

## DC CIRCUIT ANALYSIS

1	Course Title:	DC CIRCUIT ANALYSIS	
2	Course Code:	EMEZ101	
3	Type of Course:	Compulsory	
4	Level of Course:	Short Cycle	
5	Year of Study:	1	
6	Semester:	1	
7	ECTS Credits Allocated:	5.00	
8	Theoretical (hour/week):	2.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	2	
11	Prerequisites:		
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:	ismetguc@uludag.edu.tr, 02242942349, U.Ü. TBMYO Mekatronik Prg. Bşk. Görükle Bursa	
17	Website:		
18	Objective of the Course:	In this course, aimed to gain competencies for to apply the fundamentals of DC and to make all solutions of the DC circuits.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	Being able to use of electric circuit elements in DC circuits
		2	Being able to calculate of total resistance in DC circuits
		3	Being able to calculate of current that is flowing in DC circuits.
		4	Being able to calculate of node voltages in DC circuits.
		5	Being able to calculate of powers that is consuming in DC circuits.
		6	Being able to calculate transient-state effect of capacitor in DC circuits.
		7	Being able to calculate transient-state effect of coil in DC circuits.
		8	Being able to use DC current circuits in control circuits
		9	
		10	
21	Course Content:		
		<b>Course Content:</b>	
Week	Theoretical	Practice	
1	Definition of static electric and DC	Introduction of laboratory	
2	Serial and parallel resistors	Measurement of resistance value and color codes of resistance	
3	Transform of delta-Y in total resistance calculation	Measurement of resistance value which is connected at the delta-Y shape	
4	Method of mesh currents	Measurement of circulating current in multi-mesh circuits	

5	Method of node-voltages	Measurement of node-voltages in multi-mesh circuits
6	Norton-equivalents of DC circuits	Measurement of current value of Norton-equivalent in multi-mesh circuits
7	Thevenin-equivalents of DC circuits	Measurement of voltage value of Thevenin -equivalent in multi-mesh circuits
8	Repeating courses first midterm	Measurement of voltage value of Thevenin -equivalent in multi-mesh circuits
9	Transient–state effect of capacitor in DC circuits.	Measurement of capacitance value
10	Transient–state effect of capacitor in DC circuits	Measurement of variable voltage of capacitance
11	Transient–state effect of coil in DC circuits	Measurement of coil value
12	Transient–state effect of coil in DC circuits	Measurement of variable current of coil
13	Repeating courses second midterm	Measurement of variable current of coil
14	Power equilibrium in DC circuits	Power measurement with wattmeter

22	Textbooks, References and/or Other Materials:	Course notes
----	---	--------------

23	Assesment
----	-----------

TERM LEARNING ACTIVITIES	NUMBE R	WEIGHT		
Midterm Exam	2	50.00		
Quiz	0	0.00		
Home work-project	0	0.00		
Activites		Number	Duration (hour)	Total Work Load (hour)
Contribution of Term (Year) Learning Activities to Success Grade	50.00	14	2.00	28.00
Theoretical				
Practicals/Labs		14	2.00	28.00
Contribution of Final Exam to Success Grade	50.00	14	3.00	42.00
Self study and preperation				
Homeworks		14	2.00	28.00
Measurement and Evaluation Techniques Used in the Projects		0	0.00	0.00
Course				
Field Studies		0	0.00	0.00
Midterm exams		2	8.00	16.00
Others		0	0.00	0.00
Final Exams		1	10.00	10.00
Total Work Load				152.00
Total work load/ 30 hr				5.07
ECTS Credit of the Course				5.00

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	2	2	2	4	4	4	3	3	3	5	5	0	0	0	0	0
ÖK2	1	2	3	3	4	4	2	4	2	4	4	0	0	0	0	0
ÖK3	3	3	4	2	2	2	2	2	2	4	5	0	0	0	0	0
ÖK4	3	3	3	2	2	4	4	4	4	5	5	0	0	0	0	0

ÖK5	4	4	2	2	3	4	3	3	4	4	5	0	0	0	0	0
ÖK6	3	3	3	4	4	4	3	2	2	3	3	0	0	0	0	0
ÖK7	4	4	4	3	2	3	4	3	2	5	5	0	0	0	0	0
ÖK8	4	3	2	2	2	4	4	3	4	5	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			