MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	Mechanics			**Module Delivery**	
Module Type	Basic			☒ **Theory** ☐**Lecture** **Lab** ☒ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	MIET 1203				
ECTS Credits	5				
SWL (hr/sem)	150				
Module Level	1		**Semester of Delivery**	2	
Administering Department	ENG- MIET		**College**	EETC	
Module Leader	Abbas Sheyaa Alwan		**e-mail**	Abbas_sheyaa@mtu.edu.iq	
Module Leader's Acad. Title	Professor		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	**Ass.Prof.Dr. Ghaidaa Abdulrahman Khalid**		**e-mail**	**ghaidaakhalid@mtu.edu.iq**	
Scientific Committee Approval Date	01/06/2023		**Version Number**	1.0	

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 understanding of mechanics theory through the application of motion. 2. To determine the forces, stress and strain under force effected. 3. To determine the reaction forces under load applied. 4. To understand the friction basic under mechanic applied 5. To understand a newton laws in motion. 6. To understand and solve problems in forces analysis. 7. To determine the materials properties and selective of materials.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Identify the basic of forces result in applications of structures. 2. Identify the basic of Equilibrium force system. 3. Recognize how phenomena motion in mechanics subject. 4. Summarize what is mean of forces reaction in beams. 5. Explain the analysis force in mechanics application. 6. Identify the basic of stress and strain in mechanics applications. 7. List the various parameters associated with mechanics theory. 8. Identify the basic of forces analysis and their applications. 9. Explain the Newton's laws used in mechanics application. 10. Identify the basic of friction forces in motion. 11. Identify the basic of welding and riveted joint in mechanics applications. 12. Explain the mechanical test to determine the mechanic properties. 13. Discuss the phenomena of moment of forces under different force moment.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A :</u> 1- Introduction of forces, Analysis of Forces, Result of forces, Moment of forces, Equilibrium force system. [18 hrs] 2- Stress, Strain, stress – strain curve, Simple strain, Variable stress. [18 hrs] 3- Beams and bending, Analysis of structure. [15 hrs]

	4- Friction, coefficient of friction, mechanism of friction. [18hrs] Part B: 1- Materials properties, material selective, stress- strain diagram. [18 hrs] 2- Mechanical tensile test, compression test, impact test, hardness test.[18 hrs] 3- Mechanical joint, Rivet joint, welding connection. [15 hrs] 4- Beams and bending, Analysis of structure, Centroid, Second moment of area. [18 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Strategies in mechanical subject like: The main strategy that will be adopted in delivering this module is to encourage students' to participation in the exercises, while at the same time refining and expanding their mechanical subject thinking development skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SSWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	45	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3.
Unstructured USWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	105	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	7.5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

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.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction of forces
Week 2	Result of forces
Week 3	Moment of forces
Week 4	Equilibrium force system
Week 5	Stress, Strain
Week 6	Simple strain
Week 7	Variable stress
Week 8	Friction
Week 9	Materials properties
Week 10	Rivet and weld connection
Week 11	Beams and bending
Week 12	Analysis of structure
Week 13	Centroid
Week 14	Second moment of area
Week 15	General Problems
Week 16	**Preparatory week before the final Exam**

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1- Engineering Mechanic's Statics, 12th Edition by R. C. Nibbler, 1995.	Yes
Recommended Texts	2- Engineering Mechanic's Statics, 7th Edition by James, L. Meriam, L. G Kraige, 1995.	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 - 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.