

KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS
DEPARTMENT OF PHYSICS

Physics 201 - General Physics III – Spring 2011 - 2012 (Term 112)
Course Schedule and Grading Policy

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Course Description (Undergraduate bulletin 2001-2003).

A continuation of Phys 101 and 102, topics covered include inductance; magnetic properties of matter; electromagnetic oscillations and waves; geometrical and physical optics; relativity, introduction to quantum physics; atomic and molecular physics, nuclear physics, particle physics and cosmology.

Prerequisite: PHYS 102, Co-requisite: MATH 102 Calculus II.

Textbook: "Fundamentals of Physics", by Halliday, Resnick and Walker, **Eighth Edition**, John Wiley & Sons, Inc (2008).

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.**

Course grade: The course grade will be evaluated as follows:

	<u>%age</u>		
Class work	10%	$A+ \geq 83$	$53 \leq C < 59$
Laboratory	20%	$77 \leq A < 83$	$47 \leq D+ < 53$
First major exam	20%	$71 \leq B+ < 77$	$41 \leq D < 47$
Second major exam	20%	$65 \leq B < 71$	$F < 41$
Final exam	30%	$59 \leq C+ < 65$	

Total	100%
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Exams Schedule

All exams will be of problem solving type. The exams are scheduled as follows:

Exam 1	Saturday 10 March 2012	(Chapters 30-34)
Exam 2	Saturday 21 April 2012	(Chapters 35-39)
Final Exam	TBA	(Comprehensive)

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.

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

Web page

The course web page will provide key information during the semester. It will give the homework assignment, their due date and solution. The exams, homework, quizzes and lab grades will be published on the web site on regular basis. Any scheduling information that will change during the semester or important announcement will be posted on the web site and sent to the student by e-mail using KFUPM portal. Students are urged to check their e-mails and web site for news and updates.

Physics 201 Lecture Schedule - Spring 2011 - 2012 (Term 112)

Week	Date	Topics	Chap.	Sections	H.W.
1	28 Jan.	Faradays Law of Induction	30	1-4	To be assigned in class
	30	Inductance	30	5-8	
	01 Feb.	RL Circuits	30	9-11	
2	04	Mutual Inductance	30	12	
	06	LC Oscillations	31	1-4	
	08	RLC Circuits	31	5-8	
3	11	Series RLC Circuits	31	9-11	
	13	Gauss' Law for magnetic field	32	1-4	
	15	Maxwell's equations	32	5, 7	
4	18	Magnetic Materials	32	8-11	
	20	EM Waves (Qualitative and Quantitative Analysis)	33	1-4	
	22	Energy Transport	33	5-8	
5	25	Total Internal Refraction	33	9-10	
	27	Plane and spherical Mirrors	34	1-5	
	29	Spherical Refracting Surfaces and thin lenses	34	6-7	
6	03 March	Light as a wave and diffraction	35	30-33	
	05	Young's Interference experiment	35	1-3	
	07	Review	30-34	4-5	
First Major Exam - Saturday 10 March 2012					
7	10	Intensity in Double Slit Interference	35	6-8	
	12	Diffraction & Wave Theory of Light	36	1-5	
	14	Diffraction by Double Slit	36	6-7	
8	17	Diffraction Gratings	36	8-10	
	19	The postulates, Measuring and event	37	1-4	
	21	Relativity of Time and Length	37	5-6	
9	31	Lorentz Transformation	37	7-9	
	02 April	Doppler Effect for Light	37	10-12	
	04	Photon, The Quantum of Light	38	1-3	
10	07	Photons Have Momentum	38	4-6	
	09	Schrodinger's Equation	38	7-9	
	11	Energy of Trapped Electron	39	1-4	
11	14	Two and Three Dimensional Trap	39	5-7	
	16	The Hydrogen Atom	39	8-9	
	18	Properties of Atoms	40	34-38	
12	21	Pauli Exclusion Principle	40	1-4	
	23	Lasers	40	7-9	
	25	Review	35-39	11-12	
Second Major Exam - Saturday 21 April 2012					
13	28	Electronic Properties	41	1-4	
	30	Metals	41	5	
	02 May	Semiconductors	41	6-7	
14	05	Some Nuclear Properties	42	1-3	
	07	Radioactive Decay	42	4-5	
	09	β Decay	42	6-7	
15	12	Nuclear Models	42	9	
	14	Energy from the Nucleus	43	1-6	
	16	General Review			