AUTOMOTIVE TRANSMISSION DESIGN

1	Course Title:	AUTOMOTIVE TRANSMISSION DESIGN	
2	Course Code:	OTO5119	
3	Type of Course:	Optional	
4	Level of Course:	Third Cycle	
5	Year of Study:	1	
6	Semester:	1	
7	ECTS Credits Allocated:	6.00	
8	Theoretical (hour/week):	3.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Dr. Ögr. Üyesi EROL SOLMAZ	
15	Course Lecturers:	---	
16	Contact information of the Course Coordinator:	Dr.Öğr.Üyesi Erol Solmaz e-posta : esolmaz@uludag.edu.tr tel no: 0-224-2941985	
17	Website:		
18	Objective of the Course:	The goal of course is to learn all the elements that the first movement from the motor until wheels one of the objectives of the course is to be known as Power Transmission.	
19	Contribution of the Course to Professional Development:	It develops the ability to design different gearboxes and determines the working principles of different clutches.	
20	Learning Outcomes:		
		1	Learning the components of the working principles of the vehicle
		2	To improve the ability to design different gear boxes
		3	Determination of the mechanical and hydraulic clutches awareness
		4	Differential gain the ability to design
		5	
		6	
		7	
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		9	
		10	
21	Course Content:		

Course Content:

Week	Theoretical	Practice
1	Mechanical efficiency, Automobile gearboxes schemes	
2	Gears	
3	Transmission ratios determination, practical examples of automobile and industrial gearboxes	

4	Forces that affect the vehicle	
5	Stage gearboxes	
6	Friction clutch	
7	Hydrodynamic clutch, hydrodynamic torque converter	
8	Differentials	
9	Influence of differentials on vehicle behaviour	
10	Repeating courses and midterm exam	
11	Axle systems	
12	Automatic gearboxes	
13	Automatic gearboxes control strategies	
14	Design of vehicle gearboxes	

22	Textbooks, References and/or Other Materials:	1. G.Lechner, H. Naunheimer, Automotive Transmissions, Fundamentals, Selection,Design and Application, 1999, Springer. 2. Prof.Dr.Nusret Sefa Kuralay, Motorlu Taşıtlar Cilt 1, 2008, MMO 3. R.Arslan, C.Kaplan, A.Sürmen, M.İhsan Karamangil, Motorlu Taşıtlarda Güç Aktarma Organları, 2011, Alfa Aktüel
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Theoretical	14	3.00
Practicals/Labs	0	0.00
Self study and preperation	12	4.00
Homeworks	1	20.00
Projects	1	25.00
Field Studies	0	0.00
Midterm exams	1	20.00
Others	0	0.00
Final Exams	1	25.00

Activites	Number	Duration (hour)	Total Work Load (hour)
Home work-project	15.00		
Final Exam	60.00		
Total	100.00		
Contribution of Term (Year) Learning Activities to	40.00		
Contribution of Final Exam to Success Grade	60.00		
Total	100.00		
Measurement and Evaluation Techniques Used in the	The course includes a midterm, a comprehensive project		

24 ECTS / WORK LOAD TABLE

Total Work Load			200.00
Total work load/ 30 hr			6.00
ECTS Credit of the Course			6.00

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	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	1 very low	2 low	3 Medium	4 High	5 Very High