

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

**Physics 102 - General Physics II – Fall Session 2004 - 2005 (Term 041)
Course Schedule, Coordination and Grading Policy**

- 1) **Course Description** (Undergraduate bulletin 1997-98)
A continuation of Physics 101. Topics covered include: Wave motion; Sound; Temperature; First and second laws of thermodynamics; Kinetic theory of gasses; Coulomb's law; Electric field; Gauss' law; Electric potential; Capacitors and dielectrics; Circuits; The magnetic field; Faraday's law; Ampere's law.
- 2) **Pre-requisite (Math 101) or Co-requisite (Math 102)**
- 3) **Textbook:** "Fundamentals of Physics", by Halliday, Resnick and Walker, Sixth Edition, John Wiley & Sons, Inc. (2001).
- 4) **Method:** The course material will be presented in: **lectures** (3 hrs/week), **lab work** (3 hrs/week) and problem-solving techniques will be shown in **recitations** (1 hr/week). Attendance in lectures, recitations and Lab's is **compulsory**.
- 5) **Grading Policy**

(A) **Course grade:** The course grade will be evaluated as follows:

	<u>%age</u>	<u>*1000-Point System</u>	<u>Grades</u>	
Class-work	10%	100	A+ ≥ 800	530 ≤ C < 600
Laboratory	20%	200	770 ≤ A < 800	470 ≤ D+ < 530
First major exam	20%	200	730 ≤ B+ < 770	410 ≤ D < 470
Second major exam	20%	200	670 ≤ B < 730	F < 410
Final exam	30%	300	600 ≤ C+ < 670	
Total	100%	1000		

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

- (B) **Class-work (with average score 60/100) shall comprise of:**
 - A minimum of 5 quizzes (**no quizzes in the last week of the classes**).
 - Homework problems are assigned from the textbook (exercises & problems) or other means and may be collected by some instructors. Solutions to the homework problems will be posted on the Physics 102 notice board after completion of the corresponding chapter.
- (C) **Laboratory work (with average score 140/200)**
The lab work score will be based on the lab final and any/or a combination of the lab reports, lab quizzes, lab exams (written and/or practical), ... etc. as chosen by the lab instructor.
 - ◆ **To the student who is repeating the course:** You do not have to repeat the lab **provided you had a score of ≥ 12 out of 20. Please make a request to carry your lab score by filling a form with the secretary within two weeks from the start of classes, after which no request will be entertained.**
- (D) **Major and final examinations**
The major exams and the final exam will be of **multiple-choice type**. The exams are scheduled as follows:

First major exam	Sunday, 17 Oct. 2004	(Chapters 17 - 21)
Second Major Exam	Saturday, 11 Dec. 2004	(Chapters 22 - 27)
Final Exam	Tuesday, 4 Jan. 2005	(Chapters 17 - 31)

- 6) **Policy on make-up exams**
 - a) If you miss a major or final exam, you should go and **see the Coordinator** with your official excuse **within three days** after the exam.
 - b) **Only official excuses are accepted. Personal excuses are not allowed.**
 - c) If you **attend the exam**, you **cannot** have a make-up exam.
 - d) If you miss the exam without a valid excuse, you get a **ZERO** score for that exam.
 - e) The make-up will be given once, and **no make-up for the make-up or the final exam.**
- 7) **Attendance:** Attendance will be **enforced and evaluated** according to current university regulations. A **DN** grade will be given to any student exceeding 12 absences (LLF + Rec.) without official excuses and/or three absences in laboratory experiments. **Any student in possession of an excuse for officially authorized absence must present this excuse to his instructor no later than one week following his resumption of class attendance.** Only those students who have 5 absences, or less, in the whole semester shall be promoted to higher grade if they reach the borderline (≤ 10 points out of 1000) between two letter grades (for example F (400) to D (410) or B (720) to B+ (730) etc.).

