

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: Oil and Gas engineer

Date of Form Completion: 01/09/2025



Signature
Name of Head of Department:

Prof. Dr. Emad Hassan Al-Khersan



Signature

Name of Scientific Assistant: Dr. Jawad Kadhim

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

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Dean's Approval

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Dynamics mechanics / PeE124		Module Delivery	
Module Type	Basic		☒ Theory ☒ Lab ☐ Tutorial ☐ Practical ☒ Seminar	
Module Code	4BEP12			
ECTS Credits	6			
SWL (hr/sem)	90			
Module Level	1	Semester of Delivery		2
Administering Department	Oil and Gas Department	College	Engineering College	
Module Leader	Athraa Taher Ibrahim		e-mail	Athraa.taher.ibrahim@sa-uc.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	M.Sc.	
Module Tutor		e-mail		
Peer Reviewer Name	None	e-mail		
Scientific Committee Approval Date		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 aims of a general Dynamics mechanics course/module typically include: 1. The student acquires the skill of dealing with engineering mechanics, as it is one of the scientific engineering foundations involved in most practical fields. 2. Clarify the concept of kinesiology and its applications. 3. The course aims to give the student a new background that he can use to solve most of the engineering problems that he encounters in this field. 4. The student learns about some mechanical equipment and how to deal with it through engineering workshops.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	The specific learning outcomes of a general dynamics mechanics course/module may vary depending on the institution and the level of the course, but some common examples include: 1 Knowledge and Understanding 2. Clarify the basic concepts of engineering mechanics through lectures and practical exercises. 3 Expand the students' perceptions and enhance the concept of mechanics by giving them general principles and concepts about static forces, torque distribution, friction and moment of inertia. 4. Working on some mechanical equipment in the engineering workshops.
Subject-specific skills	1- a detailed study of mechanics. 2- Study the mathematical details that the student needs during their studies of engineering mechanics. 3- Preparing the student to be successful by learning the correct principles

	related to this science.
Assessment methods	1- Interaction within the lecture 2- Homework 3- laboratory reports 4- short quizzes (kuzat) 5- semester and final exams
Thinking Skills	1- Attention: Arousing the students' attention by addressing one of the applied topics on the display screen in the hall 2- Response: Follow up the student's interaction with the material displayed on the screen 3- Attention: Follow up on the interest of the student who interacted more with the presented material, by increasing this interaction by requesting related topics and applications to be presented. 4- Forming the direction: meaning that the student is sympathetic to the presentation and may have an opinion about the direction of the presented topic and defend it. 5- Formation of value behavior: meaning that the student reaches the top of the emotional ladder, so he has a stable level in the lesson and does not become lazy or fidgety.
General and Transferable Skills (other skills relevant to employability and personal development)	1- Develop the student's ability to perform the duties and deliver them on time 2- Logical and scientific thinking to find solutions to various obstacles 3- Develop the student's ability to dialogue and discussion 4- Develop the student's ability to deal with modern technology, especially the Internet

Teaching and Learning Methods	
	The learning and teaching strategies used in a general Dynamics mechanics /module will depend on the level of the course, the institution offering it, and the specific needs and goals of the students. However, some common strategies that may be used to facilitate learning and understanding of the subject matter include: 1. Using modern means in presenting the scientific and theoretical side, such as Data Show devices, to attract attention and attract students, so that the idea can be better

	delivered to the student. 2 Giving students extra-curricular assignments that require them to exert skills and self-explanations in experiential ways. 3. Interrogation of students through discussion sessions by asking thinking questions (how, why, when, where, which) for specific topics. 4 Using the method of brainstorming and feedback in order to activate the accumulated experiences of students by linking what has been taken from study materials in the previous academic stages and linking them with the new ones. 5 Providing students with practical skills through conducting practical experiments on laboratory equipment.
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Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	4	Student understanding of the topic	linear motion	theoretical + practical	Questions and discussion
2	4	Student understanding of the topic	linear motion	theoretical + practical	Questions and discussion
3	4	Student understanding of the topic	linear motion	theoretical + practical	Questions and discussion
4	4	Student understanding of the topic	curved motion	theoretical + practical	Questions and discussion+ quiz
5	4	Student understanding	curved motion	theoretical + practical	Questions and

			g of the topic			discussion
	6	4	Student understanding of the topic	curved motion	theoretical + practical	Questions and discussion
	7	4	Student understanding of the topic	rotational motion	theoretical + practical	Questions and discussion
	8	4	Student understanding of the topic	rotational motion	theoretical + practical	Questions and discussion
	9	4	Student understanding of the topic	rotational motion	theoretical + practical	Questions and discussion
	10	4	Student understanding of the topic	work and energy	theoretical + practical	Questions and discussion+ quiz
	11	4	Student understanding of the topic	work and energy	theoretical + practical	Questions and discussion
	12	4	Student understanding of the topic	work and energy	theoretical + practical	Questions and discussion
	13	4	Student understanding of the topic	work and energy	theoretical + practical	
	14	4	Student	audit	theoretical +	Questions

		understandin g of the topic		practical	and discussion
15	4	Student understandin g of the topic	audit	theoretical + practical	Questions and discussion

Infrastructure	
Required reading: .CORE TEXTS .COURSE MATERIALS .OTHER	- Vector Mechanics for Engineers – Statics & Dynamics, Beer & Johnston; 10 edition. - Engineering Mechanics Statics Vol. 1, Engineering Mechanics Dynamics Vol. 2, Meriam & Kraige; 6th edition
Special requirements (include for example workshops, periodicals, IT software, websites)	Engineering Mechanics – Statics, lectures by instructor, R. Ganesh Narayanan. Engineering Mechanics – Dynamics, lectures by instructor, Y. Wang. Lectures of other instructors in the department. Any other references in this field.
Community based facilities (include for	books, resources and articles published on various websites

example, guest Lectures, internship, field studies)	
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Admissions	
Pre-requisites	1- The material presented above is a synthesis material by the professor of the subject from several sources and research, and it is updated according to the development of research methods in order to link the basics and principles of the material and the developments that occur to it. 2- Access to the modern sources published globally, as well as the modern resources available on the Internet, and use them to develop and update the lectures and information that the student is scheduled to see.
Minimum number of students	50
Maximum number of students	50