

Textbook: Physics, sixth edition by Giancoli

Instructor: Leo Takahashi, Assistant Professor of Physics

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### Weekly schedule for L. Takahashi for fall 2010

Per .	$\Delta T$	Monday	Tuesday	Wednesday	Thursday	Friday
1	8:00-8:50					
2	9:00-9:50		Tuesday Office Hours		Thursday Office Hours	
3	10:00-10:50	STS 101H 14 MBB	by Appointment	STS 101H 14 MBB	by Appointment	STS 101H 14 MBB
4	11:00-11:50	office hour 107 SUB	or You can just drop in.	office hour 107 SUB	or, You can just drop in.	office hour 107 SUB
5	12:00-12:50					
6	1:00-1:50				PHYS 250 14 MBB	
7	2:00-2:50	PHYS 250 13 MBB		PHYS 250 13 MBB	PHYS 250 14 MBB	PHYS 250 13 MBB
8	3:00-3:50	PHYS 211 13 MBB	PHYS 211 14 MBB	PHYS 211 13 MBB		PHYS 211 13 MBB
9	4:00-4:50		PHYS 211 14 MBB			

**Topics:** We will discuss moving objects, forces, energy, momentum, torque, rotational motion, gravitation, orbital motion, harmonic motion, mechanical waves, sound, temperature, heat, and thermodynamics. This material comes under the heading of "classical physics" which quite adequately describes the world we can see with the unaided eye. References will be made as needed to such modern topics as special relativity and quantum mechanics, which describe the world of the very fast and the very small. The material to be covered is found in chapters 1-15 of the textbook.

**Preparation:** The student is expected to have already mastered basic algebra, geometry, and trigonometry.

**Tools:** The student is expected to bring to the following to each class and laboratory session: pencils, an electronic scientific calculator, the textbook, protractor, and a straight edge. In addition, each student must have a bound (not loose-leaf or spiral) notebook to use to record the lab activities.

**Grading:** Grades will be assigned according to the following minimum percentages of total possible points: 90% A, 85% A-, 80% B+, 75% B, 70% B-, 65% C+, 60% C, 50% D.

Points will be earned in both the lecture and lab parts of the course. There will be quizzes, two exams during the semester, and a final exam, along with the assigned work for the laboratory part of the course, which will account for about 20% of the course grade. Disruption of the necessary respectful and cooperative classroom/laboratory culture can have a negative percentage effect (-100%-0) on your total course percentage.

- Homework: When homework is assigned, you are expected to work out all of the problems; you are encouraged to work on these problems in study groups. The homework will not be collected, but **The regularly scheduled quizzes will be based on the assigned homework problems.** You should do more problems than just the assigned ones.
- There may be some unscheduled quizzes.

- Exams: There will be two exams during the semester, and a final exam; all these exams will be comprehensive. Solutions of the exam problems must show the steps that lead to the answers. Answers without explanations or justifications are incorrect and no partial credit will be given for these. Partial credit will be given for solutions that show correct thinking even if the numerical answers are wrong. The two exams during the semester will be given during laboratory periods (October 21 and December 02) and the final exam will be given during the assigned period during the final exam week.
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- Lab work will include at least one formal technical report which will have to be written from the information recorded in the lab notebook (which will be graded for completeness and correctness after each experiment).

**Attendance policy:** If you have to miss an exam, a quiz, or a laboratory exercise, for any reason, you must see the instructor and request a chance to make up for the miss. There is no guarantee that your request will be granted. In the case where you have to miss a class activity because you are involved in some official Penn State activity, you (not your advisor or coach) must notify me in writing at least a week in advance so that we can work out a way for you to do the work. For some quizzes you will not have advance notice and I will evaluate after-the-fact excuses if you miss one of these.

**Disability Policy:** Consistent with University policy, any student requesting an accommodation must provide documentation from the Office for Disability Services. If you have a documented disability and wish to receive academic accommodations, please contact the Campus Nurse, Barbara McDanel (room 104 Ross Admin. Bldg., 724-773-3955, [BQM5@psu.edu](mailto:BQM5@psu.edu) ). For additional information, check the university web site: <http://www.lions.psu.edu/ods>

**Academic Integrity Policy:** Academic dishonesty is not limited to simply cheating on an exam or assignment. The following is quoted directly from the "PSU Faculty Senate Policies for Students" regarding academic integrity and academic dishonesty: "Academic integrity is the pursuit of scholarly activity free from fraud and deception and is an educational objective of this institution. Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabricating of information or citations, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students." All University and Eberly College of Science policies regarding academic integrity/academic dishonesty apply to this course and the students enrolled in this course. Refer to the following URL for further details on the academic integrity policies of the Eberly College of Science: <http://www.science.psu.edu/academic/Integrity/index.html>

Each student in this course is expected to work entirely on her/his own while taking an exam, to complete assignments on her/his own effort without the assistance of others unless directed otherwise in writing by the instructor, and to abide by University and Eberly College of Science policies about academic integrity and academic dishonesty. In particular, the formal technical report(s) must not show wording identical to that of any other student, and must be the original work of the student who is to receive credit for the report. Academic dishonesty can result in assignment of "F" by the course instructors or "XF" by Judicial Affairs as the final grade for the student.

