

Course Description Form	
Course Code and Name	ME304 Machine Elements-II
Course Semester	6
Catalog Content	Springs, Ball and Journal Bearings, Gear Design, Brakes and Couplings, Belts and ropes
Textbook	Shingley'in Makine Mühendisliği Tasarımı, Richard G. Budynas, J. Keith Nisbett, 8. Basım, Türkçe, Literatür Yayıncılık, McGraw-Hill,
Supplementary Textbooks	Lecture Notes B. Tuç ve N. Gemalmayan,2015
Credit	6
Prerequisites of the Course (Attendance Requirements)	MM303 Machine Elements-I
Type of the Course	Compulsory
Instruction Language	Turkish
Course Objectives	<ul style="list-style-type: none"> - Gain an ability to design machine elements - Performing the application of general design methods - Establishing methods, procedures and principles for designing machine elements
Course Learning Outcomes	<ol style="list-style-type: none"> 1. Ability to design mechanical springs 2. Ability to select proper ball and roller bearings 3. Ability to design journal bearings 4. Ability to design of gears (spur, helical, bevel, worm and conical) 5. Ability to design brakes and couplings 6. Ability to select belts and ropes
Instruction Methods	Theoretical and design project
Weekly Schedule	<ol style="list-style-type: none"> 1. Week Introduction, Mechanical Springs 2. Week Mechanical Springs 3. Week Ball bearings 4. Week Roller bearings 5. Week Lubrication and journal bearings 6. Week Gears 7. Week Spur Gears 8. Week Midterm 1; Spur Gears 9. Week Spur and Helical Gears 10. Week Spur and Helical Gears 11. Week Worm and bevel gears 12. Week Worm and bevel gears 13. Week Midterm 2; Brakes and couplings 14. Week Flexible machine elements: belts and ropes 15. Week Final Exam
Teaching and Learning Methods <i>(These are examples. Please fill which activities you use in the course)</i>	Weekly theoretical course hours:3 Weekly applied course hours:0 Reading Activities:3 Internet browsing, library work:3 Designing and implementing materials:4 Report preparing:3 Preparing a Presentation: 1 Preparation of Midterm and Midterm Exam :3 Final Exam and Preparation for Final Exam:3

Assessment Criteria		Numbers	Total Weighting (%)						
	Midterm Exams	2	50						
	Assignment								
	Application								
	Projects	1	10						
	Practice								
	Quiz								
	Percent of In-term Studies (%)	60							
	Percentage of Final Exam to Total Score (%)	40							
Attendance	%70								
Workload	Activity	Total Number of Weeks	Duration (weekly hour)	Total Period Work Load					
	Weekly Theoretical Course Hours	14	3	42					
	Weekly Tutorial Hours								
	Reading Tasks	14	3	42					
	Studies	6	3	18					
	Material Design and Implementation	8	4	32					
	Report Preparing	2	3	6					
	Preparing a Presentation	1	1	1					
	Presentations								
	Midterm Exam and Preperation for Midterm Exam	2	3	6					
	Final Exam and Preperation for Final Exam	1	3	3					
	Other (should be emphasized)								
	Total Workload				150				
	Total Workload / 25				6				
Course Credit (ECTS)				6					
Contribution Level Between Course Learning Outcomes and Program Outcomes	No	Program Outcomes	1	2	3	4	5		
	1	Adequate knowledge of subjects specific to mathematics, natural sciences and related engineering disciplines; ability to use theoretical and applied knowledge related to these areas in complex engineering problems.				x			
	2	Ability to identify, define, formulate, and solve complex engineering problems; ability to select and apply appropriate						x	

		analysis and modeling methods to this end.					
	3	Ability to design a complex system, process, device or product under realistic constraints and conditions to meet specific requirements; ability to apply modern design methods for this purpose.				x	
	4	Ability to develop, select and use modern techniques and tools required for the analysis and solution of complex problems encountered in engineering practice; ability to use information technologies effectively.			x		
	5	Ability to design and conduct experiments, collect data, analyze and interpret results to investigate complex engineering problems or discipline-specific research topics					
	6	Ability to work effectively in disciplinary and multi-disciplinary teams; ability to work individually.			x		
	7	Ability to communicate effectively in Turkish, both orally and in writing; knowledge of at least one foreign language; the ability to write effective reports and understand written reports, to prepare design and production reports, to deliver effective presentations, to give and receive clear and understandable instructions.					
	8	Awareness of the necessity of lifelong learning; the ability to access information, to follow developments in science and technology, and to renew oneself constantly.					
	9	Acting in accordance with ethical principles, professional and ethical responsibility; information about standards used in engineering applications.					
	10	Information about business life practices such as project management, risk management and change management; awareness of					

		entrepreneurship, innovation; information about sustainable development.						
	11	Knowledge about the universal and social effects of engineering applications on health, environment and safety and the problems of the age reflected in the engineering field; awareness of the legal consequences of engineering solutions.						
The Course's Lecturer(s) and Contact Informations	<ol style="list-style-type: none"> 1. Oguzhan Yilmaz, Prof.Dr. oguzhanyilmaz@gazi.edu.tr 2. Gökhan Küçükürk, Assoc. Prof.Dr. gkucukturk@gazi.edu.tr 3. Nihat Gemalmayan, Dr. nihatgem@gazi.edu.tr 4. Yavuz Zümrüt, Dr. yzumrut@gazi.edu.tr 							