2015

Physics 141 Mechanics Spring 2015

Adnan Rebei
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PHYSICS 141 Syllabus

Spring 2015

Tuesday &Thursday 4:00pm – 7:00pm

M124

Instructor: Dr. Adnan Rebei

Email: rebei2@illinois.edu

Phone: 217- 721-8352 (emergencies only)

Text: *Fundamentals of Physics*, 10th edition (extended)

Halliday, Resnick and Walker.

Prerequisite: Calculus 1, or equivalent

Office hour: Tuesday: 7:00pm-8:00pm at M124

Materials: You will need a calculator that can do algebraic and trig functions, as well as statistical functions. A TI calculator would be preferred. Please make sure you have your calculator with you at all times.

Course Content:

This is an introductory course in classical mechanics. It introduces Newton's laws and applies them to a variety of problems. Therefore the course's focus will be mainly on developing skills in solving mechanics problems. The lab will be mainly to reinforce our conceptual understanding of the principles involved in dealing with problems in mechanics. Group work will be an important element of the learning process and hence class participation within and across groups will be rewarded. This is an important course in physics since it sets the foundations for any upper level physics course or other courses that require quantitative thinking.

Week	Date	Chap	Lecture	Lab	Quiz	Homework	Exam
1	Tuesday 2/3/2015	1,2	Units 1 D motion		1	**1.**1,9,12,13,21,22, 23,43,47,58 **2.**2,3,5,11,15,16,18	
	Thursday 2/5/2015	2	1 D motion	Free fall		2.19,23,28,29,30,36,41,45,56,58,68,69,70,90,99	
2	Tuesday 2/10/2015	3, 4	Vectors 2D Motion		2	Chap. 3: 6,12,22,24,31,69,74	
	Thursday 2/12/2015	4	2D Motion	Projectile motion		Chapt. 4: 3, 5, 5,9,13,15,23,28,32, 56,68	
3	Tuesday 2/17/2015	5	Force and Motion		3		
	Thursday 2/19/2015	5	Force and Motion				1
4	Tuesday 2/24/2015	6	Force and Motion: circular motion		4		
	Thursday 2/26/2015		No Classes				
5	Tuesday 3/3/2015	7	Kinetic Energy and Work		5		
	Thursday 3/5/2015	8	Conservation of energy	Centripetal motion			
6	Tuesday 3/10/2015	8	Conservation of energy		6		
	Thursday 3/12/2015	9	Linear momentum				2
7	Tuesday 3/17/2015	10	Torques		7		
	Thursday	11	Angular momentum	Work and energy			

	3/19/2015						
8	Tuesday 3/24/2015		Spring Break				
	Thursday 3/26/2015						
9	Tuesday 3/31/2015	11,12	Torques Equilibrium		8		
	Thursday 4/2/2015	12	Equilibrium	collisions			
10	Tuesday 4/7/2017	12	Equilibrium		9		
	Thursday 4/9/2015	13	Gravitation				3
11	Tuesday 4/14/2015	13	Gravitation		10		
	Thursday 4/16/2015	14	Fluids	Equilibrium of rigid bodies			
12	Tuesday 4/21/2015	14	Fluids		11		
	Thursday 4/23/2015	15	Oscillations	Density and buoyancy			
13	Tuesday 4/28/2015	15	Oscillations		12		
	Thursday 4/30/2015						4
14	Tuesday 5/4/2015		Review				
	Thursday 5/6/2015		Review	Torsion pendulum			
15			EXAM WEEK				

Quizzes: There will be 12 quizzes. The quizzes will feature problems very similar to your homework problems. The homework will not be graded but the quizzes will be one way to make sure that you are doing the assigned problems. The quizzes are closed-books.

Laboratory: There are eight lab assignments that must be completed to pass the course. Data that you include must be legitimate data collected during the lab session. Lab reports from previous semesters will not be allowed into the lab rooms.

Lab reports which are copied in full or in part will be considered cheating and may result in a failing grade for the course.

Lab work will be in groups of four. You will submit only one report per group. However each group for each lab session should assign a head who will be responsible for the integrity of the data and the conclusions in the report. The head of the lab session is preferably chosen before the day of the lab session so he or she can plan ahead the experiment and the tasks of each group member. The participation grade will be partially based on the inputs I get from your team leader. This is a good training to what happens in real life!

Grading policy:

I expect most of you to have a letter grade of A or B in this course but the strict rules below need to be followed:

Participation	10% ∗
Quizzes	10%
Lab	15%
4 1-hour exams	40%
Final	25%
Letter grades:	90% - 100% A 80% - 89% B 70% - 79% C 60% - 69% D 0 - 59% F

∗ **Important:**

1. No make-ups are provided. If you miss something, you'll have to present an official excuse. In case you fail to present a valid excuse for any missed work (quizzes, lab, or exams), an automatic zero will be assigned and you'll immediately lose your eligibility for the 10% participation grade.
2. If your grade on the final is higher than any of the 1-hour exams and you have no unexcused absenses, I will drop your lowest two quizzes and your lowest 1-hour exam.
3. Problem solving skills will be also developed in groups. The groups will be the same as in the lab session.
4. I will assign the groups after the first class.

Core Values:

I believe strongly in the Core Values espoused by Parkland College:

Honesty and Integrity, Fairness and Just Treatment, Responsibility, Multiculturalism, Education, and Public Trust. Essentially, these values set guidelines for how we should treat one another. Failure to be respectful of one another or to maintain ethical behavior will not be tolerated.

Cheating is not allowed. The Student Policies/Procedures Manual defines cheating, fabrication, and plagiarism. Consequences can carry the penalty of a failing grade for the course and possibly suspension from the course.

Be mindful of a few ground rules regarding test-taking. Tests are closed-book and the following things would be considered cheating:

"exchange of materials of any kind (calculators, pencils, pens, information, anything) " any talking" looking at someone else's work.

Please check www.parkland.edu/studentpolicy/honesty for more information.

Disability

If you believe you have a disability for which you need an academic accommodation (including special testing, auxiliary aids, non-traditional instruction formats) please contact Cathy Robinson (X148, 353-2082), Director of Disability Services, crobinson@parkland.edu. Also talk to me as soon as possible.

Center for Academic Success

If you find yourself needing assistance of any kind to complete assignments, stay on top of readings, study for tests, or just to stay in school, please contact one of the following staff at the Center for Academic Success:

Sarah Lytel

X 148

353 -2338 slytel@parkland.edu

You may also email the CAS at CenterForAcademicSuccess@parkland.edu.

Drops/Withdrawals

On the ten-day roster, I am required to assess your attendance. If you have not attended regularly to that point, you will be dropped with no refund of tuition or fees. After the ten-day roster, you should not plan on an instructor withdrawal if you want to withdraw from the course. You are ultimately responsible for your own withdrawal by the withdrawal date. Non-attendance after the ten-day roster will result in an F if you don't withdraw yourself.

Good Luck to you!

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