

ELECTRIC MOTORS AND DRIVERS

1	Course Title:	ELECTRIC MOTORS AND DRIVERS	
2	Course Code:	EMEZ003	
3	Type of Course:	Compulsory	
4	Level of Course:	Short Cycle	
5	Year of Study:	2	
6	Semester:	4	
7	ECTS Credits Allocated:	3.00	
8	Theoretical (hour/week):	2.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	2	
11	Prerequisites:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Öğr.Gör. NÜKET ACARSOY	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	ÖĞR. GÖR. NÜKET ACARSOY acarsoy@uludag.edu.tr	
17	Website:		
18	Objective of the Course:	In this course, there is all kinds of electric motor terminals, commissioning and operating procedures of connecting to gain qualifications.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	To understand the basic principles of electric motors and control logic.
		2	DC shunt and series motors to understand the structure and operation.
		3	Üç fazlı asenkron motorların yapısı ve çalışmasını kavrayabilme.
		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 understand the logic and structure of the drivers
		8	
		9	
		10	
21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	
1	Parts of Electric Motors and Working Principles	Introduction of equipment and equipment to be used in applications.	
2	Structures and Operation of DC Motors	Displaying parts by opening inside a DA motor	

3	Characteristics of Direct Current Motors	Load-speed characteristic of the serial engine
4	Speed Adjustment in Direct Current Motors	Load-speed characteristic in DA Shunt motors
5	Three Phase Asynchronous Motor Parts and Working Principle	To see and recognize three-phase asynchronous motor parts
6	Starting currents and methods of three-phase asynchronous motors	Stars - Triangle start
7	Characteristics of Three Phase Asynchronous Motor	The load characteristic of the three-phase induction motor.
8	Midterm Exam, review of topics.	Midterm Exam, review of topics.
9	Speed Adjustment Methods in Three Phase Asynchronous Motors	The speed characteristic of the three-phase induction motor.
10	Structures and Types of Single Phase Asynchronous Motors	To see and recognize parts of single-phase asynchronous motor
11	Types and Working Principles of Single Phase Asynchronous Motors	Universal engine application
12	Step Motors, riding methods and ready step motor drivers	step motor application.
13	Types and components of servo motors and usage areas	Servo motor application.
14	Servo motor drives and control modes (torque, speed and position control)	Performing missing applications
22	Textbooks, References and/or Other Materials:	Electric Motors and Drivers unpublished lecture notes (Lecturer Nüket Acarsoy)
23	Assesment	
TERM LEARNING ACTIVITIES		NUMBER
Midterm Exam		1
Quiz		0
Home work-project		1
Final Exam		1
Total		3
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		
24	ECTS / WORK LOAD TABLE	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	14	2.00	28.00
Self study and preperation	14	2.00	28.00
Homeworks	1	20.00	20.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	20.00	20.00
Others	0	0.00	0.00
Final Exams	1	20.00	20.00
Total Work Load			164.00
Total work load/ 30 hr			4.80
ECTS Credit of the Course			3.00

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	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	0	5	5	4	0	3	3	4	3	5	3	0	0	0	0
ÖK3	0	0	4	4	4	0	3	3	4	3	5	3	0	0	0	0
ÖK4	0	0	4	4	4	0	3	3	4	3	5	3	0	0	0	0
ÖK5	0	0	4	4	4	0	3	3	4	3	5	3	0	0	0	0
ÖK6	0	0	4	4	4	0	3	3	4	3	5	3	0	0	0	0
ÖK7	0	0	4	4	4	0	3	3	4	3	5	3	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	1 very low		2 low			3 Medium			4 High			5 Very High				