



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Test And Tune-Up For Engine							
Course Code		OTT204		Couse Level		Short Cycle (Associate's Degree)			
ECTS Credit	4	Workload	100 ( <i>Hours</i> )	Theory	3	Practice	1	Laboratory	0
Objectives of the Course		They will be able to perform motor performance characteristics, parameters and applications on the vehicle.							
Course Content		In this course, students learn motor performance characteristics and perform motor efficiency and parameter analysis.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Demonstration, Problem Solving					
Name of Lecturer(s)		Ins. Erdoğan PİRELİ							

### Assessment Methods and Criteria

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

### Recommended or Required Reading

1	Megep Lecture Notes
2	<a href="http://www.obitet.gazi.edu.tr">www.obitet.gazi.edu.tr</a>

Week	Weekly Detailed Course Contents	
1	Theoretical	Physical Control of Engine Systems, Cooling and Lubrication Systems
2	Theoretical	Ateşleme Sistemi ve Kontrolleri
3	Theoretical	Diagnostic Devices Diagnostic Tester Cables and Connections
4	Theoretical	Fault Screening in Engine Systems
5	Theoretical	ECU (Electronic Control Unit)
6	Theoretical	Fault Codes Deletion of Errors in ECU Memory Introducing parts to the ECU
7	Theoretical	Compression Test, Cylinder Leak Tester
8	Theoretical	Exhaust Emissions and Controls, Catalytic Converters
9	Intermediate Exam	Midterm
10	Theoretical	Valve Mechanisms, Variable Valve Timing
11	Theoretical	Controls Made with Diagnostic Tester Solenoid Valve Controls Sensory Controls Controls Made in Lubrication Line
12	Theoretical	Engine Tests (Power, Torque, Fuel Consumption, Air Consumption, Specific Fuel Consumption, Volumetric Efficiency, Thermal Efficiency)
13	Theoretical	Engine Tests (Power, Torque, Fuel Consumption, Air Consumption, Specific Fuel Consumption, Volumetric Efficiency, Thermal Efficiency)
14	Theoretical	Vehicle Display Systems and Controls
15	Theoretical	Vehicle Tests
16	Final Exam	Semester final exam

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	3	42
Lecture - Practice	14	0	1	14
Assignment	10	0	3	30
Reading	2	0	1	2



Midterm Examination	1	5	1	6
Final Examination	1	5	1	6
Total Workload (Hours)				100
[Total Workload (Hours) / 25*] = ECTS				4
*25 hour workload is accepted as 1 ECTS				

### Learning Outcomes

1	To understand motor performance characteristics, power moment and specific fuel consumption relations. To know energy distribution in engines. Motor efficiency and their effects on other performance characteristics, motor characteristics to determine the necessity of motor experiments. To know brake tests and effective magnitudes. To be able to define indicator diagrams and indications. Calculate volumetric efficiency experimentally
2	To be able to measure temperature and pressure in motors. To understand the compilation and interpretation of the given or measured values. Makes basic service-oriented settings such as valve adjustment.
3	Compression examination, cylinder leak test, roller balancing, to interpret the results
4	To be able to perform diagnostic tests in the ignition system, to interpret the results, to understand the process of troubleshooting
5	To be able to perform tests related to fuel system, to use the devices and apparatus, to understand the troubleshooting techniques
6	To be able to perform tests on cooling systems, to interpret and to understand the troubleshooting
7	To be able to perform the tests related to lubrication systems, to interpret and to understand the troubleshooting
8	To be able to comprehend measurement techniques and usage of motor test equipment

### Programme Outcomes (Automotive Technology)

1	To be able to interpret and evaluate data, identify problems, analyze them, and develop evidence-based solutions by using basic knowledge and skills in the field.
2	Must be able to choose and effectively use the modern techniques, tools and information technologies necessary for field related applications.
3	Must be able to gain practical skills by examining relevant processes in industry and service sector on site.
4	They must be able to produce solutions, take responsibility for teams or do individual work when they encounter situations unforeseen in the field related applications.
5	Awareness of the need for lifelong learning; it must be able to follow the developments in science and technology and to constantly renew itself.
6	Must be able to use computer software and hardware at the basic level required by the field
7	Must have job security, worker health, environmental protection knowledge and quality awareness.
8	He must possess a level of foreign language knowledge that is capable of following the innovations in his area of expertise and communication techniques.
9	Must be able to acquire basic theoretical and practical knowledge about the field in mathematics, science and basic engineering.
10	It should have the ability to plan the processes / processes of the Automotive Program to meet the expectations of the sector.
11	To be able to design the systems and components related to the field by using technical drawing, computer aided drawing, designing using simulation programs and using various softwares, to be able to make basic sizing calculations, to be able to master professional plans and projects.

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

	L1	L2	L3	L4	L5	L6	L7	L8
P1	3	2	3	2	3	2	2	3
P3	3	3	3	2	3	2	3	2
P4	3	3	3	2	3	2	2	3
P5	3	2	2	2	3	2	3	2
P7	2	3	3	3	3	2	2	3
P10	3	3	3	3	3	2	3	2

