



**The Hashemite University**  
**Faculty of Science**  
**Department of Physics**  
**Course Description**

<b>Department : Physics</b>		
<b>Year : 2012/2013</b>		<b>Semester : Summer</b>
<b>Course Information</b>		
<b>Course Title</b>	General Physics 2	
<b>Course Number</b>	102102	
<b>Course Credits</b>	3 Credit Hours	
<b>Instructor</b>	Dr. Ghassan Alna'washi Physics Building 106 <b>Office hours: Sun - Thu.: 1:40 – 2:40 Pm</b>	
<b>Text Book</b>		
<b>Title</b>	<b>Physics for Scientists and Engineers With Modern Physics</b>	
<b>Author(s)</b>	Raymond A. Serway and John W. Jewett	
<b>Publisher</b>	Thomson Brooks/Cole , 2008	
<b>Edition</b>	<b>8th edition</b>	
<b>References(s)</b>	1. Fundamental of Physics , by David Halliday , Robert Resnick ,and Jearl Walker , 5th Edition , John Wiley and Sons, 1995 2. Physics for Scientists and Engineers , by Lawrence S. Lerner , Jones and Bartlett Publishing , 1996 3. University Physics: Models and Applications by W.P . Curmett and A.P Western, NCP Publishers 1994 .	
<b>Evaluation Policy</b>		
<b>Assessment Type</b>	<b>Material included in the exam (Note: the dates will be announced later)</b>	<b>Weight</b>
<b>First exam</b>	Chapters 23,24,25	25%
<b>Second exam</b>	Chapters 26,27,28	25%
<b>Final Exam</b>	All chapters	50%

Number of Lectures	Chapter / Sections	Suggested Problems
5	Chapter 23 23.1 Properties of electric charges 23.2 Charging objects by induction 23.3 Coulomb's Law 23.4 The electric field 23.5 Electric field of continuous charge distribution 23.6 Electric field lines 23.7 Motion of charged particles in an electric field	Problems: 13, 15, 21, 29, 35, 41, 44
5	Chapter 24 24.1 Electric flux 24.2 Gauss's law 24.3 Applications of Gauss's law to various distributions 24.4 Conductors in electrostatic equilibrium	Problems: 4, 10, 11, 12, 26, 31
5	Chapter 25 25.1 Electric potential and potential difference 25.2 Potential difference in a uniform electric field 25.3 Electric potential and potential energy due to point charges 25.4 Obtaining the value of the electric field from the electric potential. 25.5 Electric potential due to continuous charge distribution 25.6 Electric potential due to a charged conductor	Problems: 1, 5, 17, 33, 42, 48
<b>FIRST EXAMINATION</b>		
5	Chapter 26 26.1 Definition of capacitance 26.2 Calculating capacitance 26.3 Combinations of capacitors 26.4 Energy stored in a charged capacitor 26.5 Capacitors with dielectrics	Problems: 2, 9, 11, 23, 25, 37, 47
4	Chapter 27 27.1 Electric current 27.2 Resistance 27.4 Resistance and temperature 27.6 Electrical power	Problems: 2, 6, 12, 22, 31
4	Chapter 28 28.1 Electromotive force 28.2 Resistors in series and parallel 28.3 Kirchhoff's rules 28.4 RC Circuits	Problems: 1, 5, 7, 9, 13, 16, 17, 21, 23, 33, 34
<b>SECOND EXAMINATION</b>		
5	Chapter 29 29.1 Magnetic fields and forces 29.2 Motion of a charged particle in a uniform magnetic field 29.4 Magnetic force acting on a current-carrying conductor.	Problems: 1, 2, 8, 12, 24, 31, 34
4	Chapter 30 30.1 The Biot Savart law 30.2 The magnetic force between two parallel conductors 30.3 Ampere's law	Problems: 1, 2, 5, 6, 7, 13, 21, 29, 36
3	Chapter 31 31.1 Faraday's law of induction 31.2 Motional emf	Problems: 1, 4, 11

Good luck