

**KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS**  
**DEPARTMENT OF PHYSICS**

**Physics 101 - General Physics I**  
**Fall 2003 (Term 031)**

**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, sixth Edition, John Wiley & Sons, Inc(2001).

**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). **Lab sessions will start during the second week of the semester. Solutions to the homework problems will be posted on the Physics 101 notice board** according to the posted schedule. 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:**

Class work	10%	<b>Grades:</b>	A <sup>+</sup> 80	53 ? C < 60
Lab work	20%		77 ? A < 80	47 ? D <sup>+</sup> < 53
Major Exam I	20%		73 ? B <sup>+</sup> < 77	41 ? D < 47
Major Exam II	20%		67 ? B < 73	F < 41
Final Exam	30%		60 ? C <sup>+</sup> < 67	
<hr/> <i>Total</i>	<hr/> <i>100%</i>			

(a) **Class work (with average score 6.0/10):**

The class score shall be derived from student's performance in quizzes/class test. The quizzes/class test will be of problem solving type. Home works will not be collected. However, the quizzes may contain problems similar to Home work problems.

(b) **Lab work (with average score 14.0/20):**

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

(c) **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: 19/10/2003, Second Major Exam: 8/12/2003, Final Exam ~10/1/2004. **No cell telephones are allowed in the examination rooms.**

**Make-up Exam Policy:**

**Student who has missed an exam with valid excuse must present officially authorized document to the course coordinator within 3 days after the exam for a make-up.** If not, the score for that exam will be zero. Personal excuses are not welcomed.

*Please see the next pages for exam dates and homework assignment.*

## Physics 101 Lecture Schedule Fall 2003 (Term 031)

Week	Date	Topics	Chapter	Sections	Homework
1	13 Sept.	Units, Changing units	01	1-3	12, 23, 25
	15	Length, time, mass	01	4-6	
	17	1-D motion, Displacement, Velocity	02	1-4	8,19,31,42,56
2	20 Sept.	1-D motion with constant acceleration, Free falls.	02	5-8	17,26,28,37
	22	Vectors and scalars.	03	1-4	
	24	Adding & Multiplying Vectors	03	5-7	
	25	Review (ch 1-3)			
<b>Wednesday – 24 Sept. 2003 - Last day for dropping courses without permanent record</b>					
3	27 Sept.	2 & 3D motion with constant acceleration.	04	1-3	4,9,15,37,57,58
	29	Projectile motion	04	4-6	
	01 Oct.	Uniform circular motion; Relative velocity.	04	7-9	
4	04 Oct	Newton's first and second laws	05	1-5	8,38,49,50
	06	Newton's third law, Applications.	05	6-8	
	08	Friction	06	1-2	
5	11 Oct	Circular Motion	06	4	7,19,22,26,31
	13	Review (ch 1-6)			
	15	Kinetic energy & Work	07	1-3	
<b>Sunday – 19 Oct 2003 – First Major Exam (Chapters 1 – 6) 6:00 – 8:00 PM</b>					
6	18 Oct	Work done by Weight, Spring, power	07	4-7	6,16,21,25,32
	20	Potential energy	08	1-4	
	22	Conservation of energy.	08	6,7	
7	25 Oct	Center of mass.	09	1-3	8,19,24,37
	27	Linear momentum and its conservation	09	4-6	
	29	Collisions in 1-D	10	1-3	
<b>Tuesday – 28 Oct 2003 - Last day for dropping courses with grade of W</b>					
8	01 Nov	Collisions in 2-D	10	4-6	4,29,37,47,55,66
	03	Review (ch 7 - 10)			
	05	Rotational motion	11	1-4	
9	08 Nov	Torque.	11	5-8	1,12,17,25,35,50
	10	Work and rotational kinetic energy	11	9,10	
	12	Rolling	12	1-4	
<b>Eid Al-Fitr Vacation (13 Nov – 29 Nov 2003)</b>					
10	01 Dec	Angular momentum & torque	12	5-8	
	03	Conservation of angular momentum	12	9,10	
11	06 Dec	Review (ch 11 -12)	-	-	3,7,16,28,37
	08	Review (ch 7-12)	-	-	
	10	Equilibrium	13	1-3	
<b>Monday – 08 Dec 2003 – Second Major Exam (Chapters 7 – 12) 6:00 – 8:00 PM</b>					
12	13 Dec	Elasticity	13	4-6	5,8,21,33,45,61
	15	Newton's law of Gravitation	14	1-3	
	17	Gravitational potential energy.	14	4-6	
13	20 Dec	Kepler's laws, Satellites	14	7,8	6,19,32,41,54
	22	Fluids	15	1-4	
	24	Archimedes principle	15	5-8	
14	27 Dec	Fluid dynamics, Bernoulli's equation.	15	9,10	12,18,54
	29	Oscillations	16	1-3	
	31	Energy in SHM, Simple pendulum	16	4,6*	
<b>Wednesday – 31 Dec 2003 - Last day for withdrawal from all courses with grade of "WP/WF"</b>					
15	03 Jan	Review (13-16)	-	-	
	05	Review (1-10)	-	-	
	07	Review (12-16) (Last day of classes)	-	-	
<b>Saturday – 10 Jan. 2004 – Final Exam (Chapters 1 – 16)</b>					

Wish you a successful semester.

Dr. M. S. Abdelmonem (Physics 101-Lecture Coordinator)