

# COMBUSTION TECHNOLOGY

1	Course Title:	COMBUSTION TECHNOLOGY	
2	Course Code:	GTTS106	
3	Type of Course:	Optional	
4	Level of Course:	Short Cycle	
5	Year of Study:	1	
6	Semester:	2	
7	ECTS Credits Allocated:	3.00	
8	Theoretical (hour/week):	1.00	
9	Practice (hour/week):	2.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Öğr.Gör.Dr. KÜRŞAT ÜNLÜ	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	meuguroz@uludag.edu.tr 0 224 294 23 48 - 0 224 294 23 95 U.Ü.Teknik Bil.MYO Gaz ve Tesisat Tek. Prg.	
17	Website:		
18	Objective of the Course:	To know about fuels and combustion,how to sort out the combustion problems.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	Student will be able to; Classify the fuels and learn specifications,
		2	Learn basic reactions,
		3	Calculate reaction products
		4	Choose lighting system
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21	Course Content:		
		<b>Course Content:</b>	
Week	Theoretical	Practice	
1	Presentation of course		

2	Fuels;  2.1.Fuel classes 2.2.How to obtain 2.3.Specifications 2.4.Where tu use			
3	Analysis of fuels			
4	Air;  4.1.Specifications 4.2.Humid air 4.2.1.Define of oxygene 4.2.2.Exploration of moisture			
5	Specification of air and moisture mix; 5.1.Ignition temperature 5.2.Flammable limits 5.3.Flame temperature 5.4.Velocity of flame progress	Practice with bunsen burner		
6	Flame;  6.1.Existing 6.2.Types 6.3.Specifications 6.3.1.Failures 6.3.1.1.Back light 6.3.1.2 Breaking	Experiments with bunsen burner for flame failure		
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical	7.2.Engines 7.3.Turbines	14	1.00	14.00
Practicals/Labs		14	2.00	28.00
8	Repeating courses and midterm exam	12	2.00	24.00
Self study and preparation				
Homeworks		1	6.00	6.00
Projects	9.2. Fluid bed 9.3. Catalitic burning	1	10.00	10.00
Field Studies		0	0.00	0.00
Midterm exams		1	4.00	4.00
Others		0	0.00	0.00
Final Exams	reactions	1	4.00	4.00
Total Work Load				90.00
11	Calculation of necessary air amount and products for reactions	Practice with metering devices on gas meter and fan		3.00
ECTS Credit of the Course				3.00
	10.2. Liquid fuels 10.3 .Gas fuels			
12	Burning efficiency and calculation of heat value of fuels	Practice in lab.		
13	2.Mid term exam ( Assignment )			
14	14.1. Emission control and burning diagrams 14.2. Choose of lighting system and affecting parameters for appliance efficiency	Emission reading with sensors		

22	Textbooks, References and/or Other Materials:	Yanma Ders Notları, Prof Dr Atakan Avcı Yakıtlar ve yanma, Prof Dr Kazım Telli, Palme yayıncılık, ISBN 975 -7477 – 39 - 7 Introduction to Thermal Sciences, Frank Schmidt, Robert Henderson, Carl Wolgemuth ISBN 0 – 471 – 54939 - 8	
23	Assesment		
TERM LEARNING ACTIVITIES		NUMBE R	WEIGHT
Midterm Exam		1	25.00
Quiz		0	0.00
Home work-project		1	25.00
Final Exam		1	50.00
Total		3	100.00
Contribution of Term (Year) Learning Activities to Success Grade		50.00	
Contribution of Final Exam to Success Grade		50.00	
Total		100.00	
Measurement and Evaluation Techniques Used in the Course			
24	ECTS / WORK LOAD TABLE		

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