



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

**Course Description**

<b>Department:</b> Physics	
<b>Year:</b> 2012/2013	<b>Semester:</b> Summer Semester

**Course Information**

<b>Course Title</b>	General Physics (II)
<b>Course Number</b>	2102102
<b>Course Credits</b>	Three credit hours
<b>Prerequisite</b>	2102101
<b>Course Duration</b>	8-weeks

<b>Instructor</b>	<b>Office</b>
Dr. Feras Afaneh <b>(Coordinator)</b>	Phys. Building 206
Dr. Sadi Abdul-Jawad	Phys. Building 105
Dr. Jamal Aljundi	Phys. Building 205
Dr. Wael Salah	Phys. Building 209
Dr. Mohamed Al-Sugheir	Phys. Building 203
Dr. Ziad Khattari	Phys. Building 201
Dr. Akram Aqili	Phys. Building 219
Dr. Ghassan Alnawashi	Phys. Building 106

**Textbook**

<b>Title</b>	Physics for Scientists and Engineers with Modern Physics.
<b>Authors</b>	Raymond A. Serway and John W. Jewett
<b>Publisher</b>	Thomson, BROOKS/COLE
<b>Year</b>	2010
<b>Edition</b>	8 <sup>th</sup> edition

**References**

(1) “ <b>Fundamentals of Physics</b> ” by David Halliday, Robert Resnick, and Jearl Walker Edition, John Wiley and Sons, 1995.
(2) “ <b>University Physics</b> ” by F. Sears, M. Zemansky, and H. Young, 7 <sup>th</sup> Edition, Addison Wesley Publishing Company, 1987.

**Evaluation Policy**

<b>Assessment Type</b>	<b>Expected Date</b>	<b>Weight</b>
<b>First Exam</b>	To be announced by the dean office	25%
<b>Second Exam</b>	To be announced by the dean office	25%
<b>Final Exam</b>	To be announced by the registration	50%

### Course Objectives

1. Develop a clear understanding of basic physical concepts in electricity and magnetism as an integral part of the student's overall education.
2. Develop the ability to deal with the physical concepts quantitatively( numerically)
3. Form a good foundation for follow-up courses in Engineering
4. Demonstrate the applications of modern methods to a variety of problems in Physics.
5. Develop the learning skills of the student in using computers and internet websites as educational tools, problem solving and demonstration.
6. Enhance the self learning ability of the student.

### Teaching and Learning Methods

1. Lecturing.
2. Special sessions for problems solving.
3. **Teaching tools:**
  - a) Simulations: Some simulation programs on PC that cover some of the topics in this course will be demonstrated throughout the course period.
  - b) Overhead projector and data show.

Topics	Chapter #	Sections	Suggested Problems
Electric Fields	23	23.1-23.7	2 , 8, 11,13, 21, 29, 43, 47, 59
Gauss's Law	24	24.1- 24.4	3, 7, 10, 20, 28, 41, 55
Electric Potential	25	25.1- 25.6	1, 3, 6, 16, 22, 23, 34, 46, 48
<b>FIRST EXAMINATION (includes all sections up-to date of exam)</b> Date, time, and location will be announced on due time			
Capacitance and Dielectrics	26	26.1- 26.5	2, 7, 11, 12, 19, 23, 37, 48, 54
Current and Resistance	27	27.1,27.2, 27.4,27.6	2, 5, 16, 17, 27, 41, 44
Direct-Current Circuits	28	28.1-28.4	1, 9, 13, 17, 23, 24, 34
<b>SECOND EXAMINATION (includes all sections up-to date of exam)</b> Date, time, and location will be announced on due time			
Magnetic Fields	29	29.1,29.2, 29.4	7, 8, 12, 21, 31
Sources of the Magnetic Field	30	30.1-30.3	5, 19, 21, 23, 32, 35
Faraday's Law	31	31.1-31.3	1, 4, 23
<b>FINAL EXAMINATION (includes all sections up-to date of exam)</b> Date, time, and location will be announced on due time			