

# PHY 142.001

## Introductory Physics II – Fall 2014

Instructor : Dr. Chamaree de Silva                      Lecture: MWF 1:00 - 1:50, SEB 144  
Email : desilva\_c@mercer.edu                              Lab: R 6:00 – 8:40, SEB 214  
Phone : (478) 301-2770                                      Lab instructor: Dr. Jose Balduz  
Office : SEB 244    balduz\_jl@mercer.edu  
Office Hours : MWR 3:00 – 4:00

Required Text: Physics, 4<sup>th</sup> Edition by James S. Walker.

Pre-requisite: PHY 141 or equivalent

Course Description: Physics 142 is the second course in the two semester sequence of introductory, algebra-based physics sequence. To follow this course you must have taken Physics 141 and Mathematics 133 or equivalent since knowledge of algebra, geometry, and trigonometry is required to solve Physics problems. The topics covered in this class include waves, optics, electricity, and circuits.

Course Objectives: In this course, you are expected to practice experimental and observational science by collecting, analyzing, and interpreting empirical data. In addition, you will be able to apply scientific logic to solve physical problems analytically and quantitatively.

### Seven Keys to Success in PHY 142

1. Ability to do all homework and worksheet problems correctly before taking a quiz or an exam.
2. Learn to apply the basic concepts and not just memorize solutions to specific problems.
3. Read the textbook.
4. Review each lecture the same day it is given.
5. Have a perfect answer key for each homework assignment to study for quizzes and exams.
6. Explain key concepts you learned to your peers in small groups. Take turns. Discuss the solutions to homework problems.
7. Talk to your instructor during office hours.

Homework and Quizzes: Each week, 10 – 15 homework problems are assigned. Homework is not graded, but a sub-section of these problems will appear on scheduled weekly quizzes. Prior to taking quizzes, check your answers with the instructor during office hours. Answers to homework problems will be posted on Blackboard after the quiz in order for you to help study for the exams.

Midterm Exams: Have a perfect answer key for homework and worksheets since a sub-set of these questions will appear on the exams. Missed exams which are excused by the instructor prior to the exam date/time may be made up. However, if no alternate arrangements were made beforehand, this will be allowed only if the student has an official excuse. Exams are closed-book, and a formula sheet will be provided by the instructor.

Laboratory: Dr. Jose Balduz is your laboratory instructor. Guidelines for the lab will be given on the first day of lab.

Final Exam: Final exam will consist entirely of multiple-choice questions, and will be a comprehensive, closed-book exam. A formula sheet will be provided.

### Grading

The maximum possible score in PHY 142 is 1000 points (100%). There will be no extra credit. The points are distributed as follows.

- Three mid-term exams: 450 points (45%)  
Exams are weighted equally.
- Ten in-class quizzes: 150 points (15%)  
Quizzes are weighted equally. There will be twelve quizzes in total. The two lowest scores will be dropped. There are no make-up quizzes. If you have an official absence, your quiz score will be pro-rated.
- Laboratory write-ups: 200 points (20%)  
There are no make-up labs.
- Final Exam: 200 points (20%)

A (90 and above), B+ (85-89), B (80-84), C+ (75-79), C (70-74), D (60-69), and F (below 60)

Attendance Policy: Attendance is not mandatory. However, students are solely responsible for learning the materials covered in the missed classes.

Class Etiquette: You are expected to conduct yourself in a respectful manner to your fellow classmates and the instructor. The instructor may ask you to leave the classroom/lab if your behavior is disturbing to the instructor or other students.

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 at <http://www.mercer.edu/studentaffairs/disabilityservices>.

**August**

20 Wed First day  
22 Fri Waves and Sound (CH 14)  
25 Mon CH 14  
27 Wed CH 14, Quiz #1  
29 Fri CH 14

**September**

01 Mon Labor Day  
03 Wed CH 14, Quiz #2  
05 Fri Electromagnetic Waves (CH 25)  
08 Mon CH 25  
10 Wed CH 25, Quiz #3  
12 Fri CH 25  
**15 Mon EXAM ONE** (Chapters 14 & 25)  
17 Wed Geometrical Optics (CH 26)  
19 Fri CH 26  
22 Mon CH 26  
24 Wed CH 26, Quiz #4  
26 Fri CH 26  
29 Mon Optical Instruments (CH 27)

**October**

01 Wed CH 27, Quiz #5  
03 Fri Fall Break  
06 Mon CH 27  
08 Wed CH 27, Quiz #6  
10 Fri CH 27  
**13 Mon EXAM TWO** (Chapters 26 & 27)  
15 Wed Physical Optics: Interference and Diffraction (CH 28)  
17 Fri CH 28  
20 Mon CH 28  
22 Wed CH 28, Quiz #7  
24 Fri Electric Charges, Forces, and Fields (CH 19)  
27 Mon CH 19  
29 Wed CH 19  
31 Fri Electric Potential and Electric Potential Energy (CH 20), Quiz #8

**November**

03 Mon CH 20  
05 Wed CH 20  
07 Fri CH 20, Quiz #9  
**10 Mon EXAM THREE** (Chapters 19, 20, & 28)  
12 Wed Electric Current and Direct-Current Circuits (CH 21)  
14 Fri CH 21  
17 Mon CH 21  
19 Wed CH 21, Quiz #10  
21 Fri CH 21  
24 Mon CH 21, Quiz #11  
26 – 28 Thanksgiving

**December**

01 Mon Review  
03 Wed Review, Quiz #12  
05 Fri Review  
**12 Fri FINAL EXAM 7:00 – 10:00 PM**