



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

Course Title	Practices Jeothermal Energy								
Course Code	AET208			Course Level		Short Cycle (Associate's Degree)			
ECTS Credit	3	Workload	78 (Hours)	Theory	3	Practice	0	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), Individual Study, Problem Solving								
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 / Durmuş Kaya
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Week	Weekly Detailed Course Contents	
1	Theoretical	Choosing control stop-start elements
2	Theoretical	mounting below building heat changer
3	Theoretical	Installing two way collector line.
4	Theoretical	installing two way collector line
5	Theoretical	Calculating heat loss in greenhouses
6	Theoretical	calculating heat loss in greenhouses
7	Theoretical	choosing heating system
8	Theoretical	choosing heating system
9	Theoretical	mounting installment
10	Practice	mounting installment
11	Theoretical	categorizing geothermal power generation systems
12	Theoretical	categorizing geothermal power generation systems
13	Theoretical	making thermal analysis of system components
14	Theoretical	making thermal analysis of system components

#### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	3	56
Midterm Examination	1	10	1	11
Final Examination	1	10	1	11
Total Workload (Hours)				78
[Total Workload (Hours) / 25*] = ECTS				3

\*25 hour workload is accepted as 1 ECTS

#### Learning Outcomes

1	Can calculate pure substance features.
2	Can apply the first law of thermodynamic to the geothermal systems.
3	Can determine central heating circuit components.



4	Can mount plate exchanger. Can make installment connections.
5	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
P7	4	4	4	4	4
P13	5	5	5	5	5

