

**Physics 101 - General Physics I  
Spring 2009 (Term 082)**

**Course Description:**

The topics covered include particle kinematics and dynamics; conservation of energy and linear momentum; rotational kinematics; rigid body dynamics; conservation of angular momentum; simple harmonic motion; the static and dynamics of fluids.

**Co-requisite:** MATH 101

**Textbook:**

"Fundamentals of Physics", by Halliday, Resnick and Walker, **Eighth Edition**, John Wiley & Sons, Inc (2008).

**Teaching Method:**

The course material will be presented in *lectures* (3 hrs. per week). Problem solving techniques will be shown in *recitations* (1 hr. per week). The understanding of concepts learned in the lectures will be strengthened by *laboratory work* (3 hrs. per week). **All classes (lectures, recitation, and labs) will start from the first week. Homework questions will be posted and graded online (in WebCT) and will carry a grade.** Office hours (OH) of the instructors may better be utilized for clarifying the course material and developing problem solving skills on a regular basis. Please see the master list of OH for identifying the instructor who is available at a particular time.

**Attendance:**

Attendance in lectures, recitations and labs is compulsory. It will be enforced and evaluated according to the current university regulations. A **DN** grade shall be given to the student who has 3 absences in labs or 12 unexcused absences in (lectures + recitations) or the combination of both. Student who has valid excuse for his absence must present officially authorized document to his instructor no later than one week following his resumption to the classes. Only those students who have less than 6 absences in the whole semester shall be promoted to upper grade if they reach the borderline between two grades (for example F to D or B to B+ etc.).

Grading Policy	%	points
Class Work	5	50
Home Work (online)	5	50
Lab Work	20	200
Major Exam I	20	200
Major Exam II	20	200
Final Exam	30	300
<b>Total</b>	<b>100</b>	<b>1000</b>

Letter Grades Distribution	
$A^+ \geq 80$	$53 \leq C < 60$
$77 \leq A < 80$	$47 \leq D^+ < 53$
$73 \leq B^+ < 77$	$41 \leq D < 47$
$67 \leq B < 73$	F < 41
$60 \leq C^+ < 67$	

**(a) Class work (with average score 30/50):**

The class score shall be derived from student's performance in quizzes/class test. The quizzes/class test will be of problem solving type.

**(b) Home work (with average score 30/50):**

Homework questions for each chapter will be posted online according to an announced schedule. The correct numerical answer to the question posed should be typed in and submitted online. The schedule for submitting the homework will be announced separately. Failing to submit the homework before the deadline will result in a zero score for that particular chapter.

**(c) Lab work (with average score 140/200):**

The lab score shall be derived from a combination of lab reports/quizzes, and lab final exam.

**(d) Exams:**

All exams will be of multiple choice type. A sheet of important formulae (not definitions) will be provided in all exams. First Major Exam: 05/04/2009, Second Major Exam: 13/05/2009, Final Exam: 14-24/06/2009. **No cell telephones (MOBILE PHONES) are allowed in the examination rooms.**

**Make-up Exam Policy:**

Student who has missed an exam (1st or 2nd) with valid excuse must present officially authorized document to the course coordinator within 3 days after the exam for a make-up. However, if you miss the Final Exam with valid excuse you will get "IC" in the course and you will take the Final Exam the following semester. If you do not have a valid excuse, the score for that exam will be zero. Personal excuses are not welcomed.

