



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Machine Elements II							
Course Code		MKE210		Course Level		Short Cycle (Associate's Degree)			
ECTS Credit	2	Workload	50 (Hours)	Theory	1	Practice	1	Laboratory	0
Objectives of the Course		To comprehend the basic strength information to be encountered in design, to classify the machine elements according to their properties, to calculate the strength of the machine elements and to select the appropriate element are aimed to gain competencies.							
Course Content		Contact elements, Clutches, Couplings, Energy storage elements, Springs, Power and Energy transmission elements, Gear wheels, Spur gear units, Sealing elements, Welding Connections Calculations							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Demonstration, Discussion, Problem Solving					
Name of Lecturer(s)		Assoc. Prof. Ali Kemal ÇAKIR							

### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

### Recommended or Required Reading

1	Makine Elemanları, Cahit Kurbanoglu
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Week	Weekly Detailed Course Contents	
1	Theoretical	Contact elements, Couplings, Couplings,
2	Theoretical	Contact elements, Couplings, Couplings,
3	Theoretical	Contact elements, Couplings, Couplings,
4	Theoretical	Energy storage elements, Springs,
5	Theoretical	Energy storage elements, Springs,
6	Theoretical	Power and Energy transmission components,
7	Theoretical	Energy storage elements, Springs,
8	Theoretical	Energy storage elements, Springs,
9	Intermediate Exam	Mid-term
10	Theoretical	Gearwheels, Straight front gear mechanisms,
11	Theoretical	Gearwheels, Straight front gear mechanisms,
13	Theoretical	Gearwheels, Straight front gear mechanisms,
14	Theoretical	Sealing elements,
15	Theoretical	Sealing elements,

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	1	14
Lecture - Practice	14	0	1	14
Assignment	5	2	2	20
Midterm Examination	1	0	1	1
Final Examination	1	0	1	1
Total Workload (Hours)				50
[Total Workload (Hours) / 25*] = ECTS				2

\*25 hour workload is accepted as 1 ECTS

### Learning Outcomes

1	Will be able to design and control the contact elements.
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2	Will be able to design and control energy storage elements.
3	Be able to design and control power and energy transmission elements.
4	Will be able to design and control bearing elements
5	Define the effects of loads and forces on machine elements.

#### Programme Outcomes (Machinery)

1	To be able to know general properties and usage areas of industrial materials and make selection.
2	Design of machine elements.
3	To be able to make production using machining and welding machines without machining.
4	To be able to make measurement and quality control processes with machine tools for measuring and control equipment.
5	To be able to make necessary corrections in order to determine the mistakes by using the necessary non-destructive test methods in welded parts and to eliminate these mistakes.
6	Preventive measures to prevent the occurrence of these faults by preliminarily determining the faults that will occur in the machines as statistical data and to make necessary interventions in case of breakdown.
7	They can make drawings of work pieces on CAD station and apply them on CNC looms. Ability to operate and use CAD / CAM and AUTOCAD package programs.
8	To be able to transfer engineering science and technology to practice by making calculations in the direction of scientific principles.
9	It can repair the elements in pneumatic and hydraulic systems which are indispensable elements of automatic control systems and can regulate their work.
10	The student who is trained as a machine technician during the whole program knows that industrial task definition in the field of work is error finding, problem solving, decision making, planning of functions and activities and they can be achieved by aiming to acquire these characteristics.

#### Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5
P1	4	4	4	5	4
P2	5	5	5	4	5
P3	4	2	4	2	4
P4	5	5	5	5	2
P5	4	4	4	5	3
P6	5	3	5	5	5
P7	3	5	4	4	4
P8	4	4	5	5	5
P9	5	3	4	4	3
P10	3	3	5	5	4

