



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

Course Title	Basic Jeothermal Energy								
Course Code	AET201			Course Level		Short Cycle (Associate's Degree)			
ECTS Credit	5	Workload	120 (Hours)	Theory	3	Practice	1	Laboratory	0
Objectives of the Course	The aim of this course is to teach students basics of geothermal energy which is among renewable energy technologies field and making calculations for different processes and applying them.								
Course Content	Basic Concepts of Thermodynamic, Table of Pure Substance Features, Phase Modulation, Basic Characteristics, Applying in Geothermal Systems, Measuring Regional Hear Loss, Choosing Pump, Plate Exchanger, Expansion Tank , Mounting Place of Plate Exchanger, Plate Exchanger Installment Connections, Feed Water Connection, Control Elements, Safety Equipment.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation)								
Name of Lecturer(s)	Ins. Baybars DAL								

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading

1	Geothermal Energy Applications - H. Hüseyin Öztürk
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Week	Weekly Detailed Course Contents	
1	Theoretical	Basic Concepts of Thermodynamic
2	Theoretical	Table of Pure Substance Features
3	Theoretical	Phase Modulation
4	Theoretical	Basic Characteristics
5	Theoretical	Applying in Geothermal Systems
6	Theoretical	Measuring Regional Hear Loss
7	Theoretical	Choosing Pump
8	Theoretical	Plate Exchanger ,Expansion Tank
9	Theoretical	Mounting Place of Plate Exchanger
10	Theoretical	Plate Exchanger Installment Connections
11	Theoretical	Connections
12	Theoretical	Feed Water Connection
13	Theoretical	Control Elements
14	Theoretical	Safety Equipment.

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	3	56
Lecture - Practice	14	0	1	14
Term Project	7	4	0	28
Midterm Examination	1	10	1	11
Final Examination	1	10	1	11
Total Workload (Hours)				120
[Total Workload (Hours) / 25*] = ECTS				5

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Can calculate pure substance features.
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2	Can apply the first law of thermodynamic to the geothermal systems.
3	Can determine central heating circuit components.
4	Can mount plate exchanger.
5	Can make installment connections.
6	Can mount safety and control components.

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	L6
P8	5	5	5	5	5	5
P13	4	4	3	3	4	4

