The Hashemite University
Faculty of Science
Department of Physics

Course Description

Department: Physics	
Year: 2020/2021	**Semester:** 1st semester

Course Information	
Course Title	General Physics (I)
Course Number	110102101
Course Credits	Three credit hours
Prerequisite	None
Course Duration	15-weeks
Instructor(s)	Dr. Adel Shaheen
Course Time	Section 1: 8:00 – 9:30 M, W Section 2: 9:30 – 11:00 M, W
Office Location	Physics/ 213
Office Hours	9:00 – 10:00 S, T, T 11:00 – 12:00 M, W

Textbook	
Title	Physics for Scientists and Engineers with Modern Physics.
Authors	Raymond A. Serway and John W. Jewett
Publisher	Thomson, BROOKS/COLE
Edition	9th edition

References

(1) "**Fundamentals of Physics**" by David Halliday, Robert Resnick, and Jearl Walker Edition, John Wiley and Sons, 1995.

(2) "**University Physics**" by F. Sears, M. Zemansky, and H. Young, 7th Edition, Addison Wes Publishing Company, 1987.

Evaluation Policy		
Assessment Type	Expected Date	Weight
First Exam	To be announced by the dean office	30%
Second Exam	To be announced by the dean office	30%
Final Exam	To be announced by the registration	40%

Course Objectives

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.

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 in Text	Sections	Suggested Problems
Physics and Measurements	One	1.3	**HW**: 9, 11, 12, 14
Motion in One Dimension	Two	2.1- 2.7	**HW**: 1, 7 15, 19, 20, 24, 35, 48, 49, 50
Vectors	Three	3.1- 3.4	**HW**: 1, 2, 3,23, 29, 31, 36, 38
Motion in Two Dimensions	Four	4.1- 4.5	**HW**: 1, 3, 7, 10, 12, 15, 33, 38
The Laws of Motion	Five	5.1-5.8	**HW**: 3, 5, 15, 19, 22, 32, 36, 37, 49, 55, 84
Circular Motion	Six	6.1 & 6.2	**HW**: 1, 7, 14,
Work and Energy	Seven	7.2-7.8	**HW**: 5, 6, 8, 9 10, 11, 15, 17, 18, 31, 33, 42, 50
Potential Energy	Eight	8.1-8.5	**HW**: 6, 12, 22,
Linear Momentum	Nine	9.1-9.6	**HW:** 1, 3, 8, 11, 13, 19, 20, 23, 25
Rotational Motion	Ten	10.1-10.9	**HW:** 3, 7, 11, 12, 24, 40