FLEXIBLE PRODUCTION SYSTEMS

1	Course Title:	FLEXIBLE PRODUCTION SYSTEMS	
2	Course Code:	MKRS232	
3	Type of Course:	Optional	
4	Level of Course:	Short Cycle	
5	Year of Study:	2	
6	Semester:	4	
7	ECTS Credits Allocated:	3.00	
8	Theoretical (hour/week):	2.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:		
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Öğr.Gör.Dr. İSMET GÜCÜYENER	
15	Course Lecturers:	Meslek Yüksekokulları Yönetim Kurullarının görevlendirdiği öğretim elemanları.	
16	Contact information of the Course Coordinator:	ismetguc@uludag.edu.tr, 02242942349, U.Ü. TBMYO Mekatronik Prg. Bşk. Görükle Bursa	
17	Website:		
18	Objective of the Course:	In this course, aimed to gain knowledge and skills for modeling of workpiece using necessary software and producing of modeled workpiece with CNC turning machine and CNC milling machine.	
19	Contribution of the Course to Professional Development:	Intelligent systems can use many devices at the same time. In order to use new production systems, it is necessary to know a flexible industrial design.	
20	Learning Outcomes:		
		1	Being able to use modules which is using in production system.
		2	Being able to gather elements which are needed
		3	Being able to make connection between modules
		4	Being able to write CAM program in CNC turning machine
		5	Being able to write CAM program in CNC milling machine
		6	Being able to make CAD-CAM production
		7	Being able to load the program which is needed for robot
		8	Being able to determine workpiece production phases.
		9	
		10	
21	Course Content:		

Course Content:	
Week **Theoretical**	**Practice**

Week	Theoretical	Practice
1	Introduction to CAD-CAM software	
2	Drawing of a workpiece	
3	Runing of workpiece program at turning machine	
4	Runing of workpiece program at turning machine	

5	Runing of workpiece program at milling machine	
6	Runing of workpiece program at milling machine	
7	Making of a simulation at executive software	
8	Repeating Courses First midterm	
9	Determining of the workpiece production phases	
10	Loading of robot program	
11	Making a connection between modules	
12	Running of production system	
13	Repeating Courses Second midterm	
14	Running of production system	
22	Textbooks, References and/or Other Materials:	Course notes
23	Assesment	

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Midterm Exam	2	40.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	60.00

Contribution of Final Exam to Success Grade 60.00

Total 100.00

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	2.00	28.00
Homeworks	2	3.00	6.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	2	8.00	16.00
Others	0	0.00	0.00
Final Exams	1	12.00	12.00
Total Work Load			106.00
Total work load/ 30 hr			3.00
ECTS Credit of the Course			3.00

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	5	3	4	3	4	5	4	3	4	5	0	0	0	0	0
ÖK2	4	4	5	0	4	4	4	3	3	4	5	0	0	0	0	0
ÖK3	4	4	3	3	4	2	2	4	4	4	4	0	0	0	0	0
ÖK4	4	4	4	0	5	0	5	3	3	4	4	0	0	0	0	0

ÖK5	4	4	3	4	3	3	4	4	4	2	5	0	0	0	0	0
ÖK6	4	3	4	4	4	4	3	2	4	5	5	0	0	0	0	0
ÖK7	2	2	4	4	3	3	4	4	3	3	5	0	0	0	0	0
ÖK8	5	4	3	2	4	2	3	3	3	3	4	0	0	0	0	0

LO: Learning Objectives   PQ: Program Qualifications

Contribution Level:	1 very low	2 low	3 Medium	4 High	5 Very High