MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Physics**			**Module Delivery**	
Module Type	**Basic**			☒ **Theory** ☐ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**UREQ111**				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level	1		**Semester of Delivery**	1	
Administering Department	Type Dept. Code		**College**	Type College Code	
Module Leader	Sarmad Kadhim Alkhfaji		e-mail	sarmad.kazem@alayen.edu.iq	
Module Leader's Acad. Title	Ass.Professor		Module Leader's Qualification	Ph.D.	
Module Tutor	Nawal Naji Amsir		e-mail	Nawal.naji@alayen.edu.iq	
Peer Reviewer Name					
Scientific Committee Approval Date			**Version Number**		

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. To understand basics for physics 2. To understand theoretical and practical on the various branches of physics and their development in all its types and applications. 3. To Give students the tool for Universal forces Units and physics Quantities 4. To Know the basics for analysis and serve specific problems 5. To learn the general law and application of physics
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Learning Introduction of Physical Quantities and Units 2. Adentfining Mechanichs and the laws of motions 3. Understanding the force , Newtens law and application 4. Understanding Rotational , rigid body and Periodic motion 5. Learning Thermodynamics and laws 6. Understanding Basic of vibration and Mechanical wave phenomena , 7. Understanding Electric and magnatic filds and equations for each tearms 8. The phenomena of Light , reflection and refraction laws 9. Spsfaining The modern physics
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Physics Definitions , Quantities and Unitss [7hrs],Mechanics , Motion in One and twon Dimension , Vectors and Laws of Motion[6 hrs] , Energy ,work,Momentum ,torque and Collisions , Rotational Motion[6 hrs],Thermodynamics , Heat transver and The Laws of Thermodynamics [6hrs],Vibrations and types of Waves [6 hrs], Electricity and Magnetism ,Electric Forces and Electric Fields , Current and Resistance[6 hrs] ,. Magnetism filed and magnatic force, Properties of Electromagnetic Waves[6 hrs]. Light, Reflection and Refraction ,the Law of Refraction [6hrs], law ,total internal reflection [6 hrs]. Modren physics , relativity mechanic, Quantum mechanic , The Laser [6hrs].

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to develop students in engineering field, application of different types of physiscs .This will be achieved through classes, interactive tutorials ,asking questions ,discussions and seminar s in class and homework ..

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	8.4% (10)	Continous	LO #1,2, 4 and 5
	Assignments	5	2.1% (1)	Continous	LO # 3,6,9 and 7
	Projects	1	4.2%(10)	Continous	All
	Report	5	21.1% (10)	Continous	All
	Lab	1	4.2%(10)	10	All
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	LO # 3 to 7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	**Physics**: Definitions and Applications ,Vector ,Physical Quantities Units and conversion
Week 2	**Mechanics**: Motion in one Dimension , velocity acceleration, Free falling bodies ,Motion in two dimention ,Project motion ,Circular motion ,
Week 3	**Mechanics:** Force The Newtons̀ law of motion and Application **,** Energy ,work,power, Impulse, Momentum ,torque and Collisions, .
Week 4	**Mechanics:** Rotational Motion ,torque ,Rotational Equilibrium and the Law of Gravity , Equation of rigid body ,Periodic motion
Week 5	**Thermodynamics:** Heat transver ,heat capacity ,mechansum of heat transver , The Laws of Thermodynamics
Week 6	**Vibrations and Waves** Mechanical wave phenomena , Vibration bodes , Sound wave
Week 7	**Electricity and Magnetism**: Electric Forces and Electric Fields , Electrical Energy and Capacitance , Current and Resistance , Direct-Current Circuits, Magnetism filed and magnatic force , Induced Voltages and Inductance, Properties of Electromagnetic Waves
Week 8	**Light and Optics** The Nature and propagation of light , Speed and sorce of light ,The Refraction and Reflection, law ,Total internal reflection ,Dispersion and Prisms
Week 9	**Modren physics** Relativity mechanic, Quantum mechanic , The Laser
Week 10	Static electricity, Electromagnetic induction
Week 11	Lasers and their use in physics
Week 12	Uses of lasers in medicine
Week 13	Uses of lasers in industry
Week 14	Classification of types of lasers
Week 15	**Report**
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	HOOKE'S LAW spring
Week 2	Acceleration of free fall by mean of the Simple pendulum
Week 3	Forces
Week 4	Refractive index of (glass) by real and apparent depth using traveling microscope
Week 5	Heat capacity of metals
Week 6	Boyle's Law
Week 7	Laws of lenses and optical instruments

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	University Physics, Sear - Zemasky - Young Seventh Edition ,Volum 1 ,1987—2000—	yes
Recommended Texts	Physics , OpenStax Rice University,2020	NO
Websites		

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 -	متوسط	60 - 69	Fair but with major shortcomings

	Satisfactory			
	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.