Template of Course Specification

Name and Scientific title of the subject instructor: Dr. Mohaimen Al-Thamir

Name of Course: Mechanics

Course Specification

1.	**Teaching Institution**	**Al-Ayen University / Petroleum Engineering College**
2.	**University Department / Center**	Petroleum Engineering College
3.	**Course Title / Code**	Mechanics
4.	**Program(s) to which it contributes**	B.Sc.
5.	**Modes of Attendance offered**	Class attendance
6.	**Semester/Year**	1st and 2nd, 2023
7.	**Number of hours tuition (total)**	60
8.	**Date of production/revision of this Specification**	Jan. 2023
9.	**Aims of the Course: The student will know the following:**	
	1	Understanding the principals of Statics and finding out the resultant of forces and analyzing a force into its perpendicular components.
	2	Analyzing the forces and moments acting on a body.
	3	Finding out the friction forces and center of gravity of shapes.
	4	Understanding the principals of Dynamics and discussing different types of motion; rectilinear, curvilinear, and rotation.
	5	Understanding the methods of finding out the work and energy experienced by a body.
	6	Understanding the types of vibrations and the corresponding analyzing mathematics.
10.	**Learning Outcomes, Teaching, Learning and Assessment Methods**	
	A	**Knowledge and understanding:** The Mechanics program seeks to develop capabilities of students to understand the effects of forces and moments on the body in correlation with potential work, energy, and vibrations of a body reaching for a best understanding of the material behavior in that a particular engineering application.
	B	**Subject-specific skills:** The program provides the capability to scientifically analyze the engineering problem and to find out the potential behavior that the material/body can undergo.
	C	**Assessment methods:** The assessment method are divided into three parts; quizzes, monthly exams, and final exams.
	D	**Thinking Skills:** Providing a skilled staff to the scientific community

	that can effectively contribute to develop and tackle the relevant engineering problems.
E	**Teaching and learning methods:** The teaching is performed theoretically based upon theoretical concepts of Mechanics in both Statics and Dynamics concepts.
F	**General and Transferable Skills (other skills relevant to employability and personal development):** The most important skills are the knowledge and capability to provide scientific proposals to tackle a given engineering problem.

11.	**Course Structure**				
Week	**Hours**	**Required Teaching Outputs**	**Unit/Module or Topic Title**	**Teaching Methods**	**Assessment Methods**
1.	2	Student will understand	Principals of Statics	Class attendance	Quizzes, monthly exams, and final exams
2.	2	Student will understand	Introduction , resultant of force system	Class attendance	Quizzes, monthly exams, and final exams
3.	2	Student will understand	Finding out the force resultant using graphical method	Class attendance	Quizzes, monthly exams, and final exams
4.	2	Student will understand	Finding out the force resultant using graphical method	Class attendance	Quizzes, monthly exams, and final exams
5.	2	Student will understand	Finding out the force resultant using trigonometric method	Class attendance	Quizzes, monthly exams, and final exams
6.	2	Student will understand	Finding out the force resultant using trigonometric method	Class attendance	Quizzes, monthly exams, and final exams
7.	2	Student will understand	Orthogonal components of a force	Class attendance	Quizzes, monthly exams, and final exams
8.	2	Student will understand	Friction	Class attendance	Quizzes, monthly exams, and final exams
9.	2	Student will understand	Friction	Class attendance	Quizzes, monthly exams, and final exams
10.	2	Student will	Moment of force	Class	Quizzes, monthly

		understand		attendance	exams, and final exams
11.	2	Student will understand	Moment of force	Class attendance	Quizzes, monthly exams, and final exams
12.	2	Student will understand	Couples; resultant of coplanar force systems	Class attendance	Quizzes, monthly exams, and final exams
13.	2	Student will understand	Couples; resultant of coplanar force systems	Class attendance	Quizzes, monthly exams, and final exams
14.	2	Student will understand	Center of gravity	Class attendance	Quizzes, monthly exams, and final exams
15.	2	Student will understand	Center of gravity	Class attendance	Quizzes, monthly exams, and final exams
16.	2	Student will understand	Center of gravity	Class attendance	Quizzes, monthly exams, and final exams
17.	2	Student will understand	Center of gravity	Class attendance	Quizzes, monthly exams, and final exams
18.	2	Student will understand	Principals of Dynamics	Class attendance	Quizzes, monthly exams, and final exams
19.	2	Student will understand	Rectilinear motion	Class attendance	Quizzes, monthly exams, and final exams
20.	2	Student will understand	Rectilinear motion	Class attendance	Quizzes, monthly exams, and final exams
21.	2	Student will understand	Curvilinear motion	Class attendance	Quizzes, monthly exams, and final exams
22.	2	Student will understand	Curvilinear motion	Class attendance	Quizzes, monthly exams, and final exams
23.	2	Student will understand	Rotational motion	Class attendance	Quizzes, monthly exams, and final exams
24.	2	Student will understand	Rotational motion	Class attendance	Quizzes, monthly exams, and final exams
25.	2	Student will understand	Work and Energy	Class attendance	Quizzes, monthly exams, and final exams

26.	2	Student will understand	Work and Energy	Class attendance	Quizzes, monthly exams, and final exams
27.	2	Student will understand	Work and Energy	Class attendance	Quizzes, monthly exams, and final exams
28.	2	Student will understand	Mechanical Vibrations	Class attendance	Quizzes, monthly exams, and final exams
29.	2	Student will understand	Mechanical Vibrations	Class attendance	Quizzes, monthly exams, and final exams
30.	2	Student will understand	Mechanical Vibrations	Class attendance	Quizzes, monthly exams, and final exams

12.	**Infrastructure**
Required reading: **·CORE TEXTS** **·COURSE MATERIALS** **· OTHER**	• ENGINEERING MECHANICS STATICS J. L. MERIAM • L. G. KRAIGE • J. N. BOLTON • ENGINEERING MECHANICS DYNAMICS J. L. MERIAM • L. G. KRAIGE • J. N. BOLTON
Community-based facilities) include for example, guest Lectures, internship, field studies)	Scientific collaboration with other academic staff in the relevant field is one of our future plan to develop the program.

13.	**Admissions**
Pre-requisites	
Minimum number of students	10
Maximum number of students	30

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الكلية التقنية الهندسية
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