MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

<table>
<tr><td colspan="5" align="center">Module Information
معلومات المادة الدراسية</td></tr>
<tr><td>Module Title</td><td colspan="2" align="center">Mechanics</td><td colspan="2">Module Delivery</td></tr>
<tr><td>Module Type</td><td colspan="2" align="center">Core</td><td colspan="2" rowspan="5">☒ Theory
☐ Lecture
☒ Lab
   ☒Tutorial
☐ Practical
☐ Seminar</td></tr>
<tr><td>Module Code</td><td colspan="2" align="center">MPH12007</td></tr>
<tr><td>ECTS Credits</td><td colspan="2" align="center">7</td></tr>
<tr><td rowspan="2">SWL (hr/sem)</td><td colspan="2" rowspan="2" align="center">175</td></tr>
<tr></tr>
<tr><td>Module Level</td><td>1</td><td>Semester of Delivery</td><td colspan="2">2</td></tr>
<tr><td>Administering Department</td><td>Medical Physics</td><td>College</td><td colspan="2">Science</td></tr>
<tr><td>Module Leader</td><td>Dr. Aliaa Majid Yahya</td><td>e-mail</td><td colspan="2">Dr.amzaki1@kus.edu.iq</td></tr>
<tr><td>Module Leader's Acad. Title</td><td>Lecturer</td><td>Module Leader's Qualification</td><td colspan="2">Ph.D.</td></tr>
<tr><td>Module Tutor</td><td></td><td>e-mail</td><td colspan="2"></td></tr>
<tr><td>Peer Reviewer Name</td><td></td><td>e-mail</td><td colspan="2"></td></tr>
<tr><td>Scientific Committee Approval Date</td><td>21/9/2023</td><td>Version Number</td><td colspan="2">م م ع/862</td></tr>
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<tr><td colspan="3" align="center">Relation with other Modules
العلاقة مع المواد الدراسية الأخرى</td></tr>
<tr><td>Prerequisite module</td><td>None</td><td>Semester</td><td></td></tr>
<tr><td>Co-requisites module</td><td>None</td><td>Semester</td><td></td></tr>
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Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. To develop an understanding of the fundamentals of mechanics. 2. To develop problem solving skills in mechanics through the application of concepts in statics and dynamics to real world problems. 3. To introduce the standards and associated measurements that regulate the use of mechanics. 4. To provide reinforcement of learning using laboratory investigations.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Define the meaning of mechanics. 2. Develop a clear understanding of basic physical phenomena in physics and materials science as an integral part of the student's overall education 3. Compare between vectors and scalar quantities. 4. Calculate and find the displacement, velocity and acceleration of bodies. 5. Use algebra, trigonometry, and basic calculus, in solving problems in one and two dimension motion. 6. Provide detailed and accurate description of forces effect on bodies. 7. Classify the energy types. 8. Calculate the work done on subject.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Part A – Vectors and scalars Learn the differences between scalars and vectors quantity. The mathematical process that done on vector quantities. [15 hrs] Part B- motion The differences between distance and displacement, speed and velocity. The motion in one dimension. The motion in two dimensions. The uniform circular motion. Non uniform circular motion. [30 hrs]. Part C- forces: Newton's laws in motion. Weight force, friction force, drag force. Nature force [10 hrs] Part D- work and energy: Work done on subject. Kinetic energy. Potential energy. Spring. The power [17 hrs]

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Strategies	This course will be delivered through a combination between theoretical lectures in the classroom and experimental lectures in the Lab. The students will receive the outcome of each lecture through discussions, videos related to the subject and questions. In addition, the information will be developed by self-learning through reading and searching to hand in the essay and home works.

Student Workload (SWL)
الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	97	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	6.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5,10	LO#1,2,10 and 11
	Assignments	2	10% (10)	2,12	LO#3,4,6 and 7
	Projects / Lab.	5	10% (10)	2,4,6,8,10	
	Report	1	10% (10)	13	LO#5,8, and 10
Summative assessment	**Midterm Exam**	1hr	10% (10)	7	LO,#1-7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Vectors and scalar
Week 2	Unit victors.
Week 3	Motion in one dimension
Week 4	Motion in two dimensions
Week 5	Uniform circular motion.
Week 6	Force and motion: Newton's laws.
Week 7	Midterm exam.
Week 8	Forces types
Week 9	Work
Week 10	Energy, kinetic energy
Week 11	Potential energy
Week 12	Power
Week 13	Momentum
Week 14	Collision in one dimension
Week 15	Collision in two dimensions
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to the mechanics lab: safety and training
Week 2	How can we draw graph in mechanics lab?
Week 3	The simple pendulum
Week 4	Hooke's law
Week 5	The linear air track: Part 1
Week 6	The linear air track: Part 2
Week 7	Young's modulus

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Jearl Walker "fundamental of physics" (2005), 8th edition.	Available online
Recommended Texts	Hans C. Ohanian, John T. Markert "physics for engineers and scientists "(2009), 3rd edition.	yes
Websites	Various lectures and lecture notes on the internet.	

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.