

Course Description Form

1. Course Name:	
Mechanical Design	
2. Course Code:	
MPAC305	
3. Semester / Year:	
Annual system 2024–2025	
4. Description Preparation Date:	
23–9–2024	
5. Available Attendance Forms:	
Weekly Theoretical and practical lectures	
6. Number of Credit Hours (Total) / Number of Units (Total)	
90 hour/ 5 unit	
7. Course administrator's name (mention all, if more than one name)	
Name: Asst. Lect. Riyam Abd-Alrazaq Salman Email: riyam.a@uowa.edu.iq	
8. Course Objectives	
Course Objectives	<ul style="list-style-type: none">-Learning the design process of mechanical-To improve competence in multi-axis stress analysis.- To obtain a knowledge in the use of the proper failure theories under steady and variable loadings.-To develop the design skills of mechanical components under steady and variable loadings.- To be able to solve open-ended design problems, cope with decision making and satisfy competing objectives.-. Use and integrate the fundamentals studied previously towards the goal of analyzing and designing mechanical components to achieve satisfactory levels of safety and life.

9. Teaching and Learning Strategies

Strategy

Assessment is based on hand-in assignments, Written exam, Quizzes, Tutorial, Seminars, Reports.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1,2	6	Student understanding of the lecture	Simple Stresses in Machine Parts	Theoretical and practical lectures, scientific films, paper and electronic books	Daily and weekly tests, daily attendance, monthly tests, reports
3,4	6	Student understanding of the lecture	Engineering Materials and their Properties		
5,6	6	Student understanding of the lecture	Variable Stresses in Machine Parts		
7,8	6	Student understanding of the lecture	Combined Steady and Variable Stresses		
9,10	6	Student understanding of the lecture	Screwed Joints		
11	3	Student understanding of the lecture	Riveted Joints		
12,13	6	Student understanding of the lecture	Welded Joints		

14,15	6	Student understanding of the lecture	Power Screws design		
16,17 18	9	Student understanding of the lecture	Shafts design		
19	3	Student understanding of the lecture	Key and coupling		
20	3	Student understanding of the lecture	Cotter joint		
21	3	Student understanding of the lecture	Knuckle joint		
22,23	6	Student understanding of the lecture	Clutches and brakes		
24,25	6	Student understanding of the lecture	Bearing design		
26,27	6	Student understanding of the lecture	Design of sliding bearing		
28	3	Student understanding of the lecture	Pressure vessels and pipes		
29,30	6	Student understanding of the lecture	Gears design		

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Machine Design - Khurmi
Main references (sources)	Machine Design - Khurmi
Recommended books and references (scientific journals, reports...)	- Design Of Machine Elements By Shishleys. Machine Design.

