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<th>Date</th>
<th>Lecture</th>
<th>Recitation (Ques.=Question, Prob. = Problem)</th>
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<td>Horizontal lines indicate recitation periods, not weeks.</td>
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Schedule: The schedule listed above is subject to change, although test dates would only be changed under extreme circumstances. The test will include multiple choice questions which must be completed at the Testing and Tutoring Center. The multiple choice part of the test will be available for a period of about a week starting a couple of days before the in-class test. A schedule will be available on the website.

It may be necessary to change test coverage or recitation assignments; you are responsible for being aware of any such changes. Major changes will be announced in class and posted on the course web page.

Intended Audience for This Course: This is a two-semester, non-calculus based physics course intended for majors in biology and other sciences, excluding math, physics, or engineering. Generally it is not taken by liberal arts students to satisfy the natural science requirement. You sign up for the lab under a separate course number (PHYS 244).

Prerequisites: A college-level math course, and a working knowledge of algebra and trigonometry. If you are uncertain if you are properly prepared for this course, please talk to me.

Required Text: Physics – Principles With Applications (6th ed.) by Giancoli. We will cover chapters 1–15 in PHYS 243. In-class quizzes will be given using the I>Clicker personal response system, so you will need your own clicker. You are also required to have a scientific calculator without wireless connections, which should be brought to all classes, especially to exams. Programmable calculators or those with wireless capabilities are not permitted in the Testing and Tutoring Center. The Student Study Guide is recommended but not required. (There will be no assignments from it.)

Grade Calculation: There will be three tests during the semester and a two-part final. Part II of the final is a test (Test 4) on the material from Chapters 10, 13, 14 and 15. There are thus 4 tests. The lowest of these test grades will be dropped. Part I of the final is comprehensive and must be taken. Each test has a problem part and a multiple choice part. Except for the final, multiple choice testing will be done in the Testing and Tutoring Center.

| Problem Tests: 3 out of 4 counted (Test 4 is Part II of final) | 29% (9.66% each) |
| Multiple Choice Tests: 3 out of 4 counted (includes Part II of final) | 29% (9.66% each) |
| Comprehensive Part of Final | 24% |
| Recitation | 15% |
| I>Clicker grade | 3% |

Since the lowest test grade will be dropped, no rescheduled tests will be allowed. It is important that you be on time for tests since it will be difficult to give extra time if you are late. You must take tests and the final exam in the class you are registered in.

I>Clicker Personal Response System Quizzes
Students are expected to bring a I>Clicker device to each class to answer quiz questions given randomly in class. This device is also used in some biology and chemistry courses. The I>Clicker grade will usually be calculated such that a correct answer for each question counts for 2 points and an incorrect response counts for 1 point and no response counts zero.
A fraction of the I>Clicker scores will be dropped in such a way that a small amount of extra credit will be available. For example, if there are 100 questions worth 2 points each and a student gets full credit (200 points) on each and the base score is 133, their quiz grade would be \((200/133)(3.0\%) = 4.5\%\). The base score will be determined at the end of the semester. The questions will be given randomly in class and there will be no make up of quizzes allowed. I expect to start to use the I>Clicker system for credit on September 5.

If you take a quiz in the wrong section you will receive partial credit but since quizzes will not necessarily be the same, there is no guarantee that you will not miss a quiz for your section. If a student takes the same quiz twice, the first grade will be counted. Because the lectures are crowded, you may be penalized 10%-20% for taking the quiz in the wrong section. At the start of the semester, the penalty may be as high as 20% to prevent overcrowding but it will be reduced as attrition makes additional space available.

Your mid-semester grades will be based on the grade of the first test but it may be reduced if your recitation grade is poor.

The final letter grade will be based on a curve in which the class average will approximately be a C+. I will give you guidance after each test as to likely cuts for letter grades but such guidance should not be considered as binding since it is impossible to predict the result of the final exam, which is a large part of the final grade. Since different tests and final exams will be given in each section, the curves for the two sections are likely to be different. Because of this, you must take all tests and the final in the class you are registered for. Anyone taking a test or exam with the wrong class will be penalized.

In the event of an unforeseen school closing on a test day, the test will be given at the very next lecture session after the university reopens. If the weather forecast indicates a strong possibility of heavy snow, hurricane etc., I might decide to postpone the test until the next class day. The course web page will have any announcements posted as soon as possible.

