AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Computer Aided Manufacturing - I								
Course Code		MKE203		Couse Level		Short Cycle (Associate's Degree)			
ECTS Credit	5	Workload	125 *(Hours)*	Theory	2	Practice	2	Laboratory	0
Objectives of the Course	is aimed to gain proficiency to create toolpaths for CNC lathe machines using two-dimensional, three-dimensional drawings using CAM programs.								
Course Content	Making working screen and drawing settings, 3D drawing commands and 3D drawing, CNC lathe data transfer methods, CNC lathe data transfer methods								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Demonstration, Case Study, Individual Study					
Name of Lecturer(s)	Ins. Alpaslan BAŞARIK								

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading	
1	Bilgisayar Destekli Üretim I Ders Notları

Week	**Weekly Detailed Course Contents**	
1	Theoretical & Practice	Drawing drawing and drawing commands, Drawing, Editing pre-modeling, Creating a file (specifying the shape of the rough part)
2	Theoretical & Practice	3D Drawing commands and 3D drawing, Drawings, Edit ready-made models, 3D File creation options (specify rough shape)
3	Theoretical & Practice	etermination of reference point, Identification of element on solid model part
4	Theoretical & Practice	Transferring the parts to be machined in two dimensions to the machining part, showing the tool path, selecting the insert and tip holder to be used, forming the insert and tool holder
5	Theoretical & Practice	Selecting the operation to be used, forehead turning operation, rough turning operation, finish turning operation
6	Theoretical & Practice	Rough channel turning, precision channel turning, hole drilling, hole turning, threading
7	Theoretical & Practice	Simulation of tool paths, Transferring the part to be machined to the three-dimensional machining part, Defining feature
8	Theoretical & Practice	Selecting the tool path, Selecting the insert and tool holder to be used, Creating insert and tool holder - MIDTERM EXAM (MIDTERM)
9	Theoretical & Practice	Choosing the operation to be used, forehead turning operation, rough turning operation
10	Theoretical & Practice	Finish turning, Coarse channel turning, Precise channel turning
11	Theoretical & Practice	Hole drilling, Hole turning, Threading, Simulating tool paths
12	Theoretical & Practice	Choosing a bench code pre-processor to derive NC codes, deriving NC codes
13	Theoretical & Practice	Data transfer methods to CNC lathe, data transfer methods from CNC lathe
14	Theoretical & Practice	CNC lathe workpiece preparation for machining, CNC machining by machined tool path machining

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Lecture - Practice	14	0	2	28
Assignment	14	0	3	42
Laboratory	5	0	3	15
Midterm Examination	1	5	1	6

Final Examination	1	5	1	6
Total Workload (Hours)				125
[Total Workload (Hours) / 25*] = **ECTS**				5
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes

1	Coding systems and overall structure of the CNC machine
2	Learning to use the CNC lathe
3	Learning to use the CNC Vertical Machine
4	Learn CNC programming manual
5	Learn CNC Control panel

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