

## MACHINE ELEMENTS

1	Course Title:	MACHINE ELEMENTS
2	Course Code:	BSM3807-Z
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	3
6	Semester:	5
7	ECTS Credits Allocated:	3.00
8	Theoretical (hour/week):	1.00
9	Practice (hour/week):	2.00
10	Laboratory (hour/week):	0
11	Prerequisites:	none
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. Halil Ünal
15	Course Lecturers:	yok
16	Contact information of the Course Coordinator:	e-posta : hunal@uludag.edu.tr Telefon: 0 224 2941607 Adres: Uludağ Üniversitesi, Ziraat Fakültesi, Biyosistem Mühendisliği Bölümü, Görükle Kampüsü, 16059, Nilüfer/BURSA
17	Website:	<a href="http://www20.uludag.edu.tr/~okursoy">http://www20.uludag.edu.tr/~okursoy</a>
18	Objective of the Course:	the loads and conditions of farm machinery driven machine elements, depending on the intended use of the appropriate cross-sectional size and strength calculations and design elements, bolts, rivets, welding and welded joints, belt and pulley layouts, designs, power transmission shafts, helical springs, spiral springs and leaf calculation of springs, gears and gear mechanisms, brakes, couplings and bearings with the theoretical approaches to these elements
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	
	1	To know the basic machine element and parts
	2	To understand the technical information and accounts for the work of machine parts
	3	According to the technique used in machine design and functional elements of the right to choose an approach
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21	Course Content:	
	<b>Course Content:</b>	
Week	Theoretical	Practice

1	The aim of the course, what the lesson to be conducted, test method, the course in order to achieve the expected benefits will be explained that the students what their own responsibilities	introduction of machine elements		
2	The basic machine elements expansion, elastic modulus, moment of inertia	The basic machine elements expansion, elastic modulus, moment of inertia		
3	Fundamental strength properties of machine elements and materials and these materials	Introduction of machine parts, standards, teaching		
4	Design of machine elements, and Soderberg and Castigliano criteria	Information for Mechanical Design. The main problems encountered and solutions		
5	Power transmission shafts and shafts. Shafts, torque, moment, torsion and bending concepts	Power transmission shafts and shafts. Shafts, torque, moment, torsion and bending concepts		
6	Machine elements, links and welded joints	Machine elements, links and welded joints		
7	midterm exam	Machine elements, links and welded joints		
8	Machine elements, links and welded joints	Removable links. Screws on designs. rivet connections		
9	Removable links. Screws on designs. rivet connections	problem solving session		
10	Springs and spring designs used in farm machinery. Leaf springs, helical springs and damping and vibration problems	Springs and spring designs used in farm machinery. Leaf springs, helical springs and damping and vibration problems		
11	Power transmission components, belt and pulley mechanisms, gears and gear boxes	Power transmission components, belt and pulley mechanisms, gears and gear boxes		
12	Power transmission components, belt and pulley mechanisms, gears and gear boxes	Power transmission components, belt and pulley mechanisms, gears and gear boxes		
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical and general summarization		14	1.00	14.00
Practicals/Labs		14	2.00	28.00
Self study and preparation		Machine Design. Theory and the Practice. McMillan Co. Inc. New York, NY, USA	18.00	36.00
Homeworks		1	4.00	4.00
Projects		2	16.00	32.00
Field Studies		0	0.00	0.00
Midterm exams		1	2.00	2.00
Others		0	0.00	0.00
Final Exams		1	2.00	2.00
TERM LEARNING ACTIVITIES		NUMBER	WEIGHT	
Total Work Load				96.00
Midterm Exam		1	25.00	3.20
Total Work load/ 30 hr				
ECTS Credit of the Course				3.00
Home work-project		1	15.00	
Final Exam		1	60.00	
Total		3	100.00	
Contribution of Term (Year) Learning Activities to Success Grade		40.00		
Contribution of Final Exam to Success Grade		60.00		
Total		100.00		
Measurement and Evaluation Techniques Used in the 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	2	2	2	2	3	2	2	2	2	5	5	2	0	0	0	0
ÖK2	3	5	4	2	5	2	2	4	2	4	5	3	0	0	0	0
ÖK3	4	5	3	3	5	2	2	4	2	4	5	3	0	0	0	0
LO: Learning Objectives    PQ: Program Qualifications																
Contribution Level:	1 very low			2 low			3 Medium			4 High			5 Very High			