

**Physics 101 - General Physics I
Fall 2001 (Term 011)****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 will be available at that 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 5 or less 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:

	<u>%age</u>	<u>1000-Point System*</u>	<u>Grades</u>	
Class work	10%	100	$A^+ \geq 80$	$53 \leq C < 60$
Lab work	20%	200	$77 \leq A < 80$	$47 \leq D^+ < 53$
Major Exam I	20%	200	$73 \leq B^+ < 77$	$41 \leq D < 47$
Major Exam II	20%	200	$67 \leq B < 73$	$F < 41$
<u>Final Exam</u>	<u>30%</u>	<u>300</u>	$60 \leq C^+ < 67$	
<i>Total</i>	<i>100%</i>	<i>1000</i>		

*Based on the 1000-Point system for the whole course, the class work grade will be assigned 100 points, Lab work 200 points, etc

(a) Class work:

The class score shall be derived from student's performance in quizzes/class tests. The quizzes/class tests 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:

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 : Saturday, 06 October, 2001 (chapters 1 – 6)

Second Major Exam : Wednesday, 21 November, 2001 (chapters 7 – 13)

Make-up Exam Policy:

Student who has missed an exam with a 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 back of this page for exam dates and homework assignments.

Physics 101 Lecture Schedule Fall 2001 (Term 011)

Week	Date	Topics	Chapter	Sections	Homework
1	03 Sep. 05	Units, Changing units	01	1-3	5,7,11,20,23
		Length, time, mass	01	4-6	
2	08 Sep. 10 12	1-D motion, Displacement, Velocity	02	1-4	7,13,20,28,33,64
		1-D motion with constant acceleration, Free falls	02	5-8	
		Vectors and scalars.	03	1-4	
Saturday – 15 Sep. 2001 - Last day for dropping courses without permanent record					
3	15 Sep. 17 19	Adding & Multiplying Vectors	03	5-7	7,10,15,28,33,44,58
		Review (ch 1-3)			
		2 & 3D motion with constant acceleration.	04	1-3	
4	22 Sep. 24 26	Projectile motion	04	4-6	25,36,38,44,52
		Uniform circular motion; Relative velocity.	04	7-9	
		Newton's first and second laws.	05	1-5	
5	29 Sep. 01 Oct. 03	Newton's third law, Applications	05	6-8	16,19,24,41,47
		Friction	06	1-2	
		Circular Motion	06	4	
Saturday – 06 Oct. 2001 – First Major Exam (Chapters 1 – 6) 7:00 – 9:00 PM					
6	06 Oct. 08 10	Review (ch 1 – 6)	-	-	4,12,16,24,32,38
		Kinetic energy & Work	07	1-3	
		Work done by Weight, Spring	07	4-6	
7	13 Oct. 15 17	Power.	07	7	7,21,31,54,59
		Potential energy.	08	1-4	
		Conservation of energy.	08	5-7	
Wednesday – 17 Oct. 2001 - Last day for dropping courses with grade of "W"					
8	20 Oct. 22 24	Center of mass	09	1-3	6,14,24,34
		Linear momentum and its conservation	09	4-6	
		Review (ch 7-9)	-	-	
9	27 Oct. 29 31	Collisions in 1-D	10	1-3	14,17,24,34,40,54
		Collisions in 2-D	10	4-6	
		Rotational motion.	11	1-4	
10	03 Nov. 05 07	Torque	11	5-8	5,22,32,50,54
		Work and rotational kinetic energy	11	9,10	
		Rolling	12	1-3	
Wednesday – 07 Nov. 2001 - Last day for withdrawal from all courses with grade of "W"					
11	10 Nov. 12 14	Angular momentum & torque	12	4-6	16,23,28,31,39
		Conservation of angular momentum	12	7-10	
		Equilibrium	13	1-3	
12	17 Nov. 19 21	Elasticity	13	4-6	
		Review (ch 10-13)	-	-	
		Review (ch 7-13)	-	-	
Wednesday – 21 Nov. 2001 – Second Major Exam (Chapters 7 – 13) 7:00 – 9:00 PM					
13	24 Nov. 26 28	Newton's law of Gravitation	14	1-3	6,8,16,22,29,42
		Gravitational potential energy.	14	4-6	
		Kepler's laws, Satellites	14	7,8	
14	01 Dec. 03 05 08	Fluids	15	1-4	6,22,27,42,43,47
		Archimedes principle	15	5-8	
		Fluid dynamics, Bernoulli's equation.	15	9,10	
		Oscillations	16	1-3	
Eid-al-Fitr vacation (10 Dec. – 28 Dec.)					
15	29 Dec. 31 02 Jan.	Energy in SHM	16	4-7	
		Review (ch 1 – 16)	-	-	
		Review (ch 1 – 16)	-	-	
5 – 15 January 2001 – Final Exam (Chapters 1 – 16)					

Wish you a successful semester.

Dr. G. D. Khattak
Physics 101-Lecture Coordinator