



AYDIN ADNAN MENDERES UNIVERSITY
AYDIN VOCATIONAL SCHOOL
MECHANICAL AND METAL TECHNOLOGY
MACHINERY
COURSE INFORMATION FORM

Course Title	Production Quality Control								
Course Code	MKE155			Course Level		Short Cycle (Associate's Degree)			
ECTS Credit	3	Workload	73 (Hours)	Theory	2	Practice	2	Laboratory	0
Objectives of the Course	To understand the importance and benefits of standardization, to recognize national and international standardization organizations, to explain the quality and quality concepts, to understand the importance of quality assurance, to understand and make practices of the basic principles of Statistical Quality Control which is an important technique used in the quality control systems due to industrial development.								
Course Content	Standardization, the benefits of the standardization to the manufacturer, to consumers and the economy, accreditation and certification, national and international standardization organizations, the basic quality concepts and relationships, the quality approaches and quality leaders, quality management system, professional standards, quality control, history, statistical quality control concepts, control cards, inspection sampling methods.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Problem Solving								
Name of Lecturer(s)	Ins. Mustafa Burak GÜNAY								

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	30
Final Examination	1	70

Recommended or Required Reading

1	Üretimde Kalite Kontrol ders notları
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Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to concepts of quality and total quality management
2	Theoretical	Basic principles of teamwork and learning
3	Theoretical	Methods and philosophy of statistical process control
4	Theoretical	Control charts for attributes
5	Theoretical	Control charts for variables
6	Theoretical	Probability in Quality Control
7	Theoretical	Probability in Quality Control
8	Theoretical	Probability in Quality Control
9	Theoretical	Cumulative-Sum and Exponentially Weighted Moving-Average Control Charts
	Intermediate Exam	MIDTERM
11	Theoretical	Process Capability Analysis
12	Theoretical	Multivariate quality control
13	Theoretical	Introduction to Experimental Design and Factorial Experiments
14	Theoretical	Lot-by-Lot Acceptance Sampling for attributes and by variables
15	Theoretical	Some Useful Approximations
16	Final Exam	FINAL EXAM

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Lecture - Practice	14	0	2	28
Assignment	5	0	3	15
Midterm Examination	1	0	1	1



Final Examination	1	0	1	1
Total Workload (Hours)				73
[Total Workload (Hours) / 25*] = ECTS				3
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	Tests assumptions of the method
2	Tests significance of the model
3	Estimates multiple regression models
4	Gains ability of their implementation in a real environment.
5	Learns the statistical basis of quality control, tools of statistical quality control and their practice, and process analysis

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

