

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

**Physics 102 - General Physics II – Spring 2007 - 2008 (Term 072)**

**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, Extended 7<sup>th</sup> 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>	
<b>Class-work</b>	<b>10%</b>	100	A+ ≥ 800	530 ≤ C < 600
<b>Laboratory</b>	<b>20%</b>	200	770 ≤ A < 800	470 ≤ D+ < 530
<b>First major exam</b>	<b>20%</b>	200	730 ≤ B+ < 770	410 ≤ D < 470
<b>Second major exam</b>	<b>20%</b>	200	670 ≤ B < 730	F < 410
<b>Final exam</b>	<b>30%</b>	300	600 ≤ C+ < 670	
<b>Total</b>	<b>100%</b>	<b>1000</b>		

\*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.
- 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:

<b>First major exam</b>	<b>Saturday, March 29, 2008</b>	<b>(Chapters 16 - 20)</b>
<b>Second Major Exam</b>	<b>Sunday, May 11, 2008</b>	<b>(Chapters 21 - 26)</b>
<b>Final Exam</b>	<b>June 7-18, 2008</b>	<b>(Chapters 16 - 30)</b>

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 Spring 2007-2008 (Term 072)

Week	Date	Topics	Chapt	Sections	Homework
1	16 Feb.	<b>Types and terminology of Waves</b>	16	1-4	6,14,24,30,31,43,45
	18	Speed of Traveling Waves, Energy and Power	16	5-7	
	20	Superposition and Interference of Waves	16	9, 10	
2	23 Feb.	Standing Waves, Resonance	16	12, 13	6,10,15,26,38,52
	25	<b>Sound Waves, Interference</b>	17	1-5	
	27	Intensity, Resonance	17	6, 7	
<b>Tuesday – 26 Feb. 2008 - Last day for dropping course(s) without permanent record</b>					
3	01 Mar.	Doppler Effect	17	9	7,14,30,45,53,57
	03	<b>Temperature, Zeroth Law, Temp. Scales, Expansion</b>	18	1-6	
	05	Temperature and Heat capacity	18	7, 8	
4	08 Mar.	Work , Heat and First Law of Thermodynamics	18	9, 10	7,12,22,24,44,56
	10	Applications of the First Law, Heat Conduction	18	11,12	
	12	<b>Ideal Gases, Isothermal Expansion</b>	19	1-3	
5	15 Mar.	RMS Speed, Translational Kinetic Energy	19	4, 5	5,9,13,15,23,27,40
	17	Specific Heat, Adiabatic Expansion	19	8, 11	
	19	<b>Entropy and the Second Law of Thermodynamics</b>	20	1-4	
6	22 Mar.	Heat Engines and Refrigerators	20	5,6	5,6,12,15
	24	<i>Review ( Chapters 16-20)</i>	-	-	
	26	<b>Electric Charge, Coulomb's Law</b>	21	1-6	
<b>First Major Exam – Saturday, 29 March, 2008 (Chapters 16-20)</b>					
7	29 Mar.	<b>Electric Fields</b>	22	1-5	6,11,12,24,30,42
	31	Point Charges in External Electric Fields	22	8,9	
	02 Apr.	<i>Review (Chapters 21,22)</i>	-	-	
<b>Tuesday – 01 April 2008 - Last day for dropping course(s) with grade of W</b>					
8	05 Apr.	<b>Electric Flux, Gauss' Law</b>	23	1-5	3,6,19,22,26,44
	07	Charged Isolated Conductor, Cylindrical Symmetry	23	6-8	
	09	Spherical Symmetry	23	9	
<b>12-16 April 2008 – Mid Term Vacation</b>					
9	19 Apr.	<b>Electric Potential and Potential Energy</b>	24	1-4	2,4, 31,37,52
	21	Potential Due to a Point Charge	24	5-7, 10	
	23	Electric Potential Energy of a System	24	11,12	
10	26 Apr.	<b>Capacitance</b>	25	1-3	8,17,23,24,34,43
	28	Capacitors in Parallel and Series	25	4	
	30	Energy Stored in a Capacitor, Dielectrics	25	5,6	
<b>Tuesday – 29 April 2008 - Last day for withdrawal from all courses with grade of W</b>					
11	03 May.	<b>Moving Charges, Current and Current Density</b>	26	1-3	1,16,22,38,43
	05	Resistance, Ohm's Law, Electric Energy & Power	26	3,5,7	
	07	<i>Review (Chapters 21-26)</i>	-	-	
12	10 May.	<b>Pumping charges work energy, emf, circuits and loops</b>	27	1-6	6,10,21,27,31,33,47
	12	Multiple Loop	27	7	
	14	RC Circuits	27	9	
<b>Second Major Exam – Sunday, 11 May, 2008 (Chapters 21-26)</b>					
13	17 May.	<b>Magnetic Field and Force</b>	28	1-4	1,3,17,35,39,40,61
	19	Charged Particle in a Magnetic Field	28	6, 8	
	21	Torque on a Current Loop	28	9, 10	
14	24 May	<b>Biot-Savart Law</b>	29	1-2	4,8,21,27,30,41,51
	26	Ampere's Law	29	3, 4	
	28	Solenoid, Magnetic Dipole	29	5, 6	
<b>Tuesday – 27 May 2008 - Last day for withdrawal from all courses with grade of WP/WF</b>					
15	31 May	<b>Faraday's Law, Lenz's Law</b>	30	1-4	3,7,12,15,27
	02 June	Induction and Energy Transfers	30	5	
	04	<i>Review (Chapters 16-30) (Last day of classes).</i>	-	-	
<b>Final Exam 7-18 June 2008 ( Chapters 16-30)</b>					