ELECTRIC MOTORS AND DRIVERS

1	Course Title:	ELECTRIC MOTORS AND DRIVERS	
2	Course Code:	EMEZ003	
3	Type of Course:	Optional	
4	Level of Course:	Short Cycle	
5	Year of Study:	2	
6	Semester:	3	
7	ECTS Credits Allocated:	3.00	
8	Theoretical (hour/week):	2.00	
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:	Öğr.Gör. ERCAN YAVUZ	
15	Course Lecturers:	Öğr. Gör. Ercan YAVUZ	
16	Contact information of the Course Coordinator:	ercanyz@uludag.edu.tr (0224)2942365 B.U.Ü. TBMYO. Mekatronik Prg. Görükle-BURSA	
17	Website:		
18	Objective of the Course:	In this course, To enable them to gain basic knowledge and skills about electric motors, to base their theoretical knowledge and skills on practical studies, to gain experience in problem solving, to comprehend the ability to associate and interpret with other technological fields.	
19	Contribution of the Course to Professional Development:	By learning the structure and operation of electric motors, the student can produce Mechatronics products and mechatronics production systems, and make maintenance, repair and revision if necessary.	
20	Learning Outcomes:		
		1	To understand the basic principles of electric motors and control logic.
		2	To understand the structure and operation of direct current shunt and serial motors.
		3	To understand the structure and operation of three-phase asynchronous motors.
		4	To understand the structure and operation of one-phase asynchronous and universal motors.
		5	To understand the structure and operation of step motors.
		6	To understand the structure and operation of servo motors.
		7	To be able to comprehend the electronic driving and control of servo motors.
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		10	
21	Course Content:		

	Course Content:	
Week	Theoretical	Practice
1	Parts and Operation Principles of Electric Motors	
2	Structures and Operation of DC Motors	
3	Characteristics of Direct Current Motors	
4	Speed Adjustment in Direct Current Motors	
5	Three Phase Asynchronous Motor Parts and Working Principle	
6	Three Phase Asynchronous Motor Starting Methods	
7	Characteristics of Three Phase Asynchronous Motor	
8	Midterm Exam, review of the subject.	
9	Speed Adjustment Methods in Three Phase Asynchronous Motors	
10	Structures and Types of Single Phase Asynchronous Motors	
11	Types and Working Principles of Single-Phase Asynchronous Motors	
12	Step Motors, riding methods and ready step motor drivers	
13	Types and components of servo motors and their applications.	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	3.00	42.00
Homeworks	1	14.00	14.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	3.00	3.00
Others	0	0.00	0.00
Final Exams	1	3.00	3.00
Total Work Load			90.00
Total work load/ 30 hr			3.00
ECTS Credit of the Course			3.00

22	Textbooks, References and/or Other Materials:	Elektrik Motorları ve Sürücüleri (yayınlanmamış) ders notları - Öğr. Gör. Ercan YAVUZ
23	Assesment	
	R	
	1	20.00
Quiz	0	0.00
Home work-project	1	20.00
Final Exam	1	60.00
Total	3	100.00
Contribution of Term (Year) Learning Activities to Success Grade		40.00
Contribution of Final Exam to Success Grade		60.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		Measurement and evaluation is carried out according to the priciples of Bursa uludag University Associate and Undergraduate Education Regulation.
24	**ECTS / WORK LOAD TABLE**	

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	3	3	3	3	5	5	4	5	3	4	4	0	0	0	0	0
ÖK2	0	0	5	5	4	0	3	3	4	3	5	0	0	0	0	0
ÖK3	0	0	4	4	4	0	3	3	4	3	5	0	0	0	0	0
ÖK4	0	0	4	4	4	0	3	3	4	3	5	0	0	0	0	0
ÖK5	0	0	4	4	4	0	3	3	4	3	5	0	0	0	0	0
ÖK6	0	0	4	4	4	0	3	3	4	3	5	0	0	0	0	0
ÖK7	0	0	4	4	4	0	3	3	4	3	5	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**				