MODULE DESCRIPTOR FORM

Module Information					
Module Title	**GENERAL PHYSICS**			**Module Delivery**	
Module Type	**CORE**			☒ **Lecture** ☒ **Practical**	
Module Code	**FOR11003**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	1		**Semester of Delivery**	1	
Administering Department	Forensic evidence		**College**	College of Sciences	
Module Leader	**Shaimaa Hussein Noufel**		**e-mail**	**shaymaa@uowa.edu.iq**	
Module Leader's Acad. Title	Assistant Professor Dr		**Module Leader's Qualification**	Ph.D.	
Module Tutor	**Abdullah Ali Harbi**		**e-mail**	abdullah.ali@gmail.com	
Peer Reviewer name	**Hikmat Adnan Jawad**		**e-mail**	hikmatadnan@gmail.com	
Review Committee Approval	2025-12-20		**Version Number**	V 1.0	

Relation With Other Modules			
Prerequisite module	NO	**Semester**	
Co-requisites module	NO	**Semester**	

Department Head Approval

Dean of the College Approval

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	1 .Describe the development of physics and the relationship between physics and forensic science. 2 .Develop problem-solving skills and an understanding of mechanical concepts through the application of techniques. 3 .Provide a connection between the facts and concepts studied by the student and their daily social life. 4 .Describe the terminology used in forensic science and its applications. 5 .Describe the difference between vector and scalar quantities. 6 .Explain the relationship between work, energy, and force. 7. Understand the motion of sound and waves and apply it to forensic evidence.
Module Learning Outcomes	Upon completion of the course, students should be able to: 1 .Explain the relationship between science and technology in the field of science and its impact on development, linking it to practical life. 2 .Equip students with a scientific thinking methodology and develop it to go beyond basic approaches. 3 .Learn in a fun and engaging way. 4 .Train students in discovery by developing observation, analysis, and related skills. 5 .Equip students with life skills and applied scientific abilities. 6 .Develop an understanding of modern methods for maintaining environmental balance, both practically and globally. 7. Apply the principles of mechanics in Islamic sciences.
Indicative Contents	The course content includes the following: In our daily lives, we need to indicate the position of an object, whether it is stationary or moving. To determine the position of that object, we use what are called "coordinates." There are several types of coordinates we can apply, such as "rectangular coordinates" and "polar coordinates." We will also explore the usefulness of applying vectors in our lives (6 hours). Mechanics is a branch of physics that studies motion. It includes two main divisions: kinematics, which describes the motion of objects without considering the causes of motion, and dynamics, which deals with the causes of motion, such as force and energy. We will first learn about the concepts of position, displacement, velocity, and acceleration of objects moving in one dimension and in two dimensions, along with some terminology (10 hours). The physicist Isaac Newton based his theory of motion on three laws known as Newton's Laws of Motion. He described the forces acting on the motion of objects using these laws and explained the difference between mass and weight. (6 hours) When solving a kinematics (dynamics) exercise, it is important to correctly analyze the forces acting on the body or system, and consequently, on the body itself. The forces acting on it will be illustrated, and this method is called a free-body diagram. (4 hours) The concept of equilibrium, tensional equilibrium, rotational equilibrium, torque, torque vector, couples, center of mass, center of gravity. (10 hours) Work, energy, power, momentum, and energy type. (6 hours) Explanation of periodic motion, rotational motion, simple harmonic motion, the relationship between uniform circular motion and simple harmonic motion, the simple pendulum, simple harmonic motion, wave motion. (10 hours)

Learning and Teaching Strategies	
Strategies	The assessment is based on manual tasks, a written exam, a case study, quizzes, reports, a practical exam, a laboratory, and an online exam.

Student Workload (SWL)			
Structured SWL (h/sem)	63	**Structured SWL (h/w)**	4.2
Unstructured SWL (h/sem)	87	**Unstructured SWL (h/w)**	5.8
Total SWL (h/sem)	150		

Module Evaluation

		Time/Number		Weight (Marks)		Week Due	Relevant Learning Outcome
		TH	LAB	TH	LAB		
Formative assessment	Quizzes	2	2	4	10	5 and 11	3,7
	Homework assignment	2	1	4	10	6and 13	1,8
	Onsite Assignments	-	-	-	-	Continuous	All
	Projects	1	7	2	10	14	All
Summative assessment	Midterm Exam	1		10		7	
	Final Exam	3hr		50		15	
Total assessment				100 Marks			

Delivery Plan (Weekly Syllabus)	
	Material Covered
Week 1	Introduction, vectors, coordinate system and properties of vectors.
Week 2	Vector analysis and vector summation.
Week 3	Linear motion, acceleration, linear equational motion with uniform acceleration, and free fall of objects.
Week 4	Motion in two dimensions (plane motion), projectile motion, and motion in three dimensions.
Week 5	The laws of motion, inertia, and mass; Newton's law of motion.
Week 6	Free body diagram and friction.
Week 7	Balance, torque, coupling, and center of mass.
Week 8	Work, strength, and energy.
Week 9	Momentum and impulse
Week 10	circular motion
Week 11	Rotational motion.
Week 12	Work and force in rotational motion and angular momentum.
Week 13	Wave, vibrational motion, and sound
Week 14	Beats, sound characteristics, ultrasound, Doppler effect
Week 15	Preparatory week before the final exam

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Instructions for students and basic personal needs and other requirements.. Units
Week 2	Writing the experimental account, introduction to graphical representation of experimental data, calculating, determining, and minimizing the error rate
Week 3	Discussion of Reports
Week 4	Experiment 1: Forces and Equilibrium
Week 5	Experiment 2: Helical Springs and Verification of Hooke's Law
Week 6	Discussion of Reports
Week 7	Experiment 3: Helical Spring: Determining the Spring Constant and the Effective Mass of the Spring
Week 8	Experiment 4: Helical Spring: To Determine the Acceleration of Free Fall Through a Set of Static and Dynamic Experiments
Week 9	Discussion of Reports
Week 10	Experiment 5: Simple Pendulum and Determination of Gravitational Acceleration (g).
Week 11	Experiment 6: The Support
Week 12	Discussion of Reports
Week 13	Experiment 7: Bifilar Suspension: Studying the Change in Oscillation Period with Varying Distance
Week 14	Experiment 8: Bifilar Suspension: Studying the Change in Oscillation Period with String Length
Week 15	Exam

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	1. *Zhou HX. (2011). " What is biophysics". Biology. **9**: 13. doi:10.1186/1741-7013. PMC 3055214. PMID 21371342.* 2. *"the definition of biophysics". www.dictionary.com. Retrieved 2018-07-26.* 3. Roland Glaser. *Biophysics: An Introduction*. Springer; 23 April 2012. ISBN 978-3-642-25212-9.	No
Recommended Texts	Raymond A. Serway and Chris Vuille, "College Physics," 11th Edition, Cengage Learning, 2018.	No
Websites	None	

APPENDIX:

GRADING SCHEME				
Group	**Grade**	**Mark**	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A -** Excellent	Excellent	90 - 100	Outstanding Performance
	B - Very Good	Very Good	80 - 89	Above average with some errors
	C - Good	Good	70 - 79	Sound work with notable errors
	D - Satisfactory	Fair / Average	60 - 69	Fair but with major shortcomings
	E - Sufficient	Pass / Acceptable	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	Fail (Pending)	(45-49)	More work required but credit awarded
	F – Fail	Fail	(0-44)	Considerable amount of work required
Note:				

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.