AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Measurement and Control								
Course Code	MKE107		Couse Level	Short Cycle (Associate's Degree)					
ECTS Credit	2	Workload	50 *(Hours)*	Theory	2	Practice	0	Laboratory	0
Objectives of the Course	The aim of this course, frequently used in workshop conditions are necessary for manufacturing technicians in the basic principles of measuring instruments to introduce, teach the use of manufactured parts to grasp how to do inspections, controls, gauges are used to introduce the basic principles to teach and use.								
Course Content	Calipers, Micrometers, Comparators, Angle Measurement, Surface Roughness Measurement, Screw Measurement, Gear Wheel Measurement, Gauge and Optical Glass Surface Control, Shape Tolerance Control, Size Tolerance Control.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Demonstration, Individual Study								
Name of Lecturer(s)	Ins. Ahmet Özcan GÜL, Ins. Alpaslan BAŞARIK								

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

Recommended or Required Reading	
1	Measuring Technique
2	MEGEP Measurement Control and Marking

Week	Weekly Detailed Course Contents	
1	Theoretical	Measuring and control
2	Theoretical	Calipers
3	Theoretical	Micrometers
4	Theoretical	Angle measurement
5	Theoretical	Surface roughness measurement
6	Theoretical	measurement of screws
7	Theoretical	measurement of gearwheel
8	Theoretical	measurement of gearwheel
9	Intermediate Exam	Midterm
10	Theoretical	To control the surfaces with gauges and optical glasses
11	Theoretical	To control shape - position tolerance
12	Theoretical	To control shape - position tolerance
13	Theoretical	To control shape - position tolerance
14	Theoretical	hardness measurement
15	Theoretical	hardness measurement
16	Final Exam	Final Exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Studio Work	5	0	2	10
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	Learn the basic principles of measuring instruments
2	Measurement and control environments and understanding of errors
3	Understand the use of measuring instruments.
4	To understand how to control the produced parts.
5	To understand the basic principles of jigs.

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	2	3	4	5	3
P2	5	4	4	4	4
P3	4	4	4	4	3
P4	5	4	4	3	5
P5	5	4	4	4	3
P6	5	5	4	2	4
P7	4	5	4	4	5
P8	4	5	4	5	3
P9	5	4	4	3	2
P10	3	3	4	4	1