Tests and Exams: The exams in this course will be half multiple choice and half free-form problems. Because the class is only 50 minutes, I plan to give the multiple choice part of the test in the Testing and Tutoring Center in SUB 2. A schedule of times when each multiple choice may be taken will be posted on the website. You will have about a week to visit the center and take the test. Each lecture class will have a different deadline. Students who miss the deadline will usually not be able to take the test. If you are permitted, there will be a penalty. The questions will be randomized to make cheating difficult. Paper is limited in the center and only non-programmable calculators without wireless capabilities may be used. This is my first time using the center and if problems occur, I reserve the right to make adjustments to the way I handle the multiple choice part of the tests. The final exam will not use the center and students will be required to use scantron forms.

Free-form problems will be similar to end-of-chapter problems, examples worked in class, problems from old tests and examples from the book. The exams will test both your understanding of concepts as well as your ability to solve problems. Time is likely to be a factor for many students, so you must budget your time carefully on tests. An equation list will be provided for the final exam and all tests but the first one. Part I of the final exam will be comprehensive. Students are expected to bring a ParScore Test Form scantron (green) to the final. Please put your name as it appears on the roll (first
name followed by last). The time for taking a test is limited, so you must stop writing when told to do so. The scantron must be finished by this time or you will be penalized 2%.

Students will take the multiple choice part of the tests in the Testing and Tutoring Center. The problem part of the test will be given during the scheduled class times and you will be given 5 about days to go to the Testing and Tutoring Center to complete the multiple choice part.

**Academic Integrity:** You are expected to observe the GMU Honor Code on tests and exams. Cheating on exams will be dealt with very severely. It can even result in your dismissal from the University. There should be no communication of any kind between students during tests and exams. If you don’t understand a question, please ask the instructor.

It is cheating for someone to answer an **I>Clicker** question for another student or even to be in possession of two **I>Clickers**.

Although the tests given in the two lectures will be substantially different, students in the early lecture may not discuss or pass information about their test to students in the later class. Tests will be printed in different colors to make the exchange of information between the two sections difficult. You will be provided with scratch paper which must be handed in. You must bring a photo ID on test and exam days and when using the Testing and Tutoring Center.

It is cheating to pass any information about the test given in the Testing and Tutoring Center to anyone else in any form.

**Recitation:** ALL STUDENTS REGISTERED FOR THE LECTURE MUST ALSO BE REGISTERED FOR ONE OF THE RECITATION CLASSES. RECITATION IS MANDATORY. Students must attend recitation sections for which they are registered. Your recitation instructor will discuss the grade components (quizzes, homework, class participation), which will make up your total recitation grade.

**For Your Assistance:**
**Office Hours:** Office hours are listed above and on the course web page. If I am not able to meet a particular office hour I will announce it in class and on the web page. If you are not able to see me during scheduled office hours you may make an appointment or drop by my office, although in the latter case, I may not be able to meet with you because of other time constraints. Generally I prefer e-mail communication to phone calls.

**Useful Websites:** The publisher of your text has a useful web site for the book. (wps.prenhall.com/esm_giancoli_physicsppa_6/) It includes such items as: chapter objectives, practice questions, puzzles and much more. You should also visit the course web site at http://www.physics.gmu.edu/~jlieb/phys243.

**Lecture Notes:** For your convenience, I will post my lecture notes on the course web site several days before I cover the material. The notes will cover most, but not all of what I cover in class. I am likely to go over some questions in class that will not be in the notes. Although I am making this material available to you, I strongly urge you to not to use it as an excuse to skip class. The notes are in PowerPoint and it may be necessary to
obtain free software to read them. Because the notes for Chapter 3 and later contain some figures from the book with permission, the publisher requires that the notes be password protected.

**Courtesy:** You are expected to observe commonsense rules of courtesy, including avoiding conversation during class, coming to lecture on time, and not leaving before the end. If I feel that a student is disturbing others, I will request that the disturbance cease. Cell phones must be turned off, especially on test days.

Use of laptops is permitted as long as only one student is involved, the application is physics related and other students are not distracted. It is very obvious to when a student is surfing the web because the students behind him or her will be distracted. You may not collaborate on lab reports in lecture. You may not stretch electrical wires across public walkways, so make sure the laptop battery is charged.

Please be aware that if you are disturbing the lecture, I will ask you to stop.

**Letters of Recommendation:** Generally it is not a good idea for students in a large lecture class to request a letter of recommendation from the instructor. If you are in a situation where it may be necessary to request a letter of me, you must schedule several meetings with me during the semester so that I can get to know you better. This does not obligate me to write a letter; nor does it obligate you to request one. If you wish to do this please contact me by e-mail to schedule a meeting before Sept. 24.