**Course homepage:** <http://www.kfupm.edu.sa/phys/101>

*Please see the next pages for Schedule and Exam Dates*

# Physics 101 Lecture Schedule

# Spring 2009 (Term 082)

Week	Date	Topics	Chapter	Sec	Homework
1	28 Feb 2009	Units, Changing units	01	1-3	Visit CE8 account: <a href="#">Homework Submission</a>
	02 March	Length, time, mass ( <a href="#">powers of ten</a> ), <a href="#">Dimensional Analysis</a> *	01	4-7	
	04	1-D motion, <a href="#">Displacement</a> , Velocity ( <a href="#">Average Instantaneous</a> )	02	1-5	
	05	<a href="#">Acceleration</a> , 1-D motion with constant acceleration, Free fall.	02	6-10	
2	07 March	Vectors and scalars.	03	1-4	
	09	<a href="#">Adding</a> & Multiplying Vectors	03	5-8	
	11	2 & 3D motion with constant acceleration.	04	1-3	
<b>Tuesday – 10 Mar 2009- Last day for dropping courses without permanent record</b>					
3	14 March	Projectile motion ( <a href="#">Demo #1</a> )	04	4-6	
	16	Uniform circular motion; Relative velocity	04	7-9	
	18	<i>Review (1-4)</i>	-	-	
4	21 March	Newton's first and second laws, <a href="#">FBD</a>	05	1-4	
	23	Newton's third law	05	5-7	
	25	Applications	05	8.9	
5	28 March	<a href="#">Friction</a> , (Demo #2)	06	1,2	
	30	<a href="#">Circular Motion</a>	06	3,5	
	01 April	<i>Review (1-6)</i>			
<b>Sunday – 05 April 2009 – First Major Exam (Chapters 1 – 6) 6:30 –8:30 PM</b>					
6	04 April	<a href="#">Kinetic Energy and Work</a>	07	1-5	
	06	Work done by <a href="#">Weight</a> , <a href="#">Spring</a> , power.	07	6-9	
	08	Potential energy	08	1-4	
<b>Tuesday – 14 April 2009 - Last day for dropping courses with grade of W</b>					
7	11 April	Conservation of energy	08	5,7,8	
	13	Center of mass. ( <a href="#">Demo # 3</a> )	09	1-3	
	15	Linear momentum and its conservation ( <a href="#">Demo # 4</a> )	09	4-6	
8	18 April	Collisions in 1-D	09	7-9	
	20	Collisions in 2-D ( <a href="#">Inelastic</a> , <a href="#">Elastic</a> )	09	10,11	
	22	Rotational motion	10	1-4	
<b>Midterm Vacation (25 – 29 April 2009)</b>					
9	02 May	<a href="#">Torque</a>	10	5-8	
	04	Work and rotational kinetic energy	10	9,10	
	06	<a href="#">Rolling (Demo # 5)</a>	11	1-4	
10	09 May	Angular momentum & torque	11	5-8	
	11	Conservation of angular momentum ( <a href="#">Demo # 6</a> )	11	8-11	
	13	<i>Review (7-11)</i>			
<b>Wednesday – 13 May 2009 – Second Major Exam (Chapters 7 – 11) 6:30 – 8:30 PM</b>					
11	16 May	Equilibrium, <a href="#">Examples</a>	12	-	
	18	Elasticity	12	-	
	20	Fluids, <a href="#">Measuring Pressure</a> ( <a href="#">Demo # 7</a> )	14	1-4	
12	23 May	Archimedes principle. ( <a href="#">Demo # 7b</a> )	14	5-7	
	25	Fluid dynamics, Bernoulli's equation.	14	1-3	
	27	<i>Review</i>		4-6	
<b>Tuesday-03 June 2009 Last day for withdrawal from all courses with grade of WP/WF</b>					
13	30 May	Oscillations <a href="#">SHM (Demo # 8)</a>	15	7,8	
	01 June	<a href="#">Energy in SHM</a> , <a href="#">Simple Pendulum (Demo # 9)</a>	15	1-3	
	03	<i>Review</i>		4,6	
14	06 June	Newton's law of Gravitation	13	1-3	
	08	Gravitational-potential energy	13	4-6	
	10	Kepler's laws, Satellites	13	7,8	
15	13 June	<i>Review (12-15)</i>			
	15	<i>Review (1-15)</i>			
	16	<i>(Last day of classes)</i>			
<b>(14-24 June 2009) – Final Exam (Chapters 1 – 15)</b>					
Wish you a successful semester. Dr. M. S. Abdelmonem ( <i>Physics 101-Lecture Coordinator</i> )					