

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

Physics 102 - General Physics II – spring 2010 (Term 092)

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>100-Point System</u>	<u>Grades</u>	
Class-work	5%	5		
Home Work	5%	5	A+ ≥ 80	53 ≤ C < 60
Laboratory	20%	20	70 ≤ A < 80	47 ≤ D+ < 53
First major exam	20%	20	73 ≤ B+ < 77	41 ≤ D < 47
Second major exam	20%	20	67 ≤ B < 73	F < 41
Final exam	30%	30	60 ≤ C+ < 67	
Total	100%	100		

(B) **Class work (with average score 3/5):** 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 **NO** average score):** 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 14/20)**
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 = 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.**

(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 – 28 March	2010	@ 7:00 – 9:00 PM	(Chapters 16 - 19)
Second Major Exam	Wednesday – 5 May	2010	@ 7:00 – 9:00 PM	(Chapters 20 - 25)
Final Exam	Monday – 14 June	2010	@ 7:30 – 10:30 AM	(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 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 unexcused** or **5 excused and unexcused** absences in the labs OR **12 unexcused** or **20 excused and unexcused** absences in lecture + recitations. **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 less than 6 absences in the whole semester shall be promoted to the next higher grade if they reach the borderline between two grades (need ≤ 1 mark to be eligible for next higher grade - for example F to D or B to B+ 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 2010 (Term 092)

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

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Physics 102-Lectures Coordinator.