



AYDIN ADNAN MENDERES UNIVERSITY
SÖKE VOCATIONAL SCHOOL
ELECTRICAL AND ENERGY
ALTERNATIVE ENERGY SOURCES TECHNOLOGY
COURSE INFORMATION FORM

Course Title	Direct Current Circuits								
Course Code	ELE105			Course Level		Short Cycle (Associate's Degree)			
ECTS Credit	4	Workload	100 (Hours)	Theory	3	Practice	1	Laboratory	0
Objectives of the Course	In this course, it is aimed to have the students gain the abilities and knowledge about making dc circuit solutions and calculations.								
Course Content	Static electric concepts, circuit solving methods, thevenin norton, nodule voltages, kirschoff laws, side current, power and energy in DC, storage elements.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Experiment, Demonstration, Problem Solving								
Name of Lecturer(s)	Ins. Serkan ARTAN								

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading	
1	DC Circuit Analyses (Murat Ceylan)
2	DC Circuit Analyses((Abdullah Görkem –Metin Kuş)

Week	Weekly Detailed Course Contents	
1	Theoretical	Static Electric
2	Theoretical	Static Electric, Taking Precautions Against the Unpredictable Effects of Electric Current
3	Theoretical	Taking Precautions Against the Unpredictable Effects of Electric Current, Circuit Solutions in DC
4	Theoretical	Circuit Solutions in DC, Side Currents Method
5	Theoretical	Side Currents Method
6	Theoretical	Nodule Voltage Method
7	Theoretical	Source Connections, Theve'nin Theorem
8	Theoretical	Theve'nin Theorem, Norton Theorem
9	Theoretical	Superposition Theorem, Maximum Power Theorem
10	Theoretical	Maximum Power Theorem, Storage Elements in DC
11	Theoretical	Storage Elements in DC
12	Theoretical	Storage Elements in DC, Power and Energy in DC
13	Theoretical	Power and Energy in DC
14	Theoretical	Power and Energy in DC

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	3	56
Lecture - Practice	14	0	1	14
Assignment	4	2	0	8
Midterm Examination	1	10	1	11
Final Examination	1	10	1	11
			Total Workload (Hours)	100
			[Total Workload (Hours) / 25*] = ECTS	4

*25 hour workload is accepted as 1 ECTS

Learning Outcomes	
1	Application of basics about electric current effects
2	Making of basic circuit solutions



3	Making of complex circuit solutions
4	Calculation of the effects of DC on circuit elements
5	Makes power calculation in direct current.

Programme Outcomes (Alternative Energy Sources Technology)

1	Carry out installing work
2	Do mechanical drawing
3	Do pipe welding
4	Do basic electricity works
5	Do Computer assisted design
6	Install solar energy hot water preparation system.
7	Do measurement and calculations practices.
8	Do basic practices of geothermal energy.
9	Install control and automation system.
10	Install domestic water heating system with solar energy.
11	Generate electricity with solar energy
12	Generate electricity with wind power
13	Do geothermal energy practices
14	Install domestic cooling system
15	Do heating pump practices
16	Manage a business
17	SET UP A WORKPLACE/ BUSINESS (pre-requisite)
18	OBEY VOCATIONAL ETHICAL VALUES
19	RESEARCH AND EVALUATION/OBSERVATION
20	SELFIMPROVEMENT WITH USING INFORMATION FACILITIES
21	Knows the effects of all energy sources on the environment.
22	Can communicate in a foreign language

Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5
P1		3	3	3	3
P4	3	3	3	3	4
P7	3	3	3	3	4

