جامعة فلسطين التقنية - خضوري

Palestine Technical University-Kadoorie

PTU Kadoorie خضوري

دولـــة فلســـطين

وزارة التعليـم العـــالي والبحـث العلمي

State of Palestine

Ministry of Higher Education & Scientific Research

Faculty of Applied Sciences **Physics Department** **Course Syllabus for Students**

Subject	**Course Syllabus for Phys1. 15020101 SS 2024**	
Course description	A 3 hr. credit course introduces the basic concepts and principles in classical mechanics. General physics I Covers the following topics: Measurement and system of units, vectors, motion in one and two dimensions, particle dynamics and Newton's laws of motion, work and energy, conservation of energy, dynamics of system of particles, center of mass, conservation of linear momentum, collisions, impulse, rotational kinematics, rotational dynamics, conservation of angular momentum.	
Course Intended Learning Outcomes (CILOs)	After completion of the course, the student is expected to be able to: (1) Learn and understand basic and important concept in elementary mechanics (2) Analyze and apply principles and laws learned to solve Prob. in elementary mechanics (kinematics and dynamics). (3) Apply Newton's Laws, energy and momentum theories to solve different engineering Prob. (4) Develop skills related the solving methods pertaining to the course. (5) Apply different physical principles in different disciplines of science and industry and enhance the observation of individual to the natural phenomena. (6) Apply concepts and laws learned to experiments conducted in lab1.	
Textbook(s)	**Textbook:** (1) R. A. Serway, R. J. Beichner, and J. W. Jewett, Physics for Scientists and Engineers with modern physics, 9th edition, Saunders college Publisher, Thomson Brooks/Cole	
Other References	(1) D. Halliday, R. Resnick, fundamentals of Physics, 10th edition, John Willey and Sons Inc. + E-learning –Moodle university page	
Grading	Assignment	15% [Electronic on the LMS page] ترصد علامته حتى **2024-8-28** مدته اسبوع
	Midterm Exam	40% [Electronic On PTUK-EXAM page] **Week 5** **(مدته 50 دقيقة)**
	Final Exam	45% [Electronic On PTUK-EXAM page] **Week 8** **(مدته 90 دقيقة)**

Week	Topics Covered	hrs	SS2024	Problems
1	Ch. 1: Physics and Measurement	2	WK 1	2,9,14,15,20,35,38, 52
1,2, 3	Ch. 2: Motion in 1D	6	WK 1,2	3,6,15,49,65
3, 4	Ch. 3: Vectors	4	WK 2	4,12,21,23,37
5,6	Ch. 4: Motion in 2 D	6	WK 3	1,5,9,15,21
7,8,9	Ch. 5: Laws of Motion	9	WK 4,5	1,8,15,24,36,47,66
10	Ch. 6: Circular Motion (6.1,6.2,6.3) only	3	WK 5	1,6,16,10,18
11,12	Ch. 7: Energy of a system	4	WK 6	5,9,11,14,63,43
12,13	Ch. 8: Conservation of Energy	5	WK 6,7	6,7,15,23,47,63
14	Ch. 9: Linear Momentum and Collisions (9.1-9.5, 9.7)	3	WK 7	4,11,14,33,44
15	Ch. 10: Rotation of a rigid object about a fixed axis (10.1-10.5)	3	WK 8	3,9,19,35,45
		45		