Philadelphia University	PHILADELPHIA UNIVERSITY THE WAY TO THE FUTURE	**Approval date:**
Faculty		**Issue:**
Department		**Credit hours**
Academic year	**Course Syllabus**	**Bachelor**

Course information

Course#	Course title			Prerequisite
0211109	**General Physics for health sciences**			**None**
Course type	**Section**	**Instructor**	**Class time**	**Room #**
☐ University Requirement	1	Dr. Zuheir El-bayyari	Sun. & Tues.: 08:15 – 09:45	21005
	2	Dr. Zuheir El-bayyari	Sun. & Tues.: 11:15 – 12:45	21005
☒ Faculty Requirement	3	Dr. Zuheir El-bayyari	Mon. & Wednes.: 08:15 – 09:45	21005
☐ Major Requirement	4	Dr. Zuheir El-bayyari	Mon. & Wednes.: 11:15 – 12:45	21005
☐ Elective	5	Mustafa Al-Zyout	Sun. & Tues.: 12:45 – 14:15	21009
☒ Compulsory	6	Mustafa Al-Zyout	Sun. & Tues.: 14:15 – 15:45	21009

Instructor Information

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

Learning Resources

Course textbook	D. Halliday, R. Resnick and *Jearl* Walker, **Fundamentals of Physics,** John Wiley and Sons (WIE); 10th edition , 2013.
Supporting References	Raymond A. Serway and John W. Jewett, **Physics for Scientists and Engineers,** Cengage Learning; 9th Edition, 2014.
	Joseph W. Kane, and Morton M. Sternheim, **Physics,** John Wiley and Sons (WIE), 2nd edition, 1988.

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
1	**Vectors** Coordinates systems and frames of reference, vectors and scalars, some properties of vectors, components of a vector and unit vectors, the scalar product of two vectors.
2	**Motion in a Straight Line** Displacement, Average velocity, Instantaneous velocity, average acceleration, instantaneous acceleration, one dimensional motion with a constant acceleration, applications.
3	**Newton's Laws of Motion** The concept of force, Newton's first law and inertial frames, inertial mass, Newton's second law, weight, Newton's third law, some applications of Newton's laws.
4	**Newton's Laws of Motion, Cont.** some applications of Newton's laws, Centripetal acceleration, uniform and non-uniform circular motion, some applications.
5	**Work and Energy** Introduction, work done by a constant force, kinetic energy and the work energy theorem, power, applications.
6	**Elastic Properties of Materials** General aspects of stress and strain, Young's modulus, elastic limit, shear modulus, bulk modulus, some applications
7	**Heat, Temperature and the Behavior of Gases** Temperature scales, molecular masses, pressure, the ideal gas law.
8	**Heat, Temperature and the Behavior of Gases, Cont.** Gas mixtures, temperature and molecular energies, diffusion .
9	**Thermodynamics** Basic definitions, mechanical work, the first law of thermodynamics, the second law of thermodynamics.
10	**Thermodynamics, Cont.** The Carnot theorem and the conservation of energy, entropy, applications on thermodynamics
11	**Thermal Properties of Matter** Thermal expansion, heat capacity, molar heat capacity, specific heat capacity, latent heat of fusion, latent heat of vaporization, phase changes, heat conduction
12	**Electric Forces , Fields and Potentials** Charge and matter, insulators and conductors, electric forces, electric field, electric filed lines, electric potential, motion of a charged particle in a uniform electric field.
13	**Electric Forces, Fields and Potentials, Cont.** Electric current, resistance and Ohm's law, resistivity of different conductors, electrical energy and power
14	**Mechanics of Fluids** Fluids, Density and Pressure, Fluids at rest, Pascal's Principle, Archimedes' Principle, The Equation of Continuity, Bernoulli's Equation, Applications.
15	**Light and Geometrical Optics** Introduction, The Nature of Light, The Ray Approximation in Ray Optics, Wave Under Reflection, Dispersion, Total Internal Reflection, Diffraction Patterns from Narrow Slits, Young's Double-Slit Experiment.
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	• 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 the an exam or 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.