AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Exhaust Emission Control Systems								
Course Code	OTT212		Couse Level	Short Cycle (Associate's Degree)					
ECTS Credit	2	Workload	50 *(Hours)*	Theory	2	Practice	0	Laboratory	0
Objectives of the Course	To be able to make applications to reduce harmful emissions from vehicles intended.								
Course Content	In this course, students will be able to explain the exhaust gas emissions of internal combustion engines. Learns. Takes protective measures against the damages of these emissions.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion, Case Study								
Name of Lecturer(s)	Ins. Mehmet TEMEL								

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

Recommended or Required Reading	
1	Megep Lecture Notes

Week	Weekly Detailed Course Contents	
1	Theoretical	fuels
2	Theoretical	Exhaust Emissions
3	Theoretical	Emission Measurement
4	Theoretical	Emission Measurement
5	Theoretical	Effects of Differential Working Conditions on Emissions on Diesel Engine Vehicles
6	Theoretical	Effects of Working Conditions on Emissions in Gasoline and LPG Motor Vehicles
7	Theoretical	Reducing Emissions in Motor Vehicles
8	Theoretical	2 and 3 Way Catalytic Converters, Particle Filters
9	Intermediate Exam	Midterm
10	Theoretical	EGR System
11	Theoretical	Effects of EGR System on Emissions
12	Theoretical	Technological Developments in Diesel Fuel Injection Systems
13	Theoretical	Carbon Canister Valve
14	Theoretical	Exhaust Additional Air Systems
15	Theoretical	Crankcase Ventilation System
16	Final Exam	Semester final exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Assignment	8	1	1	16
Midterm Examination	1	2	1	3

Final Examination	1	2	1	3
			Total Workload (Hours)	50
			[Total Workload (Hours) / 25*] = **ECTS**	2
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	Understands general information about liquid (gasoline and diesel) and gas (natural gas, LPG, hydrogen) fuels.
2	Knows the basic concepts and types of combustion (theoretical complete combustion, incomplete combustion and partial incomplete combustion).
3	Comprehend the calculation of combustion products and pollutant emissions that will be formed by burning of all kinds of fuel.
4	To be able to comprehend the effect of different working conditions on emission formation in gasoline and diesel engines
5	To be able to know and apply the working principles, properties and control processes of catalytic converters and particle filters.
6	To be able to know and apply the working principles, properties and control processes of EGR systems.

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
P1	3	3	3	2	3	3
P2	3	3	2	3	3	2
P3	3	3	3	2	3	3
P4	3	3	3	3	3	3
P5	2	1	1	1	2	2
P6	1	1	1	1	1	1
P7	1	1	1	1	1	1
P8	1	1	1	1	1	1
P9	1	1	1	1	1	1
P10	2	2	2	2	2	2
P11	2	2	2	3	2	2