

## Physics 200 – Mechanics – Fall Semester, 2007

**Instructor: Dr. Steven B. Rivers**

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**Class Meetings**    Section 01: M, W 9:00 – 11:50  
                          Section 02: M, W 2:00 – 4:50  
                          CS123 Lecture and lab.

**Texts** The texts for this course are the *Physics for Scientists and Engineers*, 3<sup>rd</sup> ed. By Fishbane, Gasiorowicz and Thornton, and a Physics 200 lab manual.

**Activity-Based Physics** Activity-based Physics is a teaching method where lecture and laboratory sessions are blended together seamlessly and students often work in groups. We will still do what you may think of as traditional labs, but many of the experimental work you do for this course will be shorter than traditional lab exercises. Typically, we will have some lecture, do a short lab exercise, discuss these results, and move on to the next topic.

**Absences** Every student is expected to attend class regularly. Therefore, excessive absences from class will affect your grade and missing class will not excuse you from work due that day such as homework or tests. If you are going miss class for a good reason, inform me *beforehand*. Otherwise, it is almost impossible to excuse you and still be consistent with the rules as applied to the rest of the students. If you are a member of an athletic team, or other College sanctioned activity, you must let me know about planned absences within the first week of the semester.

**Class Participation** Participation will count as 10% of your grade. Each student will start with a 70/100 participation grade. You will gain points for things such as good attendance, participating in your group's lab work, asking good questions in class, answering my class questions well. You will lose points for things like consistent tardiness, rarely asking questions, not being prepared for class, eating or drinking in class, repeatedly responding to my questions without raising your hand, etc.

**Problem Sessions** The final hour of the Monday sessions will be devoted to working on problems in small groups. These sessions will usually start with some problems I have chosen. The remainder of the time can be used for working on problems you choose. (Homework will be due each Wednesday.)

**Homework** The homework assignments for the course are listed below. These are due on Wednesdays at the beginning of class. *Late homework will not be accepted*. You may discuss solutions to the homework problems with other students, but the work you turn in should be your own. Solutions to past

homework assignments will be available. The homework will be collected and graded.

**Homework solution format** The homework is assigned for several reasons. These include helping you to learn the course material, developing your problem-solving skills, and to give you a resource for studying for exams. Therefore your solutions should be neat. Homework should be done on 8½ x 11" paper, stapled in the upper left-hand corner, with your name, date and the assignment number in the upper right-hand corner. Each solution should include a brief explanation as well as the relevant mathematical work. Your work must be neat and easy to follow. Proceed top-to-bottom and left-to-right. Show your work. Underline, highlight, or circle your final answer so the grader can find it. Always include the appropriate units.

**Laboratory/Activity Grade** Laboratory experiments are an integral part of this course. *To pass the course you must do all the lab experiments.* If you are unable to make it to class for some reason, alert me as soon as possible (preferably in advance) so that we can make arrangements for you to make up the work. Your lab grade for the course will come from lab reports, quizzes, and work handed in during class. Format for the lab reports will be discussed when we get to one of the full (three-hour) experiments.

**Exams** There will be three exams, two during the semester and a final. The final exam will be comprehensive, but concentrate on the material since the last exam. They will have some short-answer / multiple-choice questions to test your general knowledge of the material and problems similar to the homework. The topics covered are:

- Exam I: Vectors, Forces, Newton's Laws of Motion, One-Dimensional and Two-Dimensional Motion
- Exam II: Work, Kinetic Energy, Potential Energy, Energy Conservation  
Linear Momentum, Momentum Conservation, Collisions
- Final Previous Material Plus Rotations, Angular Rotations, Torque, Statics, Gravitation, Oscillatory Motion

**Grade Appeals** You may appeal grading decisions no later than one week after the assignment is returned to the class.

**Course grade** The grade for the course will be assigned on the following proportions:

- Laboratory, 15%
- Exams, 20% each for a total of 60%
- Homework 15%
- Participation, 10%