

# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	<b>Engineering Mechanics-Static</b>		Module Delivery
Module Type	<b>B</b>		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Lab <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	<b>UOMU0210021</b>		
ECTS Credits	<b>6</b>		
SWL (hr/sem)	<b>150</b>		
Module Level	1	Semester of Delivery	
Administering Department	UOMU0210	College	Type College Code
Module Leader	Salwan Obaid Waheed Khafaji	e-mail	salwan.obaid@uomus.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	Name	e-mail	E-mail
Scientific Committee Approval Date		Version Number	

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

## Module Aims, Learning Outcomes and Indicative Contents

### أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p><b>Module Objectives</b> أهداف المادة الدراسية</p>	<ol style="list-style-type: none"> <li>1. To develop the capacity to predict the effects of force and motion while carrying out the creative design functions of engineering</li> <li>2. To understand and use the general ideas of force vectors and equilibrium of rigid body and particle</li> <li>3. To understand and use the general ideas of structural analysis and internal force friction</li> <li>4. To understand and use the general ideas of centre of gravity, centroids and moment of inertia</li> </ol>
<p><b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"> <li>1. Determine the components of a force in rectangular or nonrectangular coordinates.</li> <li>2. Determine the resultant of a system of forces.</li> <li>3. Draw complete and correct free-body diagrams and write the appropriate equilibrium equations from the free-body diagram.</li> <li>4. Determine the support reactions on a structure.</li> <li>5. Determine the connection forces in trusses and in general frame structures.</li> <li>6. Determine the internal reactions in a beam</li> <li>7. Analyze systems that include frictional forces.</li> <li>8. Locate the centroid of an area.</li> <li>9. Calculate the second moment of an area, calculate the principal second moments of an area.</li> </ol>
<p><b>Indicative Contents</b> المحتويات الإرشادية</p>	<p>Indicative content includes the following.</p> <p><u>Part A – forces</u> vectors ,Forces ,3D forces ,Moments OF FORCES ,Couples ,Resultant of a force system, (56 hrs) Equilibrium of a force system and analysis of internal force (8 hrs) Friction ,Application of friction on bearings (16 hrs)</p> <p><u>Part B – truss</u> Trusses, planes, joint method , Frame and Machines (16 hrs)</p> <p><u>Part C – centroid</u> Centered of line, area and volume, Moment of inertia, Theory of parallel axes(24 hrs)</p>

## Learning and Teaching Strategies

### استراتيجيات التعلم والتعليم

<b>Strategies</b>	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.
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## Student Workload (SWL)

### الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	78	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطالب أسبوعيا	5
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	<b>200</b>		

## Module Evaluation

### تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
<b>Formative assessment</b>	<b>Quizzes</b>	3	10% (10)	٢ - 10 Every other lecture	All
	<b>Assignments</b>	2	10% (10)	2 and 12	LO#3, LO#7 and LO#9
	<b>Projects / Lab.</b>	١	10% (10)		
	<b>Report</b>	٢	10% (10)	13	LO #5, #8 and #9
<b>Summative assessment</b>	<b>Midterm Exam</b>	2hr	١٠% (٢٥)	7	LO #1 - #5
	<b>Final Exam</b>	3hr	50% (50)	16	All
<b>Total assessment</b>			100% (100 Marks)		

## Delivery Plan (Weekly Syllabus)

### المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to static , vectors
Week 2	Forces
Week 3	3D forces
Week 4	Moments
Week 5	Couples
Week 6	Resultant
Week 7	Resultant
Week 8	Equilibrium
Week 9	Trusses, planes, joint method
Week 10	Frame and Machines
Week 11	Friction
Week 12	Application of friction on bearings
Week 13	Centered of line, area and volume
Week 14	Moment of inertia
Week 15	Theory of parallel axes
Week 16	Preparatory week before the final Exam

## Learning and Teaching Resources

### مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	ENGINEERING MECHANICS, statics by R. C. HIBBELER	Yes
Recommended Texts	ENGINEERING MECHANICS, statics by J. L. MERIAM	No
Websites	<a href="https://www.mathsisfun.com/">https://www.mathsisfun.com/</a>	

## Grading Scheme

### مخطط الدرجات

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