

**Academic Quality Assurance Department  
Course Syllabus Form**

<p>جامعة فلسطين التقنية - خضوري</p>  <p>Palestine Technical University-Kadoorie</p>	 <p><b>PTU</b> خضوري Kadoorie</p>	 <p>دولة فلسطين وزارة التعليم العالي والبحث العلمي State of Palestine Ministry of Higher Education &amp; Scientific Research</p>
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<b>College</b>	Faculty of Applied Sciences		
<b>Department</b>	Physics		
<b>Program</b>	B. Sc		
<b>Course Title</b>	General Physics I	<b>Course Number:</b>	15020101
<b>Year</b>	2023/2024	<b>Semester:</b>	2 <sup>nd</sup>
<b>Prerequisite(s)</b>	none		
<b>Instructor</b>	Khaled Barakat		
<b>Instructor's e-mail</b>	k.barakat@ptuk.edu.ps		
<b>Office Hours</b>	<i>e-learning /lms Moodle page</i>		
<b>Class Time</b>	Sec.5 9:30-11 sec.6 12:30-2	<b>Class Room:</b>	E222
<b>Course description</b>	This course is an introduction to mechanics at a first-year university level. Topics include kinematics and dynamics of particles; momentum, work, and energy; gravitation; circular, angular, and harmonic motion.		
<b>Course Intended Learning Outcomes (CILOs)</b>	<ol style="list-style-type: none"> <li>1- Learn and understand concepts of measurements of physical quantities, systems of units, Kinetic Equations, concepts of motion in one and 2 dimensions, Newton's Laws of motion, the theory of work and energy conservation, momentum and momentum conservation, impulse and collisions.</li> <li>2- Recognize the methodology of solving problems by using Newton's Laws and kinetic equations.</li> <li>3- Measure, track and understand the motion and energy of different physical systems.</li> <li>4- Applying kinetic equations, newton`s Laws and energy conservation theory to solve different problems related to the motion in different dimensions and energy conservation for different systems.</li> <li>5- Applying Newton's Laws and energy theories model and design infrastructure facilities, tools, mechanical parts in the machine</li> <li>6- Integrate the concepts and principles of mechanics (Newton's Laws, energy theories) for applications.</li> <li>7- Relate the theoretical information to practical work to increase the understandings of the basic knowledge</li> <li>8- Applying Newton's Laws and energy theories to solve different engineering problems</li> <li>9- Apply different physical principles in different disciplines of science and industry and enhance the observation of individual to the natural phenomena.</li> <li>10- Assist the student to participate in life science studies.</li> </ol>		
<b>Textbook(s)</b>	<b>TEXT:</b> Physics for Scientist and Engineers" Serway Jewett, 9th Edition		
<b>Other required material (References):</b>	- Physics for Scientists and Engineers", Serway Jewett, other editions - Fundamentals of Physics 7th Edition, David Halliday, Robert Resnick and Jearl Walker		
<b>Other Resources used (e.g., e-learning, field visits, periodicals, software, etc)</b>	Internet, YouTube, Other universities sites		

Course Teaching Methods	
Teaching Method	CIOs
Classes Lectures	All
Some Zoom Lectures	

Assessment Type	Details/Explanation of assessment in relation to CIOs	Weight	Date(s)
Midterm Exam	35	35%	wk 9,10
Second Exam	---	---	
Quizzes	---		
Laboratory/Practical	---	---	
Assignments	20	20%	
Project	---	---	
Final Exam	45	45%	Wk 16
<b>Total</b>	100	100%	

Course Intended Learning Outcomes (CIOs)										
CIOs	Mapping to Program ILOs									
On successful completion of the course, students will be able to:	a	b	c	d	e	f	g	h	I	j

Course Weekly Breakdown					
Week	Date	Topics Covered	CIOs	Lab Activities	Assessment
1, 2, 3		Ch. 2: Motion in 1D	1-5	None	3, 6, 15, 49, 65
3, 4		Ch. 3: Vectors	1-5	---	4, 12, 21, 23, 37
4, 5		Ch. 4: Motion in 2 D	6-8	---	1, 5, 9, 15, 21
6, 7,8		Ch. 5: Laws of Motion	8-10	---	1, 8, 15, 24, 36, 47, 66
9		Ch. 6: Circular Motion	7-9	---	1, 6, 16, 10, 18
10, 11		Ch. 7: Energy of a system	8-10	---	5, 9, 11, 14, 63, 43
12, 13		Ch. 8: Conservation of Energy	7-9	---	6, 7, 15, 23, 47, 63
13, 14		Ch. 9: Linear Momentum and Collisions	6-9	---	4, 14, 11, 33, 44
14, 15		Ch. 10: Rotation of a rigid object about a fixed axis	7-10	---	3,9,19, 35,45

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