



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

**Course Description**

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

<b>Course Information</b>	
<b>Course Title</b>	General Physics (I)
<b>Course Number</b>	110102101
<b>Course Credits</b>	Three credit hours
<b>Prerequisite</b>	None
<b>Course Duration</b>	16-weeks

<b>Instructor</b>	<b>Office</b>	<b>Office hours</b>
<b>Prof. Awni Hallak</b>	<b>Phys. Building -104</b>	<b>Mon., Wed.: 11:00-12:00</b> <b>Tues.: 10:00-11:00</b>

<b>Textbook</b>	
<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

<b>References</b>
(1) “ <b>Fundamentals of Physics</b> ” by David Halliday, Robert Resnick, and Jearl Walker, 5 <sup>th</sup> 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.

<b>Evaluation Policy</b>		
<b>Assessment Type</b>	<b>Expected Date</b>	<b>Weight</b>
<b>First Exam</b>	To be announced by the Dean's office	25%
<b>Second Exam</b>	To be announced by the Dean's office	25%
<b>Final Exam</b>	To be announced by the Dean's office	50%

<b>Course Objectives</b>	
1.	Develop a clear understanding of basic physical concepts in mechanics 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 mathematics, physics and chemistry.
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 as educational tools, problem solving and demonstration.
6.	Enhance the ability of the student for self-learning.

<b>Teaching and Learning Methods</b>	
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.

<b>Week #</b>	<b>Topics</b>	<b>Chapter in Text</b>	<b>Sections</b>	<b>Suggested Problems</b>
1	Physics and Measurements	One	1.1,1.3	9, 10, 13
2	Motion in One Dimension	Two	2.1- 2.7	1, 3, 8, 17, 21, 28, 43, 60
3	Vectors	Three	3.1- 3.4	2, 8, 14, 25, 37
4&5	Motion in Two Dimensions	Four	4.1- 4.5	1, 5, 7, 9, 15, 18, 32, 50
<b>First Exam; Chapters: 1-4</b>				
6	The Laws of Motion	Five	5.1-5.8	7, 13, 20, 28, 30, 41, 47, 48
7	Circular Motion	Six	6.1 & 6.2	1, 6, 14, 18, 54
8&9	Energy of a System	Seven	7.2-7.8	1, 9, 11, 15, 22, 31, 39, 41, 45, 49
10	Conservation of Energy	Eight	8.1-8.5	5, 7, 15, 19, 22, 23, 29, 37, 63
<b>Second Exam; Chapters: 5-8</b>				
11	Linear Momentum	Nine	9.1-9.6	1, 4, 6, 11, 21, 26, 29, 34, 56
12&13	Rotational Motion	Ten	10.1-10.9	3, 7, 15, 21, 26, 29, 35, 40, 45, 50, 60, 71
14&15	Angular Momentum	Eleven	11.1-11.4	1, 5, 12, 20, 25, 30, 34, 62
<b>Final Exam; Chapters: 1-11</b>				