AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Testing of Materials								
Course Code	MKE253		Couse Level	Short Cycle (Associate's Degree)					
ECTS Credit	2	Workload	50 *(Hours)*	Theory	2	Practice	0	Laboratory	0
Objectives of the Course	Material inspection methods and use of measuring instruments.								
Course Content	Destructive and Non-Destructive Inspection Methods								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Experiment, Demonstration								
Name of Lecturer(s)	Assoc. Prof. Murat ÜNVERDİ								

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

Recommended or Required Reading	
1	Malzeme Muayene Ders Notları

Week	Weekly Detailed Course Contents	
1	Theoretical	Material Testing
2	Theoretical	Destructive Inspection Methods
3	Theoretical	Tensile test, compression test
4	Theoretical	Hardness tests (Brinell, Vickers, Rockwell)
5	Theoretical	Creep test, notch impact test (Izod and Charpy)
6	Theoretical	Fatigue test, wear test
7	Theoretical	Non-Destructive Inspection Methods
8	Theoretical	Ultrasonic examination method
9	Intermediate Exam	Midterm Examination
10	Theoretical	Penetrant inspection methods
11	Theoretical	Magnetic particle inspection method
12	Theoretical	Examination method with swirl (Fuko) currents
13	Theoretical	Radiographic examination method
14	Theoretical	Examination method with infrared rays
15	Theoretical	Developments in Examination Methods
16	Final Exam	Final Examination

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Assignment	5	0	1	5
Term Project	5	0	1	5
Midterm Examination	1	5	1	6
Final Examination	1	5	1	6
			Total Workload (Hours)	50
			[Total Workload (Hours) / 25*] = **ECTS**	2
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	Material Inspection Methods
2	Destructive inspection

3	Non-Destructive inspection
4	Hardness Measurement Methods
5	Use of measuring instruments

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*

	L2	L5
P1	4	4
P2	4	4
P3	4	4
P4	3	5
P5	4	4
P6	5	3
P7	4	4
P8	4	4
P9	5	4
P10	4	5