

PHS202 Physics II

Course Name	Physics II		
Course Code	PHS202		
Type of Course	COMPULSORY		
Course Level	UNDERGRADUATE		
ECTS Credits	5		
Weekly Theory Hour	3		
Weekly Practice Hour	-		
Weekly Laboratory Hour	-		
Year	2011		
Term	SPRING		
Instructor (s)			
Teaching System	Face to Face		
Education Language	ENGLISH		
Prerequisite course	PHS201,MTHS102		
Other recommended matters	MTHS 101,MTHS102		
Training status	-		
Course Objectives	Understanding of physical events. Learning of main physical concepts and laws. Learning of the situations of electric and magnetic subjects. The course will enable the students to use the relevant techniques in problem solving, and analytical thinking.		
Learning Outcomes	<ol style="list-style-type: none"> 1. Apply Coulomb's law to analyse electric forces 2. Calculate the electric field and electric potential due to various discrete and continuous distributions of charges. 3. Apply the concepts of emf, current and resistance, and the use of Kirchoff's rules in the analysis of electric circuits. 4. Analyze RC circuits 5. Calculate magnetic fields for various current distributions using Biot-Savart Law and Ampere's Law 6. Apply Faraday's Law and Lenz's law in analyzing problems involving electromagnetic induction. 7. Investigate LC, LR and LRC circuits and carry out quantitative analysis of AC circuits 		
Course content	Electrical Fields. Gauss's Law. Electrical Potential. Capacitance And Dielectric Materials. Current and Resistance. Direct Current Circuits. Magnetic Fields. Sources of Magnetic Field. Faraday's Law. Inductance. Alternating Current Circuits. Electromagnetic Waves.		
Weekly detailed plan	WEEK	TOPICS	
		Theoretical	Practical
	1	Electrical Fields	
	2	Gauss's Law	
	3	Electrical Potential	
4	Capacitance And Dielectric		

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		Materials	
	5	Current and Resistance, Direct Current Circuits	
	6	REVISION	Answering questions
	7	MIDTERM	
	8	Magnetic Fields ,Sources of Magnetic Field	
	9	Faraday's Law	
	10	Inductance	
	11	Alternating Current Circuits	
	12	Electromagnetic Waves	
	13	REVISION	Answering questions
	14	FINAL	
Textbook/ Recommended Reading Materials	Giancoli D.C. , Physics for Scientists & Engineers. ISBN : 0-13-243106-8 Serway :Physics for Scientists and Engineers With Modern Physics Halliday and Resnick :Fundamentals of Physics		
Assessment Methods			
Term Activities	Number	Percentage	
Pop quizzes	2	10	
Assignments	2	20	
Midterm exam	1	30	
Final exam	1	40	
TOTAL		100	
Percentage of Term activities		50	
Percentage of Final Exam		50	
TOPLAM		100	
Calculation work load within the framework of learning, teaching and evaluation activities			
Activities	Number	Time (hour)	Total work load (hour)
Weekly theory hour	14	3	42
Weekly study and revision	14	2	28
Assignments	2	12	22
MidTerm	1	1	1
a) Exam	1	15	15
b) Individual study			
Final	1	2	2
a) Exam	1	25	25
b) Individual study			
TOTAL WORK LOAD(hour)= 135			

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COURSE ECTS CREDIT= Total work load(hour)/(30 hours/ECTS)= 135/ 30 = 4.5 = 5 ECTS Credit