

# MODULE DESCRIPTION FORM

Module Information			
Module Title	<b>General Mechanics Engineering</b>	Module Delivery	
Module Type	<b>Basic learning activity</b>	<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar	
Module Code	<b>GME3530-AM</b>		
ECTS Credits	<b>6</b>		
SWL (hr/sem)	<b>150</b>		
Module Level	UGII		
Administering Department	AGME1986	College	AGFO1964
Module Leader	Yousif Yakoub Hilal	e-mail	yousif.yakoub@uomosul.edu.iq
Module Leader's Acad. Title	Assistant Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Firas Salah Yahya	e-mail	Firas.alkhayatt@uomosul.edu.iq
Peer Reviewer Name	N.A.	e-mail	N.A.
Scientific Committee Approval Date	1 / 9 / 2025	Version Number	1.0

Relation with other Modules			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents	
<b>Module Objectives</b>	- The student's familiarity with states of rest and the forces affecting bodies, through which he will have a broad understanding of the balance of bodies in a state of rest, and also, The student's familiarity with the different states of motion of bodies and their various applications in order to gain a broad understanding of the movement of agricultural equipment and machinery.
<b>Module Learning Outcomes</b>	Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks. <ol style="list-style-type: none"> <li>1. Remember and understand the basics of engineering mechanics and methods of forces analysis.</li> <li>2. Understand moments and couples on bodies.</li> <li>3. Understand equilibrium of rigid bodies.</li> <li>4. Understand friction.</li> <li>5. Remembers and understands the basics of dynamics and understand</li> </ol>

	<p>Kinematics: rectilinear motion of bodies.</p> <p>6. Understand general curvilinear motion.</p> <p>7. Understand rotation of bodies about fixed axis</p> <p>8. Understand Kinetics of a particle: force and acceleration.</p>
<b>Indicative Contents</b>	<p>Indicative content includes the following.</p> <p><u>Chapter 1:</u> Introduction to engineering mechanics, forces analysis by using vector and scalar methods [SSWL=12 hrs]</p> <p><u>Chapter 2:</u> Moments and couples. [SSWL=4 hrs]</p> <p><u>Chapter 3:</u> Equilibrium of rigid bodies. [SSWL=4 hrs]</p> <p><u>Chapter 4:</u> Friction. [SSWL=4 hrs]</p> <p><u>Chapter 5:</u> Introduction to dynamics and Kinematic: rectilinear motion of bodies. [SSWL=8 hrs]</p> <p><u>Chapter 6:</u> General Curvilinear motion of bodies, curvilinear motion using Cartesian coordinate, curvilinear motion using normal and tangential coordinates. [SSWL=12 hrs]</p> <p><u>Chapter 7:</u> Rotation of bodies about fixed axis. [SSWL=4 hrs]</p> <p><u>Chapter 8:</u> Kinetics of a particle: force and acceleration. [SSWL=8 hrs]</p>

<b>Learning and Teaching Strategies</b>	
Strategies	<ul style="list-style-type: none"> <li>- <b>Lecture-based Teaching:</b> Explaining concepts then solve illustrated examples that achieves with student interaction and discussion.</li> <li>- <b>Tutorial Teaching:</b> Solve problems related to the theory lecture topic that achieves with student interaction and discussion, after solve or try to solve these problems by students as homework.</li> </ul>

<b>Student Workload (SWL)</b>			
<b>Structured SWL (h/sem)</b>	63	<b>Structured SWL (h/w)</b>	4
<b>Unstructured SWL (h/sem)</b>	87	<b>Unstructured SWL (h/w)</b>	4
<b>Total SWL (h/sem)</b>	<b>150</b>		

## Module Evaluation

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	4, 10	1, 5
	Online Assignments	10	10% (10)	2,3,4,5,6,8,9, 11,12,13,14,15	All
	Onsite Assignments	2	10% (10)	6, 13	2, 3, 6
	Report	1	10% (10)	6	1
Summative assessment	Midterm Exam	2hr	10% (10)	7	1, 2, 3, 4,
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

## Delivery Plan (Weekly Syllabus)

	Material Covered
<b>Week 1</b>	Introduction to engineering mechanics
<b>Week 2</b>	Forces analysis by using vector method
<b>Week 3</b>	Forces analysis by using scalar method
<b>Week 4</b>	Moments and couples
<b>Week 5</b>	Equilibrium of rigid bodies
<b>Week 6</b>	Friction
<b>Week 7</b>	Mid-term Exam
<b>Week 8</b>	Introduction to dynamics and Kinematic: Rectilinear motion of bodies with variable acceleration
<b>Week 9</b>	Rectilinear motion of bodies with constant acceleration
<b>Week 10</b>	General curvilinear motion of bodies
<b>Week 11</b>	Curvilinear motion using Cartesian coordinate
<b>Week 12</b>	Curvilinear motion using normal and tangential coordinates
<b>Week 13</b>	Rotation of bodies about fixed axis
<b>Week 14</b>	Kinetics of a particle: force and acceleration using Cartesian coordinate
<b>Week 15</b>	Kinetics of a particle: force and acceleration using normal and tangential coordinates

Learning and Teaching Resources		
	Text	Available in the Library?
Required Texts	مبادئ ميكانيك، سعد الدين محمد امين، الطبعة الاولى، دار الكتب للطباعة والنشر- الموصل ، 1991	Yes
Recommended Texts	- Engineering Mechanics-Statics, R.C.Hibbeler, 13 <sup>th</sup> ed., Pearson Prentice Hall, 2013. - Engineering Mechanics-Dynamics, R.C.Hibbeler, 12 ed., Pearson Prentice Hall, 2010. - Vector Mechanics for Engineers, by Beer,Johnstton, Mazurek, and Cornwell, 10th ed., McGraw-Hill, 2013.	No
Websites		

Delivery Plan (Weekly Tutorial Syllabus)	
	Material Covered
All Weeks	Solve problems related to the topics that explained by the theory lectures

Grading Scheme				
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.



رئيس اللجنة العلمية  
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