

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

Physics 102 - General Physics II – Fall 2008 - 2009 (Term 081)

Course Schedule, Coordination and Grading Policy

Course Website: <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, Extended 7th Ed. John Wiley & Sons (2005).
- 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 > 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.**

(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	Saturday, 22nd November	2008	(Chapters 16 - 20)
Second Major Exam	Saturday, 10th January	2008	(Chapters 21 - 26)
Final Exam	1 – 11 February	2009	(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

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

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

Physics 102 Lecture Schedule Fall 2008 (Term 081)

Week	Date	Topics	Chapt	Sections	Homework
1	11 Oct.	Types and terminology of Waves. (Demo # 1)	16	1-4	6,19,25,31,49
		Speed of Traveling Waves, Energy and Power.	16	5-7	
		Superposition and Interference of Waves, (Demo # 2)	16	9, 10	
2	18 20 22	Standing Waves, Resonance. (Demo # 3)	16	12, 13	6,10,13,25,38,42
		Sound Waves, Interference. (Demo # 4)	17	1-5	
		Intensity, Resonance.	17	6, 7	
Tuesday 21st October 2008 - Last day for dropping courses without permanent record					
3	25 27 29	Doppler Effect (Demo # 5) .	17	9	5,12,32,45,51,57
		Temperature, Zeroth Law, Temp. Scales, Expansion	18	1-6	
		Temperature and Heat capacity.	18	7, 8	
4	01 Nov. 03 05	Work, Heat and First Law of Thermodynamics.	18	9, 10	10, 22,25,45,56
		Applications of the First Law, Heat Conduction.	18	11,12	
		Ideal Gases, Isothermal Expansion.	19	1-3	
5	08 10 12	RMS Speed, Translational Kinetic Energy.	19	4, 5	5,11,15,23,27,40
		Specific Heat, Adiabatic Expansion.	19	8, 11	
		Entropy and the Second Law of Thermodynamics.	20	1-4	
6	15 17 19	Heat Engines and Refrigerators.	20	5,6	5,6,13,26
		<i>Review</i>	-	-	
		Electric Charge, Coulomb's Law	21	1-6	
Saturday 22nd November 2008 – First Major Exam (Chapters 16 – 20) 6:30 to 8:30 PM					
7	22 24 26	Electric Fields. (Demo # 6)	22	1-5	2,11,12,39,43,50
		Point Charges in Electric Fields.	22	8,9	
		Electric Flux, Gauss' Law.	23	1-5	
8	29 01 Dec.	Charged Isolated Conductor, Cylindrical Symmetry.	23	6-8	3,6,15,22,26,44
		Spherical Symmetry	23	9	
Eid Al-Adha Holidays 03- 13 December 2008					
9	15 17 18	Electric Potential and Potential Energy. (Demo # 7)	24	1-4	2,6, 20,31,39,52
		Potential Due to a Point Charge.	24	5-7, 10	
		Electric Potential Energy of a System (Normal Wed class)	24	11,12	
Tuesday 18th November 2008 – Last day for dropping courses with a grade of "W"					
10	20 22 24	Capacitance. (DEMO #8)	25	1-3	8,16,17,24,34,40
		Capacitors in Parallel and Series	25	4	
		Energy Stored in a Capacitor, Dielectrics.	25	5,6	
11	27 29 31	Moving charges, Current and Current Density.	26	1-3	1,15,22, 38,43
		Resistance, Ohm's Law, Electric Energy and Power.	26	4, 5, 7	
		<i>Review</i>	-	-	
Tuesday 30th December 2008 - Last day for dropping all courses with grade of "W"					
12	03 Jan. 05 07	Pumping charges work energy, emf, circuits and loops.	27	1-6	4,10,21,27,31,33,47
		Multiple Loop. (Demo # 9)	27	7	
		RC Circuits	27	9	
Saturday 10th January 2009 – Second Major Exam (Chapters 21 – 26) 6:30 to 8:30 PM					
13	10 12 14	Magnetic Field and Force. (Demos # 10 &11)	28	1-4	1,3,17,35,39,40,61
		Charged Particle in a Magnetic Field.	28	6, 8	
		Torque on a Current Loop.	28	9, 10	
14	17 19 21	Biot-Savart Law.	29	1-2	4,8,21,27,30,41,51
		Ampere's Law.	29	3, 4	
		Solenoid, Magnetic Dipole.	29	5, 6	
Tuesday 20th January 2009- Last day for withdrawal from all courses with a grade of "WP/WF"					
15	24 26 28 Sat.31	Faraday's Law, Lenz's Law. (Demos # 12 & 13)	30	1-4	2,7,14,15,27
		Induction and Energy Transfers.	30	5	
		<i>Review (Chapters 16-23)</i>	-	-	
		<i>Review (Chapter 24-30) (Last day of classes)</i>	-	-	
1-11 February 2009 - Final Exam			(Chapters 16– 30)		

Dr. A. Mekki

Physics 102-Lectures Coordinator.