

General Physics II: PHY112/186

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TEXT: College Physics, by Michael Tammaro (John Wiley and Sons)

COURSE CONTENT: Chapters 16-27

PHY112 is the second semester of a two-semester sequence in physics for non-calculus students. Topics include mechanical waves, wave interference, electricity, DC circuits, magnetism, AC circuits, light waves, optics, interference and diffraction, and nuclear physics.

WileyPlus: Both the e-book and the homework are administered through the WileyPlus online system. Use the information on the last page of this document to create your account.

TEXT: College Physics, by Michael Tammaro (John Wiley and Sons). The text contains embedded questions. The embedded questions do not count toward your grade, but you should complete them as a means to gauge your competence in answering questions about concepts and solving problems.

Serious students will prepare for the homework assignments by first reading the text and studying the examples and embedded questions. Spending 3-6 hours studying in this way *before* starting the homework assignments is the best approach.

HOMEWORK: Homework is administered through the WileyPLUS online system.

There are 12 mandatory homework assignments corresponding to Chapters 16-27, plus two optional assignments corresponding to Chapters 28 and 29. The optional assignments may be completed to replace lower scores of any of the mandatory assignments. (Essentially there are 14 assignments, and your best 12 count toward your homework score.)

EXAMS: During the exams you are allowed to use an exam resources booklet, a calculator, and something to write with. The exam resources booklet will be provided to you at each exam. Exams will be take place at 10:00 a.m. on the day on which they are scheduled. The 10:00 section of lab will meet at 8:00 a.m. on exam days.

GROUP WORK: Each class concludes with 30 minutes of group work, in which students work on problems in groups of three or four.

CLASS STRUCTURE: On exam days, the only activity is taking the exam. The schedule on all other days, however, is as follows:

8:00-9:15: Lecture

9:15-9:45: Group problem solving

GRADES: 94-100 A, 90-94A-, 87-90 B+, 83-87 B, 80-83 B-, 77-80 C+, 73-77 C, 70-73 C-, 65-70 D+, 60-65 D, <60 F

GRADING: Exams 70%, Group Work 10%, Homework 20%

Use of Cell Phones or Computers: Use of cell phones or computers is not allowed in class, lab, or group problem-solving activities. Put your phone away. Keep it away.

week	M	T	W	R	F	S	S
6/25-7/1	Ch16	Ch16/17	Ch17/18 (HW 16)	Ch18	(HW 17)		(HW 18)
7/2-7/8	Ch19	EXAM #1 (16,17,18)	HOLIDAY	Ch19/20	Ch20/21 (HW 19)		
7/9-7/15	Ch21 (HW 20)	Ch22 (HW 21)	Ch22/23	EXAM #2 (19,20,21)			(HW 22)
7/16-7/22	Ch23/24 (HW 23)	Ch24/25	Ch25 (HW 24)	EXAM #3 (22,23,24)			(HW 25)
7/23-7/29	Ch26	Ch26/27 (HW 26)	Ch27	EXAM #4 (25,26,27) (HW 27)	(HW 28) (HW 29)		

ABOUT PHY112/186 at URI: PHY112/186 satisfies a general education elective satisfying the A1 and B3 learning outcomes.

A1: Understand and apply theories and methods of the science, technology, engineering, and mathematical (STEM) disciplines. At the end of the semester, the student will be able to...

- Identify terminology, facts, definitions, and laws and relate them to physical situations
- Identify the key physics concepts and equations necessary that pertain to particular physics problems
- Identify the required input data necessary to solve physics problems
- Apply mathematical methods to the physical concepts in order to perform the necessary steps in the solution of the problem
- Be able to describe the problem, solution strategy and the meaning of the result in a cohesive presentation

B3: Apply the appropriate mathematical, statistical, or computational strategies to problem solving. At the end of the semester, the student will be able to...

- Identify the key physics concepts and required input data necessary to solve physics problems
- Be able to demonstrate their understanding of the concepts by designing problem solving strategies.
- Be able to apply mathematical methods to the physical concepts in order to perform the necessary steps in the solution of the problem
- Be able to evaluate problem answers to see if the numerical values are reasonable, and within expected bounds
- Be able to describe the problem solution strategy
- Be able to describe the problem solution
- Be able to describe meaning of the result

PHY186 Lab Guide

Lab Manual: The Physics 186 Laboratory Manual may be purchased from the URI Bookstore in the Memorial Union. You must bring the manual to lab each meeting.

Content: Phy186 consists of 8 experiments. **All experiments are to be recorded in a permanently bound notebook.** You will not get credit for labs that are not recorded in a permanently bound notebook. Your name should appear on the cover of the notebook.

Lab Reports: Lab reports should be finished during the lab period.

TITLE: State the title of the experiment, date of the experiment, your name, and the names of your lab partners.

NOTES: While doing the experiment, use this section to make notes, perform calculations, and record your data. If you need to make graphs, they should appear in this section. Only after completing the lab should you continue with the rest of the lab report.

PURPOSE: What was the purpose of the lab? What were you trying to measure? Briefly describe the experimental procedure.

RESULTS: State your results and include a calculation of the % error (if applicable). **ERRORS:** This section is a brief discussion of possible sources of errors.

Grades: 94-100 A, 90-94A-, 87-90 B+, 83-87 B, 80-83 B-, 77-80 C+, 73-77 C, 70-73 C-, 65-70 D+, 60-65 D, <60 F

Missed Labs: In the event of a missed lab, it's best to produce documentation of the reason for absence.

Lab Partners: You can work in groups of **three or fewer**. More than three people at a table is not permitted.

LAB EXPERIMENTS

Tuesday 6/26	Lab #1: Standing Waves on a String
Thursday 6/28	Lab #2: Standing Sound Waves
Tuesday 7/3	NO LAB
Thursday 7/5	Lab #3: Electric Field Mapping
Tuesday 7/10	Lab #4: Resistors in Circuits
Thursday 7/12	Lab #5: Earth's Magnetic Field
Tuesday 7/17	Lab #6: Reflection and Refraction
Thursday 7/19	Lab #7: Lenses and Mirrors
Tuesday 7/24	Lab #8: Interference and Diffraction