	TH	ERMO	DDYNAMICS						
1	Course Title:	THERM	ODYNAMICS						
2	Course Code:	MKNS2	15						
3	Type of Course:	Optional							
4	Level of Course:	Short Cy	rcle						
5	Year of Study:	2							
6	Semester:	3							
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:	None							
12	Language:	Turkish							
13	Mode of Delivery:	Face to	face						
14	Course Coordinator:	Öğr.Gör	. Oğuzhan Çankaya						
15	Course Lecturers:								
16	Contact information of the Course Coordinator:	e-posta:	oguzhanc@uludag.edu.tr						
	Coordinator.	oda tel: 0 224 294 23 38							
17	Website:								
18	Objective of the Course:		n of this course is to gain students competencies applying dynamics laws to open and closed systems.						
19	Contribution of the Course to Professional Development:								
20	Learning Outcomes:								
		1	Applies the basic equation, units and calculation methods used in the analysis of thermodynamics.						
		2	Explains the location and the basic concepts of thermodynamics as a science, described the systems and their basic properties.						
		3	Uses the reference tables in thermodynamic applications.						
		4	Solves the problem related to work and heat.						
		5	Analyses the laws of thermodynamics.						
		6	Explains changes in states and the principles of overall conversion						
		7	Analyses the ideal weather cycles (otto, diesel, hybrid loop).						
		8	Calculates efficiency, power and work in internal combustion engines.						
		9	Explains the classification and the physical and chemical properties of fuels.						
		10	Explains combustion engines and engine knocking.						
21	Course Content:								
		Co	ourse Content:						
Week	Theoretical		Practice						
1	Thermodynamic concepts and defini Zeroth law of thermodynamics.								
2	Heat and work concepts and applica	tions.							

	Р	Q1 PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ1	PQ11	PQ12	PQ1	PQ14	PQ15	PQ16	
25			CON	TRIB	SUTIO	N OI			IING (LIFIC			S TO I	PROG	SRAM	IME		
24		S / WOI								- I		.	.				
Course		0 / 11/0	DI	<u> </u>													
		t and Eva	luatio	n Tecl	hnique	s Use	d in th	ie									
Total								10	0.00								
ECTS Credit of the Course														3.00			
SatalesenGhade/ 30 hr														3.03			
Total W		oad													91.00		
Final E	xams					3		10	100.00						15.00		
Others		NOIGGE)			0.00 0.00					
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Field S													0.00				
Maleci		n				1		26	100			10.00			10.00		
Homew		, -,-							1				15.00 15.00				
		enprepera	ation						13 1.00					13.00			
Practic		bs						_II e	Termodinamik. 1998. 0.00						0.00		
Theore	tical							3-,	Aztürk	A. ve	Kılıç A.	. Ç ö . Zün	nlü Pro	blemle	28.00		
Activites								Number Duration (hour) Total Work Load (hour)					
14		ne knockir ance.	ng, eva	aporat	tion of	fuels,	knock										
13	End of the combustion products, tables related to fuels and combustion, alternative fuels and combustion																
12	Combustion of compression ignition engines, classification of fuels, hydrocarbons, alcohols and their derivatives, classification of combustion, combustion equations.																
11	of fue prope the sp	, physical els, Analys erties of th park igniti	sis of t ne com on enq	he ph bustion gines	ysical a	and ch	nemic on of										
10		ernal com efficiency.		n eng	ines w	ork, p	ower										
9	Repe	ating cou	rses a	nd mi	dterm	exam											
8		ernal com efficiency.		n eng	ines w	ork, p	ower										
7	_	e cycles			·												
6		aw of the															
5		aw of the															
4	The id	deal gas e	equatio	ons ar	nd chai	nge of	state										
3		nodynam ances, P-				re											

25		CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS														
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ1 0	PQ11	PQ12	PQ1 3	PQ14	PQ15	PQ16
ÖK1	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
ÖK2	0	0	0	3	0	0	4	0	0	0	0	0	0	0	0	0

ution Level:				2 100	•		MCG			- mg			J V GI	, ingi			
Contrib 1 very low					2 low			3 Medium			4 High			5 Very High			
			LO:	Lea	ning	Obje	ctive	s I	PQ: P	rogra	am Qı	alifica	tions	<u> </u>		•	
ÖK10	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	
ÖK9	0	0	0	0	4	0	0	0	3	0	0	0	0	0	0	0	
ÖK8	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	
ÖK7	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	
ÖK6	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	
ÖK5	0	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	
ÖK4	0	4	4	0	0	0	0	4	0	5	0	0	0	0	0	0	
ÖK3	5	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	