

SHEPHERD UNIVERSITY
PHYS 202 COLLEGE PHYSICS II SYLLABUS
SPRING 2009

Instructor

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Email

From time to time, email messages may be sent to the entire class for special announcements--especially if there is any question about whether class will be held during times of bad weather. The email will be sent via the Shepherd University RAIL system, which uses the student's Shepherd University email address. If you wish, you can go to <http://mail.shepherd.edu/> to have the University server automatically forward your Shepherd email to your personal email address

Course Description

Class meets 12:10 - 1:00 MWF in Byrd Center 108. Text: *College Physics* by Wilson & Buffa (3rd ed., Prentice Hall, 1989)

Catalog description: *An introductory treatment of the fundamentals of electricity, magnetism, and optics. Three hours lecture per week. PHYS 221L must be taken concurrently with PHYS 202 Prerequisite: PHYS 201. **PHYS 202L COLLEGE PHYSICS I LAB is a separate course and must be taken concurrently with PHYS 202.***

Objectives

Among the objectives of this course are:

- learning basic principles of physics;
- analyzing and solving problems in physics, both mathematically and in written expression;
- using algebra and trigonometry to solve problems;
- effective communication of your knowledge on tests and reports.

University Goals and Expected Student Outcomes for Sciences

Goal No. 2: Develop the capacity for critical thinking, reasoning, and analyzing

It is necessary for students to learn to evaluate and analyze information, in all physical and social sciences, humanities, and professional endeavors in order to make intelligent use of that information. Students need to learn that there are numerous ways of discovering and processing information, and applying it to a given situation. The General Studies Program should equip students with the ability and desire to think critically and to reach well reasoned conclusions about specific issues. Only as students become skillful in evaluating and analyzing information will they be able to engage in the intellectual activities which require critical thinking.

Intended Student Outcome: Understand and utilize systematic problem solving techniques.

Intended Student Outcome: Analyze textual information.

Intended Student Outcome: Understand cause and effect relationships.

Intended Student Outcome: Understand basic scientific concepts and methods.

Goal No. 3: Develop oral, written, and mathematical skills

The mastery of oral, written, and mathematical skills is an essential component of the General Studies Program. These skills are a fundamental requirement in any society which encourages and thrives upon the free interchange of ideas and information. In this context, mere functional literacy can never be an adequate goal; students should attain a level of proficiency in math and English which will enable them to become informed, effective citizens in their society and world.

Intended Student Outcome: Develop effective speaking skills.

Intended Student Outcome: Employ Standard Written English usage and mechanics.

Intended Student Outcome: Effectively develop and write reports and essays, employing thesis, textual support, and analysis.

Intended Student Outcome: Develop competent mathematical skills.

Intended Student Outcome: Utilize tools such as charts, graphs, and equations to represent functional relationships and explain their meaning.

Intended Student Outcome: Utilize computer technology in developing written and mathematical skills.

Grading

Hours tests:	70%	90-100 =	A
Final exam:	20%	80-90 =	B
Homework & quizzes:	10%	70-80 =	C
		60-70 =	D
		0-59 =	F

Course Policies

- Attendance is required.
- Read the text! The text is the primary source of information and learning.
- A student who misses a class is nevertheless responsible for all material covered and all announcements made (such as the date of the next test) during that class.
- There will be approximately four tests, plus the final exam, during the semester. A make-up test will be given only if an excuse is deemed acceptable by me. Generally, an absence on the day of a test will be excused only if it was beyond the control of the student.
- Each test may consist of a combination of multiple choice, short essay question, short answer, and problems.
- Dates of tests will be announced in class; the schedule below is only approximate.
- There will be a weekly 15-minute quiz, and a quiz is usually an assigned problem. ***There are no make-up quizzes!*** A zero will be recorded for each missed quiz. Occasionally a homework assignment will be given in lieu of a quiz. The lowest two quiz grades will be dropped.
- Questions and problems at the end of the chapters will be assigned for homework. This homework will not be collected, but the assigned questions and problems may show up in quizzes, tests, and the final exam. So do them.
- The final exam will be comprehensive.
- A printed **formula sheet** will be given to you at the beginning of the semester, which you may use during a quiz or test. Nothing is to be written on the sheet unless I have given the entire class permission to do so.
- Cell phones and the like must be turned off during all class sessions. If you are expecting an emergency call, you may request permission to leave your phone on.
- Please be on time to class and give full respect and consideration to myself and your classmates and do not hold conversations while I or another classmate is speaking. An atmosphere of mutual respect is expected in the classroom at all times.
- *"The principles of truth and honesty are recognized as fundamental to life at Shepherd. The University expects both faculty and students to honor these principles. This means all academic work will be done by the students to whom it is assigned, without unauthorized aid of any kind. "*

