronic format(s) specified by the professor. Students are therefore obliged to have their e-mail client issue a receipt verifying that the document has been received. Students are also strongly advised to retain a copy of the dated submission on a separate disk.

Electronic Devices Usage

Out of courtesy for all those participating in the learning experience, all cell phones and pagers must be turned off before entering the classroom and lab.

Classroom Code of Conduct

All students are expected to participate in a positive manner and follow the Mercer honor code. The most important rule is to respect others in the class and make positive contributions to the learning environment. All suspected violations of the University Honor Code will be forwarded to the Honor Council.

Tentative Schedule (Lecture)

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1 Jan 09 - 13	First day of class Ch. 1		Ch. 3		Ch. 3 Contd.
Week 2 Jan 16 – 20	MLK day No class		Ch. 3 Contd.		Ch. 2
Week 3 Jan 23 - 27	Ch. 2 Contd.		Ch. 2 Contd.		Ch. 2 Contd.
Week 4 Jan 30 - Feb 03	Test 1		Ch. 4		Ch. 4 Contd.
Week 5 Feb 06 - 10	Ch. 4 Contd.		Ch. 4 Contd.		Ch. 5
Week 6 Feb 13 - 17	Ch. 5 Contd.		Ch. 5 Contd.		Ch. 5 Contd.

Week 7 Feb 20 - 24	Ch. 6		Ch. 6 Contd.		Ch. 6 Contd.
Week 9 Feb 27 -Mar 03	Test 2		Ch. 7		Ch. 7 Contd.
Week 9 Mar 06 - 10	SPRING BREAK				
Week 10 Mar 13 - 17	Ch. 7 Contd.		Ch. 8		Ch. 8 Contd.
Week 10 Mar 20 - 24	Ch. 8 Contd.		Ch. 8 Contd.		Ch. 9
Week 11 Mar 27 - 31	Ch. 9 Contd.		Ch. 9 Contd.		Ch. 9 Contd.
Week 12 Apr 03 - 07	Test 3		Ch. 10		Ch. 10 Contd.
Week 13 Apr 10 - 14	Ch. 10 Contd.		Ch. 11		Good Friday No Class
Week 13 Apr 17 - 21	Ch. 11 Contd.		Ch. 11 Contd.		Ch. 14.
Week 14 Apr 24 - 28	Ch. 14 Contd.		Ch. 14 Contd.		Last day of class (Review)
Week 15 May 01 - 05				Final 9:00 am to 12:00 pm	