AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Meterials Technology								
Course Code	OTE106		Couse Level		Short Cycle (Associate's Degree)				
ECTS Credit	2	Workload	50 *(Hours)*	Theory	2	Practice	0	Laboratory	0
Objectives of the Course	In this course, it is aimed to teach the materials used in motor vehicles, and select the correct choice of materials and the mechanical properties of these materials. Students are intended to gain competency.								
Course Content	Materials used in vehicles and engines, metallic materials, ceramic materials, polymer materials, composite (mixed) Materials, Rubber Materials, Basic Concepts of Atomic Structure, Bonding Between Atoms and Molecules, Unit Cage Types, Methods of Measurement Hardness, Tensile Test Obtained Post stress strain Curve, Impact Test After Fracture Energy, Fatigue test after the second diagram, Visual Inspection Method, with the liquid penetrated inspection method, Ultrasonic Testing Method, X-ray examination method, Magnetic Testing Method.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion, Individual Study								
Name of Lecturer(s)	Lec. Erman AYDIN								

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

Recommended or Required Reading

1	Malzeme Bilgisi

Week	Weekly Detailed Course Contents	
1	Theoretical	Materials used in vehicles and engines
2	Theoretical	Metallic Materials
3	Theoretical	ceramic Materials
4	Theoretical	rubber Materials
6	Theoretical	Composite (mixed) Materials
7	Theoretical	Basic Concepts of Atomic Structure
8	Theoretical	Bonding Between Atoms and Molecules
9	Theoretical	Cage Unit Types
10	Theoretical	Hardness Testing Methods
11	Theoretical	Tensile stress strain curve obtained after the experiment
12	Theoretical	Post-Fracture Energy Impact Test After the S-N diagram Fatigue Test
13	Theoretical	Visual Inspection Method Liquid penetrant inspection method
14	Theoretical	Ultrasonic Testing Method With X-Ray Inspection Method Magnetic Testing Method
15	Theoretical	Ultrasonic Testing Method With X-Ray Inspection Method Magnetic Testing Method

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	15	0	2	30
Term Project	9	0	2	18
Midterm Examination	1	0	1	1

Final Examination	1	0	1	1
			Total Workload (Hours)	50
			[Total Workload (Hours) / 25*] = **ECTS**	2
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	detect deformation of materials in engine testing of materials
2	do the definition and classification of materials
3	examine the atomic and crystal structure of materials.
4	test the materials in the aspect of destructive or non-destructive
5	Able to analyze the material used in the field of automotive parts

Programme Outcomes *(Automotive Technology)*	
1	Using the basic knowledge and skills acquired in his/her field of study, to have the ability to evaluate and interpret the data, to define and analyze the problems, to make solution suggestions based on evidence and proofs.
2	To choose and use efficiently contemporary techniques and means as well as information technologies required for the applications related to the field of study.
3	The ability to apply the processes related to industrial and service sector by examining.
4	To gain the ability to produce solutions to unforeseen situations, take responsibility in teams and to have the skill to conduct individual works.
5	To achieve an awareness of the necessity of lifelong learning and consistently self-improving besides of following the developments in science and technology.
6	To become skillful at using computer hardware and software in a baseline level required by the field of study.
7	To be aware of Business Law, Job Security, environmental protection and quality concepts.
8	To have a command of communication skills and foreign language in order to communicate efficiently and follow the latest developments in his/her field of study.
9	Acquiring enough conceptual and applied knowledge in Mathematics, Science and Basic Engineering issues related to his/her field.
10	To plan the processes in automotive technology field to meet the expectations of the sector.
11	To become skillful at making designs by means of technical and computer-aided drawings and simulation programs, and by using various software programs to be able to choose systems and components required in by the field apart from making the basic sizing computations and drawing the architectural and static projects and details.
12	Ability to use the methods and techniques of career planning and discussing the effects of character traits on career preferences.
13	To provide them with knowledge about substance use and addiction problem and prevention methods.

Contribution of Learning Outcomes to Programme Outcomes *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

	L1	L2	L3	L4	L5
P1	5	4	5	5	5
P2	5	3	5	5	5
P3	5	2	1	4	5
P4	5	3	2	3	5
P5	3	3	2	1	5
P6	4	2	3	4	5
P7				2	2
P8					2
P9	3	3	1	2	2
P10	3	1			1
P11	2	4	4	4	3