- **Academic Integrity:** As permitted in the College Catalog under Academic Dishonesty, **all forms of cheating will result in the grade of F for the course.** Academic dishonesty includes copying answers from another student, using unauthorized notes during an exam, plagiarism, stealing and distributing exams or their parts, or any action that appears to give a student an unjust advantage over other students when obtaining a grade for a course.

Course Schedule

This schedule is subject to change as the semester progresses. Dates of tests will be announced in class.

DATES	CHAPTER	TOPICS
Jan 12-16	10.1, 10.2, 10.4 11	Temperature Heat
<i>Jan 19</i>	<i>no classes</i>	<i>Martin Luther King's Birthday -- University closed</i>
Jan 20-23	13	Vibration and Waves
Jan 26-30	14	Sound
Feb 2-6	15	Test: Chapters 10, 11, 13, 14 Electric Charge, Forces, and Fields
Feb 9-13	16	Electric Potential and Energy; capacitance (Omit 16.4 and 16.5)
Feb 16-20	16	Electric Potential and Energy; capacitance (Omit 16.4 and 16.5)
Feb 23-27	17	Electric Current and Resistance
Mar 2-6	17 cont'd	Electric Current and Resistance
<i>Mar 9</i>		<i>Mid-term grades due</i>
Mar 9-13	18	Test: 15, 16, 17 Basic Electric Circuits (Omit 18.3)
<i>Mar 16-22</i>	<i>no classes</i>	<i>Spring recess</i>
Mar 23-27	19	Magnetism
Mar 30-Apr 3	20	Electromagnetic Waves
Apr 6-10		Test: 18, 19, 20
Apr 13-17	22	Geometric Optics: Reflection & Refraction
<i>Apr 23-24</i>	<i>(no classes)</i>	<i>(Weekend break -- if no snow closings!)</i>
Apr 27-May 1	23	Mirrors and Lenses
Mon May 4 3-5	All chapters!	FINAL EXAM (Comprehensive)

Problem Assignments

Problem assignments are not collected. However, the some of the problems may appear in quizzes, tests, and the final exam. It is strongly recommended that you do these assignments!!

CHAPTER	PROBLEMS
10.1, 10.2, 10.4	43, 45, 47, 50, 51, 52, 54
11	1, 3, 5, 7, 8, 9, 12, 15, 21, 23, 26, 38, 41, 44, 62, 63, 66, 67, 71
13	1, 2, 3, 5, 6, 7, 8, 12, 14, 16, 21, 25, 26, 27, 30, 32, 36, 41, 42, 47, 51, 52, 55, 57, 60, 64, 68, 69, 70, 73, 74, 79, 85
14	1, 2, 3, 5, 12, 13, 15, 21, 24, 25, 28, 33, 34, 39, 41, 47, 51, 54, 55, 57, 60, 68, 73, 77
15	6, 7, 10, 17, 20, 21, 22, 24, 27, 30, 31, 36, 37, 41, 42, 43, 46, 50, 59, 63, 64
16	1, 2, 3, 4, 6, 8, 11, 12, 13, 16, 18, 20, 33, 34, 44, 47, 49, 52, 54, 58
17	2, 7, 9, 12, 14, 17, 22, 23, 25, 27, 28, 31, 35, 37, 39, 42, 46, 50, 51, 52, 53, 56, 60, 62, 66, 67, 71, 74
18	1,2, 5, 6, 8, 11, 13, 15, 19, 20, 25, 27, 29
19	7, 9, 10, 12, 14, 15, 16, 20, 21, 23, 24, 26, 27, 28, 33, 36, 40, 42, 43, 48, 52, 54, 55, 60, 62, 75, 76, 79
20	65, 66, 67, 68, 69, 71
22	3, 4, 5, 11, 12, 19, 20, 24, 25, 26, 28, 30, 32, 35, 39, 44, 49, 56, 57, 62
23	4, 8, 14, 23, 24, 26, 38, 46, 48, 51, 53, 55, 59

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