MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Physics**			**Module Delivery**	
Module Type	**Core**			☒**Theory** ☒**Lecture** ☒**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**CIV11205**				
ECTS Credits	5				
SWL (hr/sem)	**200**				
Module Level		1	**Semester of Delivery**		7
Administering Department		Civil Engineering	**College**	Al-Mansour University Colloge	
Module Leader	Prof. Ahmed Mancy Mosa		**e-mail**	ahmed.mancy@muc.edu.iq	
Module Leader's Acad. Title		Professor	**Module Leader's Qualification**		Ph.D.
Module Tutor	Name (if available)		**e-mail**		
Peer Reviewer Name		Name	**e-mail**		
Scientific Committee Approval Date		01/09/2023	**Version Number**		1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Physics	**Semester**	5&6
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. To develop problem solving skills and understanding of physics theory through the application of techniques. 2. To understand acquires knowledge and special skills in physics. 3. This course deals with the basic concept of physics. 4. To analyze simple geometric shape and structures and find results using the relevant theories.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	The intended subject specific learning outcomes. On successfully completing the module students will be able to: 1. Demonstrate an assured ability to identify relevant principles and laws when dealing with physics problems. 2. To make approximations necessary to obtain solutions. Confidently solve problems in physics using appropriate mathematical tools. 3. To Present and interpret scientific information graphically to solve complex problems. 4. To communicate scientific information about problem solving, in particular to produce clear and accurate scientific reports.
Indicative Contents المحتويات الإرشادية	The field of physics encompasses a wide range of topics and concepts. Here are some indicative contents for physics: 1. Classical Mechanics: • Newton's laws of motion • Conservation laws (e.g., conservation of energy, momentum) • Circular motion and gravitation • Work, energy, and power • Simple harmonic motion • Fluid mechanics [15 hr] 2. Thermodynamics: • Laws of thermodynamics • Heat transfer and thermal equilibrium • Entropy and the second law of thermodynamics • Thermodynamic processes (e.g., isothermal, adiabatic) [10 hr] • Quantum mechanical operators (e.g., position, momentum) • Quantum harmonic oscillator • Atomic and molecular structure • Simulations and modeling • Data analysis and visualization [15]

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #4
	Assignments	5	15% (15)	2, 7 and 12	LO #3, #4
	Projects / Lab.	5	10% (10)	2,4,6,8 and 10	All
	Report	5	5% (5)	2,4,6,8 and 10	LO #1, #3 and #4
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #4
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to vectors
Week 2	Introduction to vectors
Week 3	Uniformly accelerated motion
Week 4	Uniformly accelerated motion
Week 5	Newton's law
Week 6	Newton's law
Week 7	Mid-term Exam
Week 8	Equilibrium under the action of concurrent forces
Week 9	Equilibrium under the action of concurrent forces
Week 10	Equilibrium or a rigid body under coplanar forces
Week 11	Equilibrium or a rigid body under coplanar forces
Week 12	Energy and power
Week 13	Energy and power
Week 14	Impulse and momentum
Week 15	Impulse and momentum
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to Experimental Measurements and Data Analysis
Week 2	Forces and Newton's Laws
Week 3	Conservation of Mechanical Energy
Week 4	Simple Harmonic Motion
Week 5	Electric Fields and Potentials
Week 6	Electric Circuits
Week 7	Fluids and Heat

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Theory and problem of College Physics , McGraw-Hill Education	Yes
Recommended Texts		
Websites	https://www.coursera.org/browse/physical-science-and-engineering/electrical-engineering	

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks %**	**Definition**
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

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.