

Physics 231 : General Physics 1

Spring 2004

Professor:	Phone	Office	E-mail
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Class meetings: MWF 11:00 AM – 12:20 PM Duke 100

This class will not be a lecture course. Instead, we will discuss the reading due that day to discover together the high points. We will work on problems during class time and discuss concepts. Class participation is required. Frequent unexcused absences and tardiness may result in grade reduction.

Laboratories & Exercises: Lab meets once per week on Thursdays 11:00 AM – 12:20 PM in Duke 113. Sometimes during lab and sometimes during class we will be working on group problems or exercises. These may not be noted in advance. You must attend class the day an exercise is done to turn in the associated work. You will not be allowed to make up this aspect of the course. If you will be absent from class for a valid reason (such as university approved events), you must inform me in advance in order to have any opportunity to make up missed work.

Office hours: Monday 1-2pm, Thursday 2-3pm, and TBA

You are welcome and encouraged to meet with me at any time which is mutually agreeable, even if it is not during my official office hours. My class schedule (so you know when I'm busy) is posted on my web page.

Text: *Fundamentals of Physics(extended)* 3rd edition, volume 1 by Halliday, Rednick & Walker. There is also a "Problem Supplement" which has additional sample problems (both worked and unworked). Volume 2 of this book, and the remainder of volume 1, will be covered in Physics 232 and 233. You may buy the complete book if you'd rather not have two separate volumes.

Content: The course will cover Newtonian (classical) mechanics (chapters 1-14 of the textbook) and related problem-solving techniques. This material is very important because it will be used in all other physics courses.

Prerequisites: You must have passed or be concurrently enrolled in Math 122 (Calculus 2). Knowledge of algebra, geometry, trigonometry, and basic calculus will be assumed.

Goals:

1. To gain a good conceptual understanding of mechanics.
2. To develop the problem-solving skills needed to apply the principles of physics in a variety of situations.

Exams: The final exam will be **Wednesday, April 21st at 3:00 pm**. This time cannot be changed. This exam is non-cumulative. Three other exams will take place from 11 am – 1 pm during the semester. Exams will be closed book and will contain both conceptual and quantitative problems. You may use a calculator for basic functions (addition, subtraction, multiplication, division, powers, exponentials, logarithms). You are on your honor not to use a calculator for advanced functions (including integration, differentiation, solving equations, unit conversions) or to store formulas or notes of any type in its memory. Calculators may not be shared.

Class Web site:

http://newton.uor.edu/facultyfolder/julie_rathbun/phys231/ This syllabus is subject to change. The current, up-to-date version will be located on the class web site.

Homework: Physics is not a spectator sport! You will not learn to solve problems without regular practice, so homework is an essential part of this course. Assignments will be due at the beginning of every class. Absolutely no late homework will be accepted, since the solutions will be handed out at that time. Every assignment will include questions on material NOT yet covered in class. This is to encourage you to do the assigned reading as well as work out the problems. Each homework assignment is graded as credit/no credit. If you make a reasonable attempt at all problems, you will get credit (1 point). If you do not, or if it is late, you get no credit. The homework grade will be assigned based on the following: 30 points or more: A+, 29:A, 28:A-, 27:B+, 26:B, 25:B-, 24:C+, 23:C, 22:C-, 21:D+, 20:D, less than 20 points: F. You are encouraged to work together with your classmates on the homework provided each person comes to an understanding of the questions and problems and submits a separate set of solutions. Copying another student’s homework or allowing your homework to be copied is cheating and neither will be taken lightly. For the first offense, neither student’s homework will get credit and a letter will be placed in both student files.

Grading:

Final grades will be based on the following:

Exams (top 3)	45%
Exercises & Labs	20%
Homework	20%
Quizzes (top 10)	15%

Quizzes: There will be a quiz at the end of each chapter. Quizzes will be announced in advance. To get full credit, you must give clear, correct answers to questions and organized solutions (not just final answers) to problems where numerical answers are expected. Units must be used when appropriate. I suggest you review the chapter text, example problems, homework solutions, and other problems that give solutions to study for the quizzes and exams.

Class Rules: You are required to act responsibly in this class. A non-inclusive list of rules you must follow is included on the class web page.