



The Hashemite University
Faculty of Science
Department of Physics
Course Syllabus

Course Title:	General Physics I	Course Number:	1701081136
Designation:	Compulsory	Prerequisite(s):	None
Instructor:	Dr. Gassem Alzoubi	Instructor's office:	Physics building, room #107
Office Hours:	11-12 Sunday, Tuesday, and Thursday or by appointment at Gassem@hu.edu.jo		

Course Description (catalog): Physics 101 is the first course in a calculus-based physics offered to scientists and engineers. Topics to be covered in this course are: measurements and dimensional analysis, motion in one-dimension, vectors, motion in two-dimensions, laws of motion, circular motion and other applications of Newton's laws, work of constant and variable forces, energy of a system, work-energy theorem, conservation of energy, and linear momentum and collisions.

Textbook(s) and/or Other Supplementary Materials:

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

References:

(1) Fundamental of Physics , by David Halliday , Robert Resnick ,and Jearl Walker ,10th Edition , John Wiley and Sons, 2012.

(2) University Physics with modern physics, by Sears and Zemansky, 13th edition, Pearson education, 2012.

Major Topics Covered:

Topics	No. of Weeks	Contact hours*	Suggested Problems (from textbook 9 th edition)
Measurements and dimensional analysis	1	3	9,11,12,14,15
Motion in one dimension	1	3	1,3,4,14,15,19,21,24,29,,38,49,52
Vectors	1	3	1,4,11,15,19,23,25,31,37
Motion in two dimensions	2	6	1,5,9,15,20,40,41,42
First Exam			
Laws of motion	2	6	11,19,28,32,40,43,55,61,66
Circular motion	2	6	6,13,14,16,19,54
Energy of a system	2	6	11,14,17,21,29,31,45,49,50,51
Second Exam			
Conservation of energy	1	3	5,7,23,29,59,63
Linear momentum and collisions	1	6	3,19,30,33,40,45,49
Rotation of a Rigid Object About a Fixed Axis	1	3	3, 7, 11, 12, 40
Final Exam			
Total	15	45	

*Contact hours include lectures and exams

Specific Outcomes of Instruction (Course Learning Outcomes):

After completing this course, the students will be able to:

	Course Learning Outcomes (CLO)	(SO)
CLO1.	To provide the student with a clear and logical presentation of the basic concepts and principles of physics.	(a), (k)
CLO2.	To strengthen an understanding of the concepts and principles through a broad range of interesting real-world applications.	(a), (k)
CLO3.	To develop strong problem-solving skills through an effectively organized approach.	(a), (e) (k)
CLO4.	Be able to deal with real problems using analytical methods.	(a), (e) (k)
CLO5.	To well-organize physical arguments and focused problem-solving	(a), (k)

	strategy.	
CLO6.	To motivate the student through practical examples that demonstrate the role of physics in other disciplines, including engineering, chemistry, and medicine.	(a), (e) (k)

* (SO) = Student Outcomes Addressed by the Course.



Student Outcomes (SO) Addressed by the Course:

#	Outcomes Description	Contribution
Applied and Natural Sciences Student Outcomes		
(a)	an ability to apply knowledge of mathematics, science, and applied sciences	H
(b)	an ability to design and conduct experiments, as well as to analyze and interpret data	
(c)	an ability to formulate or design a system, process or program to meet desired needs	
(d)	an ability to function on multidisciplinary teams	
(e)	an ability to identify and solve applied sciences problems	L
(f)	an understanding of professional and ethical responsibility	
(g)	an ability to communicate effectively	
(h)	the broad education necessary to understand the impact of solutions in a global and societal context	
(i)	a recognition of the need for, and an ability to engage in life-long learning	
(j)	a knowledge of contemporary issues	
(k)	an ability to use the techniques, skills, and modern scientific and technical tools necessary for professional practice.	M
H=High, M= Medium, L=Low		

Grading Plan:

1 st Exam	30 Points
2 nd Exam	30 Points
Final exam	40 Points

General Notes: **Attendance Policy:** students are expected to attend every class and arrive on time in compliance with HU regulations. In case you find yourself in a situation that prevents you from attending class or exam, you have to inform your instructor. If you miss more than 6 classes for the (Sunday, Tuesday, and Thursday model) or 4 classes for the (Monday and Wednesday Model), you cannot pass the course. Makeup excuses will be accepted only for very limited justified cases, such as illness and emergencies. Changing your section without informing your instructors is not accepted at all.

Prepared by:

Dr. Gassem Alzoubi

Date: Oct, 11, 2020