MACHINE ELEMENTS

1	Course Title:	MACHINE ELEMENTS	
2	Course Code:	TEK3003	
3	Type of Course:	Optional	
4	Level of Course:	First Cycle	
5	Year of Study:	3	
6	Semester:	5	
7	ECTS Credits Allocated:	4.00	
8	Theoretical (hour/week):	2.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	No	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Dr. Ögr. Üyesi GÜLTEKIN KARADERE	
15	Course Lecturers:	Doç. Dr. Gültekin KARADERE	
16	Contact information of the Course Coordinator:	karadere@uludag.edu.tr 224-2941977 UÜ MMF Makine Müh. Bölümü, 16059 Bursa.	
17	Website:		
18	Objective of the Course:	To introduce the machine elements in machine design. To perform strength and sizing calculations of machine elements by using basic engineering sciences.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	Determination of stresses in machine elements
		2	Design of welded and bolted joints
		3	Design of shaft-to-hub connections
		4	Design of springs
		5	Design of axles and shafts
		6	Design of sliding and rolling bearings
		7	Design of couplings and clutches
		8	Design of belt drive mechanisms
		9	Design of gear mechanisms
		10	
21	Course Content:		

Course Content:

Week	Theoretical	Practice
1	Stress analysis	
2	Static loading	
3	Variable loading	
4	Welded joints	
5	Bolted joints	

6	Shaft-to-hub connections	
7	Springs	
8	Repeating courses and midterm exam	
9	Axles and shafts	
10	Sliding and rolling bearings	
11	Couplings and clutches	
12	Belt drive mechanisms	
13	Gear mechanisms	
14	Gear mechanisms	

22	Textbooks, References and/or Other Materials:	1. Lecture notes (in Turkish), Gültekin Karadere, 2015. 2. Makina Elemanları ve Konstrüksiyon Örnekleri (in Turkish) Vol. 1,2 and 3, Prof. Dr. Talat Tevrüz, 2015. 3. Makina Elemanları, Vol. 1/2(in Turkish) , Erdem Koç, 2015/2013. 4. Makina Elemanları Çözümlü Problemler (in Turkish), Erdem Koç, 2015. 5. Makine Elemanları ve Konstrüksiyon Örnekleri (in Turkish), Fatih C. Babalık, 2010. 6. Makine Elemanları Çözümlü Problem Kitabı (in Turkish), Fatih C. Babalık, Kadir Çavdar, Nedim Gerger, Fatih Karpat, Nejat Kıraç, 2009. 7. Mechanical Engineering Design, J.E. Shigley, C.R. Mischke, R.G. Budynas, 2004. 8. Makine Elemanları (in Turkish) Prof. Dr. Osman

	Activites		Number	Duration (hour)	Total Work Load (hour)
23	Assesment				
	Theoretical		14	2.00	28.00
	Practicals/Labs		0	0.00	0.00
	Self study and preperation	1	14	1.00	14.00
	Midterm Exam		1	30.00	
	Homeworks		12	1.50	18.00
	Projects		0	0.00	0.00
	Home work-project	12	1	10.00	
	Field Studies		0	0.00	0.00
	Midterm exams		1	10.00	10.00
	Total	16	100.00		
	Others		2	5.00	10.00
	Success Grade		1	10.00	10.00
	Final Exams				
	Total Work Load				90.00
	Total		100.00		
	Total work load/ 30 hr				3.00
	ECTS Credit of the Course				4.00
	Course				

24	**ECTS / WORK LOAD TABLE**

25	**CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS**															
	PQ1	**PQ2**	**PQ3**	**PQ4**	**PQ5**	**PQ6**	**PQ7**	**PQ8**	**PQ9**	**PQ10**	**PQ11**	**PQ12**	**PQ13**	**PQ14**	**PQ15**	**PQ16**
ÖK1	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0

ÖK4	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK5	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK6	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK7	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK8	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK9	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**