AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Computer Aided Manufacturing – II						
Course Code	MKE252		Couse Level	Short Cycle (Associate's Degree)			
ECTS Credit	3	Workload	75 *(Hours)*	Theory	2	Practice	2	Laboratory	0
Objectives of the Course	By using CAM programs, it is aimed to gain the ability to create toolpaths for CNC milling machines over two-dimensional, three-dimensional drawings.						
Course Content	Two-Dimensional Machining of Parts to be Processed, Machining Tool Paths, Selecting Cutting Points and Tool Holders, Cutting Tool and Tool Holders, Selecting the Process to be Used.						
Work Placement	N/A						
Planned Learning Activities and Teaching Methods		Explanation (Presentation), Demonstration, Case Study, Project Based Study, Individual Study					
Name of Lecturer(s)	Ins. Alpaslan BAŞARIK						

Assessment Methods and Criteria

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

Recommended or Required Reading

1	Bilgisayar Destekli Üretim II Ders Notları

Week	Weekly Detailed Course Contents	
1	Theoretical	Transferring the part to be machined to the machining part, Specifying the tool path
2	Theoretical	Selecting the insert and tool holder to be used, creating tool holder
3	Theoretical	Selecting the process to be used, Surface milling, Rough and intermediate roughing, Drilling
4	Theoretical	Profile milling process, Channel milling process, Finishing milling process, Simulation of tool paths
5	Theoretical	Three dimensional machining of parts to be transferred to the machining section, Tool path display, Cutter tool to be used and tool holder selection,
6	Theoretical	Selecting the process to be used, Surface milling, Rough and intermediate roughing, Drilling
7	Theoretical	Profile milling, Channel milling, Helis milling
8	Theoretical	Finishing milling process, Precision surface and edge cleaning process, Simulation of tool paths
9	Intermediate Exam	Midterm Examination
10	Theoretical	4-axis milling, Indexing 4-axis machining, Continuous (simultaneous) 4-axis machining, Drilling
11	Theoretical	Wrapping on the surface (Wrap), Coarse milling, Finishing milling, Simulation of tool paths
12	Theoretical	Selecting 5 axes to be used, Coarse milling, Drilling, Profile milling
13	Theoretical	Side wall machining (Swarf), Precise (finishing) milling, Simulating tool paths
14	Theoretical	Selecting a post processor to produce NC codes, deriving NC codes, data transfer methods to CNC milling looms, data transfer methods from CNC milling looms
15	Theoretical	Preparing CNC milling cutter for machining part, CNC milled part machining with tool path created
16	Final Exam	Final Examination

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Lecture - Practice	14	0	2	28
Assignment	2	0	2	4
Project	1	0	3	3
Midterm Examination	1	5	1	6

Final Examination	1	5	1	6
		Total Workload (Hours)		75
		[Total Workload (Hours) / 25*] = **ECTS**		3

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	With CAM software for CNC milling looms, tool paths and program codes can be created
2	Gain knowledge on the main screen of the CAM program
3	The program CAM 2D and 3D modeling ability,
4	Extracts of CAM programs NC code for CNC milling,
5	The generated NC code to the CNC machine to learn the transmission path,

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