**Classroom Culture:** In order to maintain an environment in both classroom and laboratory that encourages focused discussion, please turn off all cell phones, pagers, radios, head phones, and any other electronic devices other than the calculators/computers you use while doing computations for the class (electronic game-playing, net surfing, and email activities are prohibited.) You must also refrain from using any tobacco products while in the classroom. You must show respect for the other people in the room at all times.

# Daily Schedule for fall 2010 Physics 250

Monday	Wednesday	Thursday	Friday
8/23 Introduction and One-Dimensional Motion	8/25 One-Dimensional Motion	8/26 EXCEL Graphing and the acceleration due to gravity	8/27 One-Dimensional Motion
8/30 One-dimensional Motion <b>QUIZ</b>	9/01 Vectors	9/02 Vector Addition	9/03 Two-dimensional motion
9/06 <b>Labor Day: no classes</b>	9/08 Two-Dimensional Motion	9/09 Projectile Motion	9/10 Two-Dimensional Motion <b>QUIZ</b>
9/13 Newton's Laws of Motion	9/15 Newton's Second Law Problems	9/16 Newton's Second Law	09/17 Newton's Second Law Problems
09/20 <b>QUIZ</b> Gravity and Circular Motion	09/22 Gravity and Circular Motion	09/23 Friction	09/24 Gravity and Circular Motion <b>QUIZ</b>
09/27 Work, Power, and Energy	09/29 Work, Power, and Energy	09/30 Energy loss/Air drag	10/01 Work, Power, and Energy <b>QUIZ</b>
10/04 Momentum	10/06 Momentum and Impulse	10/07 Impulse and Momentum	10/08 Collisions and Momentum <b>QUIZ</b>
10/11 Rotational Kinematics	10/13 Rotational Dynamics	10/14 Rotational Motion	10/15 Rotational Dynamics and Angular Momentum
10/18 Rotational Motion <b>QUIZ</b>	10/20 Last-Minute Review and Quiz discussion	10/21 <b>EXAM 1</b>	10/22 Equilibrium
10/25 Elasticity	10/27 Equilibrium and Elasticity	10/28 Rigid Body Equilibrium	10/29 Equilibrium and Elasticity <b>QUIZ</b>
11/01 Fluids	11/03 Fluids	11/04 Specific Gravity	11/05 Fluids <b>QUIZ</b>
11/08 Harmonic Motion	11/10 Waves	11/11 Pendulums	11/12 Harmonic Motion and Waves <b>QUIZ</b>
11/15 Sound	11/17 Sound	11/18 Harmonic Motion	11/19 Temperature
<b>11/22 No Classes</b>	<b>11/24 No classes</b>	<b>11/25 No classes</b>	<b>11/26 No Classes</b>
11/29 Temperature and Thermal Expansion/Stress	12/01 Temperature and Heat	12/02 <b>EXAM 2</b>	12/03 Temperature and Kinetic Theory <b>QUIZ</b>
12/06 Heat Transfer and Thermal Insulation	12/08 The Laws of Thermodynamics	12/09 Newton's Law of Cooling	12/10 Heat and Thermodynamics <b>QUIZ</b>

The table below gives the textbook homework assignments and the dates of the associated quizzes.

Chapter	Assigned Problems
1	2, 10, 19, 22, 38, 49
2	7, 25, 39, 59, 73, 75
3	7, 10, 21, 31, 37, 63, 67
4	13, 23, 29, 41, 51, 56, 75, 81
5	5, 7, 14, 35, 45, 52, 83
6	5, 13, 21, 23, 37, 45, 62, 91
7	3, 7, 12, 17, 23, 25, 37, 40, 47
8	9, 19, 26, 33, 37, 38, 47, 53, 63, 73, 77
9	5, 7, 17, 21, 22, 39, 43, 57, 63, 69
10	5, 11, 16, 29, 31, 34, 41, 57, 72, 77
11	5, 9, 15, 21, 33, 41, 55, 59, 77
12	5, 11, 17, 29, 37, 43, 53, 85
13	5, 15, 23, 37, 55, 73, 83, 99
14	5, 13, 25, 39, 53, 61
15	5, 9, 16, 17, 23, 33, 39, 41, 59, 67