

Ministry of Higher Education and Scientific Research
Supervision and Scientific Evaluation Authority
Department of Quality Assurance and Academic Accreditation

Academic Program Description Form for Colleges and Institutes Academic Year

University: Shatt Al-Arab
College/Institute: Engineering
Scientific Department: Civil
Date of Form Completion: 01/09/2025



Signature
Name of Head of Department:

Asst. Lecturer Nabeel Najm Abdullah



Signature

Name of Scientific Assistant: Dr. Jawad Kadhim

Reviewed by:
Quality Assurance and University Performance Division
Name of Division Director: Dr. Jasem Mohsen Yasser

Signature:



الدكتور
جاسم محمد ياسر
Dr. Jasim Al-Battat



أ.م.د. احسان قاسم محمد
عميد كلية الهندسة

Dean's Approval

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Engineering Mechanics 1		Module Delivery	
Module Type	Core		☐ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	CE113			
ECTS Credits	8			
SWL (hr/sem)	180			
Module Level		1		
Administering Department		Type Dept. Code	College	Type College Code
Module Leader		e-mail		
Module Leader's Acad. Title		Module Leader's Qualification		
Module Tutor		Name (if available)	e-mail	E-mail
Peer Reviewer Name		e-mail		
Scientific Committee Approval Date		01/09/2025	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	The study of Engineering Mechanics aims to enable students to understand the basic principles of force analysis and equilibrium, and apply them in the analysis and design of bridges and buildings to ensure safety and sustainability. The course also teaches scientific engineering methods for dealing with friction, the centroid of stationary bodies, and determining their moment of inertia.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Apply knowledge of basic sciences, particularly mathematics and physics, to identify, formulate, and solve civil engineering problems, including understanding friction, methods of deriving motion, determining the centroid of regular and irregular shapes, and calculating the moment of inertia for regular and irregular shapes to assist in civil engineering analysis and design.
Indicative Contents المحتويات الإرشادية	The objectives of CE113 (Engineering Mechanics) are to learn the fundamental principles of mechanics and develop problem-solving skills by applying these principles to basic engineering problems. Specific topics covered include: friction and its effects on bodies, determining the centroid for regular and irregular shapes, and calculating the moment of inertia for various shapes.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	This unit is taught using a strategy that encourages students to participate in discussions, solve exercises, and simultaneously refine and expand their critical thinking skills. This will be achieved through lectures, interactive lessons, and consideration of small projects involving activities of interest to students.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ 15 اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	142	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	10
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	108	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	7.2
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	250		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)		
	Assignments	2	10% (10)		
	Projects / Lab.	1	10% (10)		
	Report	1	10% (10)		
Summative assessment	Midterm Exam	2 hr	10% (10)		
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction: Definitions, International System of Units, Newton's laws of motion and Force Systems
Week 2	Resultant Of Forces System: System of Forces, Composition and Resolution of Forces, Resolution and Composition of Two Concurrent, Coplanar forces, Resolution and Composition of three or more Concurrent, Coplanar forces, Equivalent couple, Force – couple system.
Week 3	Equilibrium: General, Free Body diagram (F.B.D), Modeling the Action of Forces in 2D Analysis, Two- and Three-Force Member, Equilibrium conditions
Week 4	Friction: Theory of Dry Friction, The static and kinetic friction forces, Coefficients of Friction, Angles of Friction, Problems Involving Dry Friction, Procedure for Analysis,
Week 5	Trusses; method of joint
Week 6	Method of section
Week 7	Center Of Gravity And Centroid
Week 8	Moments Of Inertia
Week 9	Dynamics: Introduction ,
Week 10	Dynamics: Introduction
Week 11	Rectilinear Kinematics
Week 12	Continuous Motion,
Week 13	Coplanar Curvilinear Motion of a Particle Using Rectangular Components
Week 14	Motion of Projectiles
Week 15	Motion of Projectiles
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الأسبوعي للمختبر

	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	- Vector Mechanics for Engineers, Ferdinand P. Beer Statics and Dynamics - Engineering Mechanics: by R. C. HIBBELER - Engineering Mechanics: Statics and Dynamics; by Archie Higdon and William B. Stiles. - Theory and Problems of Engineering Mechanics: Statics and Dynamics; by Mclean and Nelson. - Engineering Mechanics : Dynamics; 5th Edition by R. C. Hibbeler.	Yes
Recommended Texts		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 (فقد 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.