Physics 251 General Physics

Call No. 04961 & 04962, Winter Quarter 2003, MWThF 9:10 − 10:00 am, Morton 115

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Office hours: MW 3-4 pm

Text: Tipler, *Physics for Scientists and Engineers*, 4th Edition, 2000.

Overview of the Class:

Physics 251 is the first of a four-quarter sequence in General Physics for students of science and engineering. All students are assumed to have a working knowledge of calculus equivalent to Math 263A. Topics covered in Physics 251 include measurement, motion in one and two dimensions, conservation of energy and momentum, rotational dynamics, and gravity. The teaching method is primarily through the analysis of problems.

Schedule:

Jan	6	Introduction and Chapter 1	Feb	10	Chapter 8
	8	Chapter 2		12	Chapter 8
	9	Chapter 2		13	Quiz 5, Assignment 5 due
	10	Chapter 2, Quiz 1		14	Chapter 8
Jan	13	Chapter 3	Feb	17	Chapter 9
	15	Chapter 3		19	Chapter 9
	16	Quiz 2, Assignment 1 due		20	Quiz 6, Assignment 6 due
	17	Chapter 4		21	Chapter 9
Jan	20	MLK Holiday; no classes	Feb	24	Chapter 9
	23	Chapter 4		26	Chapter 10
	24	Quiz 3, Assignment 2 due		27	Quiz 7, Assignment 7 due
	25	Chapter 4		28	Chapter 10
Jan	27	Chapter 5	March	3	Chapter 10
	29	Chapter 5		5	Chapter 11
	30	Quiz 4, Assignment 3 due		6	Quiz 8, CAPA 8 due
	31	Chapter 5		7	Chapter 11
Feb	3	Chapter 6/7	March	10	Chapter 12
	5	Review, Assignment 4 due		12	Chapter 12
	5	MIDTERM, 7:10 − 9:00 pm			
	6	Chapter 6/7		13	Quiz 9, Assignment 9 due
	7	Chapter 6/7		14	Review
			March	19	FINAL EXAM, 4:40 p.m.

Homework Assignments:

Personalized sets of homework will be provided to each student throughout the quarter. These problems are to be completed and graded through our Learning On-Line Computer Assisted Personalized Assignment (LON-CAPA) system. Students can enter their answers in a computer terminal and get them graded immediately on the screen. A student can try each problem up to 10 times. *Each set has a due date and time assigned at the top of the page.* You will access your assignments via the World Wide Web at http://loncapa.phy.ohiou.edu. You will need to enter your Oak login ID and your password to log onto this computer system. Please report any problems with access to the instructor ASAP. See the attached page for information on accessing LON-CAPA.

If you wish, you may turn in hand-written answers to the homework. These will be due at the same time as the computer assignment, but you will be given only one chance to get it right. Because of this, students are strongly encouraged to use the WWW to enter their solutions.

TAs for this course will be available for CAPA help sessions, at times and places to be announced in class. The role of the TA is to provide advice and suggestions for how to approach the problems, but TAs are forbidden from actually doing the problems for the students.

Homework problems are intended to give students experience in solving problems on the topics covered in this class. Students should view these problems as practice in advance of taking exams. The general problem-solving skills needed for successful performance on the exams are the same as those you will need in your career, for real-world assignments in a future professional and/or scientific environment.

Quizzes and Exams:

No books or notes stored in electronic or written form may be consulted during the quizzes or exams. Students are expected to remember basic formulae and definitions. A formula sheet will be provided with the exams by the instructor.

Quizzes will be given during class on Thursdays. The lowest quiz score will be discarded in calculating grades at the end of the quarter.

The midterm exam will last two hours and will be given on the **evening** of February 5. If you have a schedule conflict between the exam and another class or lab, please consult with the instructor at least 1 week in advance in order to work out an alternative.

Calculators:

Students will need a simple "scientific" calculator such as the TI 30X. The particular functions you will require are: the trigonometric functions sine, cosine, and tangent, and their inverse; logarithms; square root; scientific notation; exponential. Students who have not used a scientific calculator before should make sure they are familiar with how to perform long calculations as well as use the above functions. I strongly recommend you do not buy an elaborate programmable calculator just for this course. You will not need its power, and its complexity may be more confusing than helpful. Any calculator from the TI 80 series family will be allowed, but if you do use any advanced features of such a calculator you must record that usage in your solution: e.g., solution of quadratic equation, solution of sets of linear equations, numerical integration, regression analysis. Note also that consulting formulae or notes stored in a calculator is considered cheating for the purposes of the exams and quizzes, just like using written notes or a book. During exams and quizzes we will do random checks of calculators to ensure that no formulae, notes, or equations are stored that are relevant to the quiz or exam being taken and that could give an unfair advantage. Penalties for storing such information may range from the student being required to delete the information immediately, to being given zero for the quiz or exam, or to failure for the entire course, depending on the perceived importance of the information to the quiz or exam. A report may also be made to the Judiciaries. Calculators from other manufacturers that are similar to the TI 80 series will be allowed, but no calculator or electronic device may be used that has a high capacity storage device, such as a hard drive, CD, or ZIP drive, or has the ability for wireless communication (e.g. Palm Pilots).

Laboratory:

You are required to register for a laboratory for this class. *A laboratory grade of at least 70% is required in order to pass the course.* A missed lab without a valid university excuse counts as zero and cannot be made up. If you miss a lab and have a valid university excuse, you should arrange for a make-up session through the curator's office (042 Clippinger). Missed labs should be made up during the week in which they were due to be taken, if possible. Students waiting until the last weeks of the quarter to make up labs missed in the first part of the quarter will be denied make-up privileges, even if the original excuse for the missing lab is valid. *A student who misses more than 2 labs without a valid University excuse will fail the lab, and will receive a failing grade for the course as a whole.*

Attendance:

The instructor recommends that all students attend class, but roll will not be taken. Students are responsible for all material covered in class, whether they attend or not. If you do attend class, you are expected to remain attentive and exercise common courtesy to the professor and others in the room. Please do *not* read newspapers during class.

A University Excuse (see O.U. Student Handbook) is required for any makeups on quizzes, exams, or lab work.

Misconduct:

Academic misconduct is a Code A violation of the Ohio University Code of Student Conduct. If you are found to be involved in academic misconduct regarding this course, you will receive an F grade for the pertinent work or for the course, and/or a referral to the Director of Judiciaries, with the possible sanctions of suspension or expulsion.

Grading Policy:

Grades will be based on homework (20%), quizzes (15%), labs (20%), a midterm exam (15%), and a final exam (30%). The final exam will be comprehensive. Letter grades will be awarded approximately as follows:

A− to A	$\geq 91\%$
B− to B+	$81 - 90\%$
C− to C+	$71 - 80\%$
D− to D+	$61 - 70\%$
F	$\geq 60\%$

These percentage values can be used to estimate performance on homework, quizzes, and midterms. No letter grades will be assigned for individual parts of the course. The professor reserves the right to revise the percentage thresholds to lower values. Note that grading policies may differ for different instructors for this course.