	REVERSE ENGINEER	ING IN	ADDITIVE MANUFACTURING					
1	Course Title:	REVERS	SE ENGINEERING IN ADDITIVE MANUFACTURING					
2	Course Code:	EIM5006						
3	Type of Course:	Optional						
4	Level of Course:	Second Cycle						
5	Year of Study:	1						
6	Semester:	2						
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:	None						
12	Language:	Turkish						
13	Mode of Delivery:	Face to face						
14	Course Coordinator:	Prof. Dr. ABDİL KUŞ						
15	Course Lecturers:	Fakülte Yönetim Kurullarının görevlendirdiği öğretim elemanları.						
16	Contact information of the Course Coordinator:	Prof. Dr. Abdil KUŞ Bursa Uludağ Üniversitesi, Otomotiv Müh. Tel: 2942344 abdilkus@uludag.edu.tr						
17	Website:							
18	Objective of the Course:	Informing students about the use of Reverse Engineering systems and tools in the Additive Manufacturing field						
19	Contribution of the Course to Professional Development:	To gain significant experience and knowledge in this field by analyzing the processes of using Reverse Engineering systems in product design and development and obtaining the necessary data for Additive Manufacturing with projects.						
20	Learning Outcomes:							
	•	1	Learning the concept and tools of Reverse Engineering					
		2	Learning Reverse Engineering tools in the product design process cycle					
		3	learning scanning and point cloud, polygon structures and learning optimization, modeling processes, topology optimization and lattice structures					
		4	Learning optimum part productions with Additive Manufacturing technologies by using the models obtained by Reverse Engineering processes.					
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		6						
		7						
		8						
		9						
		10						
21	Course Content:							
		Co	ourse Content:					
	Theoretical		Practice					
1	3D optical and Laser scanning syste	ems						

2	Point paran		oud and polygon structure and its ers															
				n 3D p niques		loud ar	nd Pol	lygon										
4	Polyg	ygon editing and optimization																
5	Solid	blid modeling techniques																
6	Surfa	rface modeling techniques																
7	Futur	uture based modelling																
8	Boun	oundary fit modelling																
9	Regio	Regions and Alignment																
10	Refer	eferance geometries																
11	Wizaı	rd ba	ased i	model	ling													
12	Additi	ive I	Manuf	acturi	ng teo	hnoloh	nies											
13	Dime	nsio	nal ar	nalysis	s and	data tra	ansfer											
14	Additive Manufacturing and Manufacturing methods																	
22 Activit	Materials:							Re 2) Re 3) re 4)	1) Wego Wang, Reverse Engineering, Technology of Reinvention Copyright Year 2010. 2) 3D Syatems, eBook, Drive Product Innovation with Reverse Engineering, May, 2020. 3)https://www.3dsystems.com/material-finder? refinementList%5Bmaterial_type%5D%5B0%5D=Dental 4) https://www.youtube.com/watch?v=7Vp6A0FHNL0 Number Duration (hour) Total Work Load (hour)					h ental <u>0</u> Vork				
Whietener	tidEatar	m					0		0	0.00 3.00				42.00				
Practica	als/Lal	bs								0.00		0.00	0		0.00			
Selfnetu			eþera	tion			1		5	501 0 0 8.00				80.00				
Homew	orks									0			0.00	0.00				
Protopel cts	s						2		10	100.00 0.00				0.00				
Field St	tudies									0.00					0.00			
Midtern	cess Grade term exams									1 22.00						22.00		
Others										0 0.00				0.00				
Fotal Ex	xams								10	100.00			36.00	36.00			36.00	
Total W														180.00				
Fourse	alSwork load/ 30 hr													6.00				
ECTS (Credit	of th	ne Co	urse										6.00				
25	25 CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS																	
	P	Q1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	B PQ9	PQ1 0	PQ11	PQ12	PQ1 3	PQ14	PQ15	PQ16	
ÖK1	2		3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ÖK2	0		2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	
ÖK3	0		0	3	4	0	0	0	0	0	0	0	0	0	0	0	0	
ÖK4	0		0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	
	LO: Learning Objectives PQ: Program Qualifications																	

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