

Instructor: Dr. Michael J. Bozack, 310 Allison, 844-4363

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Texts: *College Physics*, 7th ed, Vol 2 (Serway and Faughn)

Lecture Notes (Sofy Copy Center, 145 E. Magnolia Plaza, Auburn)

Physics Two Lab Manual, 5th ed (Simon)

Meetings: (Lecture) MWF 9:00-9:50 a.m.

(Recitation) Monday*

(Lab) Wednesday*

*Room assignments and times will be posted on the bulletin board outside PKH 103

Tentative Schedule

| Topic | Chapter | Material | Representative Problems | Tests |
|-------|---------|---------------------------|-------------------------------------|--------------------|
| 1 | 15 | Electric Forces | 15:2,6,7,13,16,17,20,22,28,31 | |
| 2 | 16 | Capacitance | 16:1,2,8,15,16,23,26,29,31,44,46,48 | |
| 3 | 17 | Current and Resistance | 17:1,5,7,12,16,20,21,28,32,35 | |
| 4 | 18 | DC Circuits | 18:3,5,8,11,37,38,39,40 | Exam 1 W, 9/12 |
| 5 | 19 | Magnetism | 19:5,7,8,14,17,23,28,36,45,48 | |
| 6 | 22 | Reflection and Refraction | 22:1,4,7,9,11,16,18,22,28,37 | |
| 7 | 23 | Lenses and Mirrors | 23:1,4,6,7,14,23,28,33,36,45 | Exam 2 W, 10/3 |
| 8 | 24 | Wave Optics | 24:1,8,11,14,17,19,27,29,35,40 | |
| 9 | 25 | Optical Instruments | 25:3,5,13,20,26,32,33,36,38 | |
| 10 | 27 | Quantum Physics | 27:1,4,7,8,9,11,13,21,25,26,36 | Exam 3 W, 10/24 |
| 11 | ---- | Astrophysics | Assigned at the Time | |
| 12 | 29 | Nuclear Physics | 29:3,4,7,13,16,18,27,33,34,40,47 | |
| 13 | 26 | Relativity | 26:3,4,5,6,10,15,17,19,20,26 | Exam 4 W, 11/14 |
| 14 | 28 | Atomic Physics | 28:5,6,8,9,11,14,16,18,21 | |

Final Exam (comprehensive): Tuesday, December 11, 8 - 10:30 a.m.

Grading: The final grade will be determined by the following scheme.

| | |
|---------------------|------|
| Exams (Best 3) | 45% |
| Final Exam | 30% |
| Lab | 15% |
| Recitation/Homework | 10% |
| Total | 100% |

PS 1510 is **not** graded on an absolute grading system (e.g., 90-100% = A etc) but rather on a relative (curved) system, where performance is compared to other students in the course based on the class average. After each test I post a scale of scores vs letter grades so each student knows what a score of say, 68, on a test means in terms of a letter grade. This enables you to know how you are doing in the course. For the final course grade, I apply the weighting factors above to each grade component, drop your lowest test score, and generate a total raw score for each student that is compared to the class average raw score. The calculation is completely based on numbers and there is no bias. Exams will cover material covered in lecture, lab, and homework. All exams are closed book without notes and/or note cards but I will provide a formula sheet for each test. Calculators are permitted. Cell phones and other electronic devices are not.

Academic Behavior and Honesty: You should be familiar with the Oath of Honor, the Policy on Classroom Behavior, and the Code of Student Discipline (Tiger Cub). Because the class is so large (200 students) we will strictly follow these policies. Help me to start the class on time and I guarantee you will get out on time.

Homework/Recitation: Homework is handled in recitation. Representative problems from each chapter are given in the schedule above. Recitation is counted as 10% of the entire course grade. Your GTA has the latitude of collecting and grading homework, giving you quizzes, scoring you on participation, attendance, group, or board work, or any other reasonable method of evaluation. You have had PHYS 1500 so I don't need to emphasize that the key to success in the course is to do the homework.

Excused Absences: Under no circumstances will makeup exams be given. The course is too big for makeups. If you miss a test for any reason, it will be your drop test. In the event of a second missed test, you must have an excused absence, and appropriate scaling of other grades will be used to assign a grade for the missed test. Tests are scheduled on Wednesday to alleviate the conflicts students have during Fall Semester with Friday tests.

Office Hours: Anytime I'm not busy with experiments. Stop by or make an appointment.

Extra Credit Field Trip: I plan to cover a section on astronomy during the course. Thus, if you visit a planetarium anytime during the semester, I will assign extra credit worth 2% of the final grade. Proof of visit is required by an initialized program or ticket stub. Nearby planetariums are: 1) Coca-Cola Space Science Center, 701 Front Avenue, Columbus, GA (706) 649-1470; 2) W. A. Gayle Planetarium, 1010 Forest Avenue, Montgomery, AL (334) 241-4799; 3) Fernbank Science Center, 158 Heaton Park Drive, NE, Atlanta, GA (404) 378-4311.

Lab Schedule:

Labs for my section of PHYS 1510 are on Wednesday. Room assignments and times will be posted on the bulletin board outside PKH 103. We will choose from the following labs depending on progress in the lecture during the semester. Your lowest lab grade will be dropped. If you miss a lab for any reason, it will be your drop lab.

| | |
|-------|---|
| 1EM | Electric Fields and Equipotential Surfaces |
| 2EM-A | Introduction to Electronics Labs |
| 2EM | Ohm's Law and Simple DC Circuits |
| 3EM | Parallel and Series Combinations |
| 4EM | Wheatstone Bridge: Resistance and Resistivity |
| 6EM | Efficiency of an Electric Motor |
| 7EM | Electrical Equivalent to Heat |
| 12EM | Simple Electric Motor |
| 1L | Reflection, Refraction, Internal Reflection, Dispersion |
| 2L | Lenses and Mirrors |
| 3L | Physical Optics |
| AS | Atomic Spectra |
| NUC | Half-Life of Ba-137 |

Frequently Heard Comments:

- Is this on the test? Answer: yes.
- The questions on the test are not like those in the homework. Response: To the extent that you understand the concepts of physics, you will realize that they are more closely related than you might have thought. Also, they are not supposed to be the same questions.
- I studied, read the book, read the notes, did the homework, came to class, and understood the labs, yet I'm still not doing well in the course. Response: If that is true, there is something wrong with the way you are approaching this class. Please come and see me early in the semester so we can attempt to fix the situation. Don't wait too long to ask for help.