

KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS
DEPARTMENT OF PHYSICS

Physics 102 - General Physics II – Fall 2009 - 2010 (Term 091)

Course Schedule, Coordination and Grading Policy

<http://www.kfupm.edu.sa/phys/102/>

- 1) **Course Description** (Undergraduate bulletin 2001-2003)
 A continuation of PHYS 101. Topics covered include: wave motion and sound; temperature, first and second law of thermodynamics; kinetic theory of gases; Coulomb's law; the electric field; Gauss' law; electric potential; capacitors and dielectrics; D.C. circuits; the magnetic field; Ampere's and Faraday's laws.
- 2) **Prerequisite:** PHYS 101, **Co-requisite:** MATH 102
- 3) **Textbook:** "Fundamentals of Physics", by Halliday, Resnick and Walker, **Eighth Edition**, John Wiley & Sons, Inc (2008).
- 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**. **Lab sessions will start during the second week of the semester.**

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	5%	50		
Home Work	5%	50	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 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.
- (C) **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.
- (D) **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 > or = 120 out of 200. 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.**
- (E) **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 – 15 Nov.	2009 @ 6:00 PM	(Chapters 16 - 20)
Second Major Exam	Saturday – 2 Jan.	2010 @ 6:00 PM	(Chapters 21 - 26)
Final Exam	??		(Chapters 16 - 30)

- 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.)
- 8) **Note:** It is your responsibility to visit the registrar web page for withdrawal dates, final exam date and time.

Physics 102 Lecture Schedule Fall 2009 (Term 091)

Week	Date	Topics	Chapter	Sections
1	03 Oct 09	Waves and Particles, Types of Waves. (Demo # 1)	16	1-4
	05	Speed of Traveling Waves, Power.	16	5-7
	07	Superposition of Waves, Interference. (Demo # 2)	16	9,10
2	10 Oct	Standing Waves, Resonance. (Demo # 3)	16	12,13
	12	Sound Waves, Interference. (Demo # 4)	17	1-5
	14	Intensity and Resonance.	17	6,7
Wednesday – 14 Oct 2009- Last day for dropping courses without permanent record				
3	17 Oct	Doppler Effect (Demo # 5).	17	9
	19	Zeroth Law, Thermal Expansion.	18	1-6
	21	Temperature and Heat.	18	7,8
4	24 Oct	First Law of Thermodynamics.	18	9,10
	26	Applications of the First Law, Heat Conduction.	18	11,12
	28	Ideal Gases.	19	1-3
5	31 Oct	RMS Speed, Translational Kinetic Energy.	19	4,5
	02 Nov	Specific Heats of an Ideal Gas, Adiabatic Expansion.	19	8,11
	04	Entropy and the Second Law of Thermodynamics.	20	1-4
6	07 Nov	Heat Engines and Refrigerators.	20	5,6
	09	Electric Charge, Coulomb's Law.	21	1-6
	11	Electric Fields. (Demo # 6)	22	1-4,6
Sunday – 15 Nov. 2009 – First Major Exam (Chapters 16 – 20) 6:00 – 8:00 PM				
7	14 Nov	Review		
	16	Point Charges in Electric Fields.	22	8,9
	18	Electric Flux, Gauss' Law.	23	1-5
8	05 Dec	Charged Isolated Conductor, Cylindrical Symmetry.	23	6,7
	07	Planar and Spherical Symmetry.	23	8,9
	09	Electric Potential and Potential Energy. (Demo # 7)	24	1-4
9	12 Dec	Potential Due to a Point Charge.	24	5,6,9
	14	Electric Potential Energy of a System.	24	10,11
	16	Capacitance. (DEMO #8)	25	1-3
10	19 Dec	Capacitors in Parallel and Series.	25	4
	21	Energy Stored in a Capacitor, Dielectrics.	25	5,6
	23ec.	Review		
11	26 Dec	Current and Current Density.	26	1-3
	28	Resistance, Ohm's Law, Electric Energy and Power.	26	4,5,7
	30	EMF, Resistors in Series and Parallel, Single Loop.	27	1-5
Saturday – 2 Jan. 2010 – Second Major Exam (Chapters 21 – 26) 6:00 – 8:00 PM				
12	02 Jan	Review		
	04	Multiple Loop. (Demo # 9)	27	6
	06	RC Circuits.	27	8
13	09 Jan	Magnetic Field and Force. (Demos # 10 & 11)	28	1-3
	11	Charged Particle in a Magnetic Field.	28	5,7
	13	Torque on a Current Loop.	28	8
14	16 Jan	Biot-Savart Law.	29	1
	18	Ampere's Law.	29	2,3
	20	Solenoid.	29	4
15	23 Jan	Faraday's Law, Lenz's Law (Demos # 12 & 13)	30	1-4
	25	Induction and Energy Transfers.	30	5
	27	Review		
?? – ?? Jan. 2010 – Final Exam (Chapters 16– 30)				