

AGRICULTURAL MACHINERY IN THE MANUFACTURING OF CNC PROGRAMMING PRINCIPLES

1	Course Title:	AGRICULTURAL MACHINERY IN THE MANUFACTURING OF CNC PROGRAMMING PRINCIPLES	
2	Course Code:	BSM6021	
3	Type of Course:	Optional	
4	Level of Course:	Third Cycle	
5	Year of Study:	2	
6	Semester:	3	
7	ECTS Credits Allocated:	6.00	
8	Theoretical (hour/week):	3.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	There is no prerequisite for this course. However, to achieve its goal and purpose of the course the students about the concepts specified in the content of this course at the undergraduate level, "Technical Drawing, Methods of Machining and Machine Tools" is foreseen to have.	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. Halil Ünal	
15	Course Lecturers:	Yok	
16	Contact information of the Course Coordinator:	Prof.Dr. Halil ÜNAL hunal@uludag.edu.tr, 0 224 29 41 607, U.Ü. Ziraat Fakültesi, Biyosistem Mühendisliği Bölümü, 16059, Görükle Kampüsü, Bursa	
17	Website:		
18	Objective of the Course:	Agricultural machinery in manufacturing CNC turning and milling tops programs in order to use the hardware required for the computer and CAD is learned.	
19	Contribution of the Course to Professional Development:	The student learns the functions of the Cad / Cam system. The design, analysis and drawing phase of an agricultural machine part; Learns the information that can make the computer-aided process planning, programming and verification of the machine part.	
20	Learning Outcomes:		
		1	Student Cad/Cam system functions learns.
		2	2B'lu student of, and learns of 3D solid and surface modeling commands.
		3	One piece of agricultural machinery design, analysis and drafting stage learns.
		4	Computer-aided process planning of a piece of machinery, technical support and information to be able to verify the winner.
		5	Students learn the parts manufacturing CNC lathes and milling machines.
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21	Course Content:		
		Course Content:	

Week	Theoretical	Practice		
1	The commands for 2D illustrations.			
2	3D solid and surface modeling commands.			
3	Cad/Cam system functions			
4	CNC milling and lathe machines.			
5	CNC milling and lathe machines.			
6	Machine control panel. Sinumerik ISO turning operations and programming.			
7	Machine control panel. Sinumerik ISO turning operations and programming. Sinumerik ISO milling operations.			
8	Part of an agricultural machine design phase.			
9	Part of an agricultural machine analysis (FEM/FEA) phase.			
10	Part of an agricultural machine drawing stage.			
11	Computer-aided process planning.of part an agricultural machine			
12	The machine part of programming			
13	The program simulation confirmation.			
14	Material particle processing.			
22	Textbooks, References and/or Other Materials:	1.Gülesin M. et Al. 2005. CNC Turning and Milling Machines, Programming (Fanuc), 375s.		
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical		4	0.00	4.00
Practicals/Labs		0	0.00	0.00
Self study and preperation		5	2.00	10.00
Homeworks		7	14.00	98.00
Projects		1	14.00	14.00
Field Studies		0	0.00	0.00
Midterm exams		1	0.00	0.00
Others		0	0.00	0.00
Final Exam	Assesment	1	3.00	3.00
Total Work Load				185.00
Total work load/ 30 hr		0	0.00	6.17
Midterm Exam				
ECTS Credit of the Course				6.00
Home work-project		7	40.00	
Final Exam		1	60.00	
Total		8	100.00	
Contribution of Term (Year) Learning Activities to Success Grade		40.00		
Contribution of Final Exam to Success Grade		60.00		
Total		100.00		
Measurement and Evaluation Techniques Used in the Course		Measurement and evaluation is carried out according to the principles of Bursa uludag University Graduate Education Regulation.		
24	ECTS / WORK LOAD TABLE			

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	5	4	5	4	4	5	4	4	4	3	4	4	0	0	0	0
ÖK2	3	4	4	4	5	3	4	4	4	3	5	4	0	0	0	0
ÖK3	4	4	4	3	3	4	4	3	4	3	4	3	0	0	0	0
ÖK4	5	4	5	5	4	4	4	4	4	4	5	4	0	0	0	0
ÖK5	4	5	5	5	4	5	4	4	3	4	3	4	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	1 very low		2 low		3 Medium		4 High		5 Very High							