

Philadelphia University	 PHILADELPHIA UNIVERSITY <small>THE WAY TO THE FUTURE</small>	Approval date:
Faculty		Issue:
Department		Credit hours
Academic year		Course Syllabus

Course information

Course#	Course title	Prerequisite
0211101	General Physics (1)	None
Course type	Class time	Room #
<input type="checkbox"/> University Requirement	Sun. & Tue.: 12:45 – 14:15	21004
<input checked="" type="checkbox"/> Faculty Requirement	Sun. & Tue.: 09:45 – 11:15	21004
<input type="checkbox"/> Major Requirement	Mon. & Wed.: 09:45 – 11:15	
<input type="checkbox"/> Elective		
<input checked="" type="checkbox"/> Compulsory		

Instructor Information

Name	Office No.	Phone No.	Office Hours	E-mail
Mustafa Al-Zyout	816	06 4779000 ext. 2341	Every day: 11:15 – 12:45 Mon., Wed. & Thu.: 14:00 – 15:45	mzyout@philadelphia.edu.jo

Learning Resources

Course textbook	Raymond A. Serway and John W. Jewett, Physics for Scientists and Engineers , Cengage Learning; 9 th Edition, 2014.
Supporting References	D. Halliday, R. Resnick and <i>Jearl</i> Walker, Fundamentals of Physics , John Wiley and Sons (WIE); 10th edition , 2013. Roger A. Freedman and , Hugh D. Young, University Physics With Modern Physics , Pearson, ; 14th edition , 2015.

Assessment Methods and Grade Distribution

Assessment Methods	Grade Weight	Assessment Time (Week No.)	Link to Course Outcomes
Mid Term Exam	30%	8	
Various Assessments *	30%	2-15	
Final Exam	40%	16	
Total	100%		

Meetings and subjects timetable

Week	Topic	Learning Material
1	<u>Vectors</u> Coordinates systems and frames of reference, vectors and scalars, some properties of vectors, addition and subtraction of vectors, components of a vector and unit vectors, the scalar product of two vectors, the vector product.	Ch.03
2	<u>Vectors, Cont.</u> Coordinates systems and frames of reference, vectors and scalars, some properties of vectors, addition and subtraction of vectors, components of a vector and unit vectors, the scalar product of two vectors, the vector product.	Ch.03
3	<u>Kinematics in one dimension</u> Displacement, Average velocity, Instantaneous velocity, average acceleration, instantaneous acceleration, one dimensional motion with a constant acceleration, free falling objects,	Ch.02
4	<u>Kinematics in two and three dimensions</u> Vector kinematics and projectile motion, applications.	Ch.04
5	<u>The Laws of Motion</u> The concept of force, Newton's first law and inertial frames, inertial mass, Newton's second law, weight and the force of gravity, normal force, Newton's third law,	Ch.05
6	<u>The Laws of Motion, Cont.</u> Free body diagrams, friction force, some applications of Newton's laws, uniform circular motion and non-uniform circular motion, applications.	Ch.05 +Ch.06
7	<u>Work and Energy</u> Introduction, work done by a constant force, and a variable force, kinetic energy and the work energy theorem, mechanical power, applications.	Ch.07
8	<u>Conservation of Energy</u> Conservative and non-conservative forces, Potential energy, Mechanical energy and Its conservation, Problem solving using conservation of mechanical energy, conservation of energy principle, Energy conservation with dissipative forces, applications.	Ch.08
9	<u>Linear Momentum</u> Momentum and Its relation to force, Conservation of momentum, Collisions and Impulse, Conservation of energy and momentum in Collisions, Elastic collisions in one-dimension, Inelastic collisions,	Ch.09
10	<u>Linear Momentum, Cont.</u> Collisions in two or three dimensions, Central of mass (CM), Central of mass and translational motion, Applications.	Ch.09
11	<u>Rotational Motion</u> Angular quantities, Vector nature of angular quantities, Constant angular acceleration, Torque, Rotational dynamics; Torque and rotational inertia, Solving Problems in Rotational Dynamics,	Ch.10
12	<u>Rotational Motion, Cont.</u> Determining moments of Inertia, Rotational kinetic energy, Rotational plus translational motion; Rolling, Applications.	Ch.10
13	<u>Angular Momentum; General Rotation</u> Angular momentum-objects rotating about a fixed axis, Torque as a vector, Angular momentum of a particle, Angular momentum and torque for a system of particles;	Ch.11
14	<u>Angular Momentum; General Rotation, Cont.</u> General motion, Angular momentum and torque for a rigid object, Conservation of angular momentum, Applications.	Ch.11
15	<u>Static Equilibrium; Elasticity and Fracture</u> Static equilibrium; Elasticity and fracture, Conditions for equilibrium, Solving statics problems, Stability and balance, Elasticity; Stress and Strain, Fracture, Applications.	Ch.12
16	Final Exam	

Course Polices

Policy	Policy Requirements
Passing Grade	The minimum passing grade for the course is (50%) and the minimum final mark recorded on transcript is (35%).
Missing Exams	<ul style="list-style-type: none"> • Missing an exam without a valid excuse will result in a zero grade to be assigned to the exam or assessment. • A Student who misses an exam or scheduled assessment, for a legitimate reason, must submit an official written excuse within a week from an exam or an assessment due date. • A student who has an excuse for missing a final exam should submit the excuse to the dean within three days of the missed exam date.
Attendance	The student is not allowed to be absent more than (15%) of the total hours prescribed for the course, which equates to six lectures days (M, W) and seven lectures (S,T,R). If the student misses more than (15%) of the total hours prescribed for the course without a satisfactory excuse accepted by the dean of the faculty, s/he will be prohibited from taking the final exam and the grade in that course is considered (zero), but if the absence is due to illness or a compulsive excuse accepted by the dean of the college, then withdrawal grade will be recorded.
Academic Honesty	Philadelphia University pays special attention to the issue of academic integrity, and the penalties stipulated in the university's instructions are applied to those who are proven to have committed an act that violates academic integrity, such as: cheating, plagiarism (academic theft), collusion, and violating intellectual property rights.