

General Physics I – Fall 2016

PHY 161.003.004

Mercer University

Instructor : Dr. Chamaree de Silva
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Phone : (478) 301-2770
Office : SEB 244
Office Hours : Mon. 3:00 – 4:00, Wed. and Fri 12:00 – 1:00 or by appointment

Lecture : MWF 9:00 - 9:50 in EGC 203
Lab : Tuesday 6:00 – 8:40 in SEB 219 (PHY 161.003)
Wednesday 6:00 – 8:40 in SEB 219 (PHY 161.004)
Lab instructor: Mr. Russell Lee (lee_mr@mercer.edu)

Textbook : *Fundamentals of Physics, 9th edition*, Halliday, Resnick, and Walker
Pre-requisites : MAT 191

Supplemental Instructor : Zain Charania
Email : Zainil.Charania@live.mercer.edu
SI hours :

You are highly encouraged to attend SI meetings. Zain will discuss the solutions to the posted prospective quiz problems in addition to clarifications on content covered in class. Make it a habit to attend SI hours at least once a week even if you don't have any specific questions.

Course Description

PHY 161 is the first course in the two semester sequence of introductory, calculus-based physics sequence. You must have successfully completed MAT 191 or equivalent since we will use algebra, geometry, trigonometry, and calculus to learn physics concepts in this course. Whether you are studying to become a physicist, an engineer, a physician, or a chemist, you will see the advantage of understanding basic physics principles in your disciplines.

Course Objectives

In this course, you will learn principles behind motion, vectors, forces, work, energy, and momentum.

Calculator policy

Since we will be practicing problem solving almost every class period, bring a calculator to class every day. Your phone is not a substitute for a calculator! During quizzes and exams, you are not allowed to use phones or share calculators with your peers. You can use any type of calculator.

Office hours

You are highly encouraged to attend office hours. If you cannot attend the posted hours, please send me an email to schedule an appointment so we can go over any questions you may have regarding course content or prospective quiz problems. Please do not wait until mid-semester to start seeking for help if you are struggling, since in my experience, it is often too late. The second week of classes is a good week as any to start attending office hours!

Quizzes

During the semester, you will have 9 in-class, closed-book quizzes. I will provide necessary formulas. In order to help you prepare for the quizzes, I will post a set of prospective problems, web applets, and videos on Blackboard few days prior to the scheduled quiz dates. You are encouraged to discuss solutions to these problems with your classmates, SI, and me before the quiz.

I will drop your lowest quiz score. There are no make-up quizzes. If you miss a quiz by either not coming to class or by arriving late, you will receive zero points for that quiz. If you have an official absence, the missed quiz(zes) will receive the average of your other quizzes at the end of the semester. All quizzes are weighted equally.

Assignments

You will be assigned several assignments including Case Studies throughout the semester, and at the end of the term, you will write a reflection essay. 20% will be deducted from the assignment grade if turned in one business day late and 40% for up to 2 business days late. After 2 business days, you will not receive any credit for the assignment.

Midterms

In this class, you will have 4 mid-term exams. Each exam will have materials that were primarily covered in the weeks immediately preceding that exam. However, concepts will pervade throughout the course and it is your responsibility to maintain an awareness of these more foundational concepts and be prepared for any cumulative components on each exam. Makeup exams will be given on an individual basis and must be accompanied by an excused absence. You must notify me before the exam begins (unless you are physically incapacitated and cannot contact me prior to the exam), or you will not be permitted to take a makeup exam. If you do take a makeup exam, I hold the option to set the date and the decision to give you a more difficult exam. If you do not take an exam (or its makeup), you will receive a zero for that exam. All exams are closed-book, and I will provide a formula sheet. All exams are weighted equally.

Final Exam

Your final exam will consist of multiple-choice questions and two problem solving questions. It will be a comprehensive, closed-book exam. As always, I will provide a formula sheet. Please note the date of the final exam. Make your travel plans at the end of the semester accordingly, since vacations and family gatherings are not acceptable excuses for a make-up final exam.

Laboratory

We will hold eight lab sessions over the semester. During the weeks we do not have lab sessions, we will use the lab time to practice problem solving, and/or to catch-up/progress on content. Since the lab setups are changed every week to accommodate different courses that occupy the same lab spaces, you will not be able to take make-up labs. If you have an official absence or a detailed doctor's note, the missed lab(s) will receive the average score of other labs at the end of the semester. Otherwise, you will receive a zero for the lab you missed. You cannot write a lab report for a lab session that you did not attend.

All members of your lab group (usually 3) will receive the same grade for the lab report. However, for every 10 minutes you are late to the session, or leave early while the experiment is being performed by your group members, you lose 2 points from your individual lab score. (e.g., if you arrive 13 minutes late to lab and you earn 18/20 for the report as a group; your individual score will be 14/20 while your group members earn 18/20.)

Each lab report is worth 20 points (2%). Points are assigned as follows.

- Introduction and theory (5 points)
- Methods (2 points)
- Analysis of data including graphs and discussion (10 points)
- Conclusions (3 points)

Notes:

- All members of the group must contribute to writing the report.
- At the end of each lab report, explain the work distribution among lab members.
- Lab reports are due the following week during the lab time unless otherwise mentioned.
- 4 points will be deducted from lab reports turned in one business day late and 8 points for up to 2 business days late. After 2 business days, you will not receive any credit for the lab.
- All data sheets must be attached to receive any credit.