➡ ***"All of physics is either impossible or trivial. It is impossible until you understand it, and then it becomes trivial."* Ernest Rutherford**

➡ ***"Please work hard for your mark, Don't beg for it"***

Please visit our web: <http://faculty.kfupm.edu.sa/PHYS/imnasser/physics%20101.htm>

Physics 102 Lecture Schedule Fall 2004 (Term 041)

Week	Date	Topics	Chapter	Sections	Homework
1	11 Sept.	Waves and Particles, Types of Waves. (Demo # 1)	17	1-4	6,14,24,28,33
	13	Speed of Traveling Waves, Power.	17	5-7	
	15	Superposition of Waves, Interference. (Demo # 2)	17	8,9	
2	18 Sept.	Standing Waves, Resonance. (Demo # 3)	17	11,12	6,10,13,26,38,48
	20	Sound Waves, Interference. (Demo # 4)	18	1-4	
	22	Intensity and Resonance.	18	5,6	
Saturday – 25 Sept. 2004 - Last day for dropping courses without permanent record					
3	25 Sept.	Doppler Effect (Demo # 5).	18	8	5,12,36,45,52,57
	27	Zeroth Law, Thermal Expansion.	19	1,2,4,5	
	29	Temperature and Heat.	19	6,7	
	30 Sept (Wed)	First Law of Thermodynamics.	19	8,9	
4	02 Oct.	Applications of the First Law, Heat Conduction.	19	10,11	9,22,26,48,61
	04	Ideal Gases.	20	1-3	
	06	RMS Speed, Translational Kinetic Energy.	20	4,5	
5	09 Oct	Specific Heats of an Ideal Gas, Adiabatic Expansion.	20	8,11	5,9,15,23,40
	11	Entropy and the Second Law of Thermodynamics.	21	1-3	
	13	Heat Engines and Refrigerators.	21	4,5	
Sunday – 17 Oct. 2004 – First Major Exam (Chapters 17 – 21) 6:00 – 8:00 PM					
6	16 Oct.	Review			5,6,12,15 6,11,12,24,30,42
	18	Electric Charge, Coulomb's Law.	22	1-6	
	20	Electric Fields. (Demo # 6)	23	1-4,6*	
7	23 Oct.	Point Charges in Electric Fields.	23	8,9**	(** overview only) 3,6,15,20,26,43
	25	Electric Flux, Gauss' Law.	24	1-5	
	27	Charged Isolated Conductor, Cylindrical Symmetry.	24	6,7	
Tuesday – 26 Oct. 2004 - Last day for dropping courses with grade of W					
8	30 Oct.	Planar and Spherical Symmetry.	24	8,9	2,6,20,31,39,52
	01 Nov.	Review			
	03	Electric Potential and Potential Energy. (Demo # 7)	25	1-4	
9	20 Nov	Potential Due to a Point Charge.	25	5,6,9	8,16,17,24,34,40
	22	Electric Potential Energy of a System.	25	10,11	
	24	Capacitance. (DEMO #8)	26	1-3	
10	27 Nov.	Capacitors in Parallel and Series.	26	4	
	29	Energy Stored in a Capacitor, Dielectrics.	26	5,6	
	01 Dec.	Review			
11	04 Dec	Current and Current Density.	27	1-3	1,16,22, 38,43
	06	Resistance, Ohm's Law, Electric Energy and Power.	27	4.5.7	
	08	EMF, Resistors in Series and Parallel, Single Loop.	28	1-5	
Saturday – 11 Dec. 2004 – Second Major Exam (Chapters 22 – 27) 5:30 – 7:30 PM					
12	11 Dec	Review			
	13	Multiple Loop. (Demo # 9)	28	6	
	15	RC Circuits.	28	8	
13	18 Dec	Magnetic Field and Force. (Demos # 10 & 11)	29	1-3	1,3,17,35,39,40
	20	Charged Particle in a Magnetic Field.	29	5,7	
	22	Torque on a Current Loop.	29	8	
14	25 Dec	Biot-Savart Law.	30	1	4,8,22,27,30,41
	27	Ampere's Law.	30	2,3	
	29	Solenoid.	30	4	
Wednesday – 29 Dec 2004 - Last day for withdrawal from all courses with grade of "WP/WF"					
15	01 Jan	Faraday's Law, Lenz's Law (Demos # 12 & 13)	31	1-4	3,7,12,15,27
	03	Induction and Energy Transfers.	31	5	
Tuesday – 04 Jan. 2005 – Final Exam (Chapters 17– 31)					

*23p,24p, and 25p only

Prof. Dr. Ibraheem Nasser
Physics 102-Lectures Coordinator