Phys 211: Introductory Physics (with calculus): Mechanics **Fall 2010**

Textbook: Fundamentals of Physics, 9th edition Halladay/Resnick/Walker

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Fall 2010 Semester Weekly Schedule

Per.	ΔT	Monday	Tuesday	Wednesday	Thursday	Friday
1	8:00-8:50		Tuesday Office Hours by Appointment or You can just drop in.		Thursday Office Hours by Appointment or You can just drop in.	
2	9:00-9:50					
3	10:00-10:50	STS 101H 14 MBB		STS 101H 14 MBB		STS 101H 14 MBB
4	11:00-11:50	office hour 107 SUB		office hour 107 SUB		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 14MBB	PHYS 211 13 MBB		PHYS 211 13 MBB
9	4:00-4:50		PHYS 211 14 MBB			

Physics 211 is an introduction to the physics of mechanical motion in which objects will either be modeled as mathematical points or as rigid bodies (or some combination thereof). The ideas will be those of Isaac Newton whose model has been successfully used to predict the motion of everything from baseballs to planets.

Grading Policy: Grades will be based on the percentage of the total possible number of points available to be accumulated.

- Points can be accumulated by performance on quizzes (some announced, some not announced), Lab, four major tests, a comprehensive final examination, and class participation.
- The minimum percentages for letter grades are: 90% A, 87% A-, 80% B+, 75% B, 70% B-, 65% C+, 60% C, 50% D.
- **Except for cases of horrible class participation** (e.g. Negative scores will be awarded for detracting from the physics under discussion and may account for 0% to 100% of your course grade; see "classroom culture" below; cell phone ringing, text messaging or other cell phone use, calculator or computer game-playing, non-relevant conversations, using tobacco products, and rude behavior are some of the actions that can bring about negative scores**), the lab will account for 20% of your course grade; the final exam will account for 15% of your course grade; the tests and quizzes will combine to account for 65% of your course grade.**

Equipment Policy: YOU ARE TO BRING THESE WITH YOU TO EACH CLASS/Lab period: The textbook, a scientific electronic calculator (One of the programmable, graphing calculators, such as the TI-85, 86, or 89, is strongly recommended so that the drudgery of solving quadratic equations or systems of linear equations by hand can be eliminated), a straight edge calibrated in centimeters, pencils.

Attendance policy: If you have to miss a test, a quiz, a laboratory exercise, or an examination for any reason, you must see me 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). 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 by the instructor. ***(Unless you receive written instructions from the instructor telling you that you may work with someone else, all written work (both in-class and out-of-class) is to be individual work. "Written work" includes lab reports, derivations, problem solutions, solutions to take-home quizzes and tests, essays, explanations, and anything else turned in on paper or electronically for which you will receive a grade.)***, and to abide by University and Eberly College of Science policies about academic integrity and academic dishonesty. 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 that encourages focused discussion of physics, you must take off all headphones, turn off all cell phones, pagers, radios, 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**. Considerations of classroom culture are quantified under "class participation" in the grading policy.

Homework: You are expected to work out the odd-numbered (These are the ones with answers given in the back of the book.) end-of-chapter problems to the extent that you develop a strategy for doing each type of problem, including the ones identified as being the most challenging. Occasionally specific problems will be identified as being particularly important, but you should not wait for these identifications before you do the work. There will be occasional quizzes that will require you to apply your problem-solving strategies. These strategies will also be needed for the tests and the final exam.

Class Schedule: Unless something unforeseen occurs we will follow this schedule below. In the schedule table the class topic for that day is given. You should read the relevant sections of the textbook before the class discussion of the topic. Occasionally there may be an unannounced quiz.

Physics 211 Schedule Table for fall semester 2010

Monday	Tuesday	Wednesday	Friday
08/23 Introductory Testing	08/24 Problem-Solving	08/25 Measurement and One-Dimensional Motion	08/27 One-Dimensional Motion
08/30 One-Dimensional Motion	08/31 Excel Graphing and the Acceleration due to Gravity	09/01 **End: Drop/Add period** 1-dimensional Motion Problems	09/03 Vectors (Addition, Subtraction, multiplication by a scalar)
09/06 Labor Day: No Classes	9/07 Vector Addition	09/08 Relative Motion	09/10 Two-Dimensional Motion
09/13 Projectile Motion	09/14 Projectile Motion	09/15 **Test 1**	09/17 Newton's Laws of Motion
09/20 Newton's Laws Problems	09/21 Newton's Second Law Experiment	09/22 Static and Kinetic Friction	09/24 Newton's Laws Problems
09/27 Newton's Laws Problems and uniform circular motion	09/28 Static and Kinetic Friction	09/29 Newton's Laws Examples and Problems	10/01 Dynamics Problems
10/04 **Test 2**	10/05 Springs	10/06 The multiplication of vectors	10/08 Work, Kinetic Energy, and power
10/11 The concept of Potential Energy and Potential Energy Functions	10/12 Air Drag and Energy Experiment	10/13 Conservation of Energy	10/15 Energy Bookkeeping
10/18 Center of Mass and Momentum	10/19 Impulse-Momentum Theorem	10/20 Impulse and Momentum	10/22 Conservation of momentum
10/25 Conservation of Momentum	10/26 Conservation of Momentum	10/27 **Test 3**	10/29 Rotational Kinematics
11/01 Torque & Rotational Dynamics	11/02 Rotational Dynamics Experiment	11/03 Rotational Dynamics	11/05 Rotational Dynamics problems and rolling motion
11/08 Rotational Dynamics and Angular momentum	11/09 Rotational Dynamics Experiment Continued	11/10 Rolling motion and angular momentum problems	11/12 **Last Day to Late Drop** Rigid Body Equilibrium
11/15 /12Elasticity	11/16 Equilibrium or Elasticity Experiment	11/17 Equilibrium and Elasticity Problems	11/19 Gravitation
11/22 no classes	***11/23 no classes***	***11/24 no classes***	***11/26 no classes***
11/29 Gravitation, Orbits, and Energy	11/30 Pendulums	12/01 Gravitation Problems	12/03 **Test 4**
12/06 Oscillations	12/07 SHM with spring of significant mass	12/08 Oscillation Problems	12/10 Oscillations Problems
12/13 Final Exams	***12/14 Final Exams***	***12/15 Final Exams***	***12/17 Final Exams***