Blackboard

I will post prospective quiz problems, videos, case studies, labs, answer keys to quizzes and exams, and all grades on Blackboard. If the posted grades are different from your received grades on quizzes, labs, or exams, notify me within 48 hours of posting.

Assessments

You are required to participate in testing for assessment purposes, which may lead to a course grade bonus. At the beginning of the course, you will be asked to individually complete a conceptual test on forces, the *pre-test*. The pre-test score itself will not form part of your grade. At the end of the course, you will be asked to individually complete another conceptual test, the *post-test*. The overall pre-test and post-test results will be used by the physics department in the assessment of our program success. If you completes both tests, the post-test result will be used to grant you a bonus on your course grade of up to 10 points: a score of 50% or better will yield a 2.5-point bonus, 60% or better will yield 5-point bonus, 70% or better will yield 7.5-point bonus, and 80% or better will yield a 10 point bonus.

The College of Liberal Arts is keenly interested in assuring the quality and integrity of its General Education Program. Every semester, randomly-selected students from each General Education course will be required to submit samples of their work to an independent and objective assessment by faculty. No personally identifiable information about any student will be used for the purposes of this assessment, and assessment results will have no bearing whatsoever on student grades.

Attendance and Classroom Behavior

Your attendance in class is not mandatory. However, your presence in class is essential for you to grasp the material presented. Active participation in group work is strongly encouraged since in my experience, working with your peers helps to comprehend the material better whether you take the lead in explaining a solution or following the explanation of a classmate. My teaching philosophy does not follow a complete lecture-based classroom. Research in Scholarship of Teaching and Learning suggests that engaged and “flipped” classroom styles often facilitate your understanding of the course material better than you listening to me lecture for 50 minutes every day. You learn physics by practicing, just like any other activity. You will engage in problem solving during class individually, and in groups.

Please be respectful of the classroom environment and your peers. Out of courtesy for everyone, turn off cell phones during class. If your group completes the work before others, please refrain from chatting with each other since it will be disruptive to other classmates. If you have consistently poor behavior in class (e.g., excessive tardiness to class or lab, talking, sleeping, playing with your phone, etc.), I will assume that you are not serious about learning the material and about the final grade you receive.

Grades

The maximum possible score in PHY 161 is 1000 points (100%). There will be no extra credit. The points are distributed as follows.

Grading Scale		Course Grade Distribution		
A	89.5% -- 100%	4 Mid-Term Exams	400 points	40%
B+	86.5% -- 89.4%	9 Quizzes (Drop 1)	160 points	16%
B	79.5% -- 86.4%	7 Lab Reports	140 points	14%
C+	76.5% -- 79.4%	Assignments	70 points	07%
C	69.5% -- 76.4%	Final Exam	230 points	23%
D	59.5% -- 69.4%			
F	0.00% -- 59.4%			
		Total	1000 points	100%

Honor Code

You are bound by the Mercer honor code. The College's academic misconduct policy will be followed. All work, for which a grade is received, must be the original work of the student without aid or assistance of another party, or any printed and or electronic data/information. Academic misconduct cases will be referred to the honor council and the student will automatically receive a grade of incomplete (I) pending a ruling by the honor council.

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>

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday/ Sunday
Week 1 Aug 22-28	Aug 22	23	24 First day of class	25	26 Chapter 1	27
						28
Week 2 Aug 29 - 04	29 Chapter 2	30 Lab #1	31 Quiz #1 Lab #1	Sep 01	02	03
						04
Week 3 Aug 05 - Sep 11	05 Labor Day	06 Lab #2	07 Quiz #2 Lab #2	08	09 Chapter 3	10
						11
Week 4 Sep 12 - 18	12	13	14 Exam #1	15	16	17
						18
Week 5 Sep 19 - 25	19	20 Lab #3	21 Quiz #3 Lab #3	22	23 Chapter 4	24
						25
Week 6 Sep 26 – Oct 02	26	27 Lab #4	28 Quiz #4 Lab #4	29	30	Oct 01
						02
Week 7 Oct 03 – Oct 09	03	04	05 Exam #2	06 Fall Break	07 Fall Break	08
						09
Week 8 Oct 10 - 16	10 Chapter 5	11	12	13	14	15
						16
Week 9 Oct 17 - 23	17	18 Lab #5	19 Quiz #5 Lab #5	20	21 Chapter 6	22
						23
Week 10 Oct 24 - 30	24	25 Lab #6	26 Lab #6	27	28 Quiz #6 Withdraw deadline	29
						30
Week 11 Oct 31 – Nov 06	31 Exam #3	Nov 01	02 Chapter 7	03	04	05
						06
Week 12 Nov 07 - 13	07 Chapter 8	08 Lab #7	09 Quiz #7 Lab #7	10	11	12
						13
Week 13 Nov 14 - 20	14	15	16 Quiz #8 Chapter 9	17	18	19
						20
Week 14 Nov 21 - 27	21 Exam #4	22	23 Thanksgiving	24 Thanksgiving	25 Thanksgiving	26
						27
Week 15 Nov 28 – Dec 04	28 Chapter 10	29 Lab #8	30 Quiz #9 Lab #8	Dec 01	02	03
						04
Week 16 Dec 05 – 11	05 Review	06	07	08	09 Last day of classes	10
						11
Week 17 Dec 12 - 18	12	13	14	15	16	17 FINAL EXAM 9-12
						18