



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Automotive Electricity							
Course Code		OTE107		Course Level		Short Cycle (Associate's Degree)			
ECTS Credit	5	Workload	72 (Hours)	Theory	3	Practice	1	Laboratory	0
Objectives of the Course		To have knowledge about the basic principles of electricity and electrical systems on automotive engines and vehicles, and scientific infrastructure failures, identify and learn troubleshooting techniques.							
Course Content		This course introduces the basic principles of electricity, as well as car batteries, starter system, charging system and electric circuit installations, inspections, also maintenance and repairs are learned.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Demonstration, Individual Study					
Name of Lecturer(s)									

### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

### Recommended or Required Reading

1	Oto Elektrik Teknolojisi/İlhan TANRIKULU/Yüce Yayınları-248 sayfa-Eylül 1999
2	Oto Elektrik Elektroniği/Doç.Dr..M.Sahir SALMAN/Milli Eğitim Basımevi-Mayıs 2000
3	Otomotiv Ekektiği/Cafer KAPLAN / Rıdvan ARSLAN / Ali SÜRMEN / Alfa Yayınları-Ocak 2009
4	Otomotiv Elektrği ve Elektroniği/Alı Özdemir/Erdem Özdemir/İnkasa Matbaası,Ankara 2005

Week	Weekly Detailed Course Contents	
1	Theoretical	Electrical Principles, Magnetism
2	Theoretical	Ohm's Law
3	Theoretical	Kirchhoff's Laws (Serial, Parallel, and Mixed Circuit Theory)
4	Theoretical	Kirchhoff's Laws (Serial, Parallel, and Mixed Circuit Theory)
5	Theoretical	Duties and Operation of the battery, Battery Types, Structure of the battery electrolyte, the battery label, Battery Capacity Factors Affecting
6	Theoretical	Preparation of the battery electrolyte
7	Theoretical	Controls and charging the battery
8	Theoretical	Starter Motor Types and Structure
9	Theoretical	Controls Starter System Maintenance and faults,
10	Theoretical	Circuit Cable Types and Features of the starter and the starter circuit of
11	Theoretical	Charging System, Job, Structure and Types
12	Theoretical	Principle of operation of alternators, Inspection and Maintenance
13	Theoretical	Regulator (Konjektör) Duty, Types and Structural Characteristics Charging System Controls
14	Theoretical	Lighting, Fog Light CiFront and Rear Park Circuit, Signal Circuit, Reverse Circuit, horn circuit, the brake warning lamp circuitrcuits, Short and Long Far Far Circuit Controls and Settings

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	3	42
Lecture - Practice	14	0	1	14
Midterm Examination	1	7	1	8
Final Examination	1	7	1	8
Total Workload (Hours)				72
[Total Workload (Hours) / 25*] = ECTS				3

\*25 hour workload is accepted as 1 ECTS



**Learning Outcomes**

1	Battery systems, maintenance and repair to do.
2	Capable of charging systems maintenance and repair.
3	Maintenance and repair of systems capable of cranking.
4	Maintenance and repair of systems capable of firing.
5	

**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	4	4	4	4	4
P2	4	4	4	4	4
P3	4	4	4	4	4
P4	4	4	4	4	4
P5	2	2	2	2	2
P6	3	3	3	3	3
P7	1	1	1	1	1
P9	2	2	2	2	2

