

AUTOMOTIVE MATERIALS

1	Course Title:	AUTOMOTIVE MATERIALS
2	Course Code:	OTO4021
3	Type of Course:	Optional
4	Level of Course:	First Cycle
5	Year of Study:	4
6	Semester:	7
7	ECTS Credits Allocated:	5.00
8	Theoretical (hour/week):	3.00
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:	Doç.Dr. Rukiye ERTAN
15	Course Lecturers:	
16	Contact information of the Course Coordinator:	Rukiye Ertan e-mail: rukiye@uludag.edu.tr Tel: + 90 (224) 294 06 53 Adres: Uludağ Üniversitesi, Mühendislik Fakültesi, Otomotiv Mühendisliği Bölümü, 16059, Görükle-Bursa, Türkiye.
17	Website:	
18	Objective of the Course:	The object of this course is to teach the materials used in automotive manufacturing and gives the information about the properties of these materials.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	
	1	To be known the materials selection criterions in automotive manufacturing.
	2	To have a detailed information about the materials used in automotive manufacturing.
	3	To be known the advantages and disadvantages of the alternative materials.
	4	To have an idea about the testing methods determining the materials eligibility.
	5	To have a general idea about the manufacturing of the materials.
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	Introduction	

2	Influential factors in the selection of automotive materials.	
3	An overview of the types of materials used in the automotive industry.	
4	The importance and properties of cast iron in automotive	
5	The importance and properties of steels in automotive	
6	The importance and properties of aluminium alloys in automotive	
7	The importance and properties of magnesium alloys in automotive	
8	The importance and properties of titanium alloys in automotive	
9	Automotive plastics	
10	Automotive composites	
11	Ceramics and glass	
12	Testing techniques used in automotive materials	
13	Conventional methods used in the production of automotive materials	
14	Unconventional methods used in the production of automotive materials	

22	Textbooks, References and/or Other				
Activites			Number	Duration (hour)	Total Work Load (hour)
Theoretical			14	3.00	42.00
Midterm Exam			1	30.00	
Practicals/Labs			0	0.00	0.00
Self study and preperation			14	5.00	70.00
Home work-project			1	20.00	
Homeworks			1	20.00	20.00
Projects			0	0.00	0.00
Total			3	100.00	
Field Studies			3	3.00	9.00
Contribution of Term (Year) Learning Activities to Success Grade			1	2.00	2.00
Others			0	0.00	0.00
Final Exams			1	2.00	2.00
Total			100.00		
Total Work Load					145.00
Measurement and Evaluation Techniques Used in the Course					4.83
ECTS Credit of the Course					5.00

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	0	0	5	4	1	0	0	4	2	0	2	0	0	0	0	0
ÖK2	0	0	5	4	1	0	0	4	2	0	2	0	0	0	0	0
ÖK3	0	0	5	4	1	0	0	4	2	0	2	0	0	0	0	0
ÖK4	0	0	5	4	1	0	0	4	2	0	2	0	0	0	0	0

ÖK5	0	0	5	4	1	0	0	4	2	0	2	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contrib ution Level:	1 very low		2 low		3 Medium		4 High		5 Very High							