AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Alternative Energy Sources								
Course Code	MKE258		Couse Level	Short Cycle (Associate's Degree)					
ECTS Credit	3	Workload	74 *(Hours)*	Theory	2	Practice	2	Laboratory	0
Objectives of the Course	Informing about the use and application of different energy sources besides existing energy sources.								
Course Content	Renewable Energy Varieties, Economic Situation, Country Based Use								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Case Study								
Name of Lecturer(s)	Assoc. Prof. Murat ÜNVERDİ								

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

Recommended or Required Reading	
1	Alternatif Enerji Kaynakları ders notları

Week	Weekly Detailed Course Contents	
1	Theoretical	Energy and Energy Terminology
2	Theoretical	Solar energy
3	Theoretical	Solar Energy Technologies and Applications
4	Theoretical	Heating and Cooling Systems with Solar Energy
5	Theoretical	Biomass Energy
6	Theoretical	Briquetting and Briquetting of Biomass
7	Theoretical	Biogas Energy
8	Theoretical	Biomass Energetic Heat Power Plants
9	Intermediate Exam	Midterm Examination
10	Theoretical	Wind Energy Source
11	Theoretical	Alternative Fuels Used in Engines
12	Theoretical	Biomotorin (Biodiesel) fuel
13	Theoretical	Vehicle Oils and Lubrication on Vehicles
14	Theoretical	Vegetable Oils and Lubrication
15	Theoretical	Boron and Energy, Stirling Engines and Solar Energy
16	Final Exam	Final Examination

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Lecture - Practice	14	0	2	28
Assignment	16	0	1	16
Midterm Examination	1	0	1	1
Final Examination	1	0	1	1
			Total Workload (Hours)	74
			[Total Workload (Hours) / 25*] = **ECTS**	3
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	Learning the basic concepts of clean and renewable energy sources
2	Learning the theoretical and practical knowledge about the structure and operation of power plants using different energy sources

3	Classify alternative energy sources.
4	Know the energy resources in the world and Turkey.
5	Knows global warming and its effects.

Programme Outcomes *(Machinery)*	
1	To be able to know general properties and usage areas of industrial materials and make selection.
2	Design of machine elements.
3	To be able to make production using machining and welding machines without machining.
4	To be able to make measurement and quality control processes with machine tools for measuring and control equipment.
5	To be able to make necessary corrections in order to determine the mistakes by using the necessary non-destructive test methods in welded parts and to eliminate these mistakes.
6	Preventive measures to prevent the occurrence of these faults by preliminarily determining the faults that will occur in the machines as statistical data and to make necessary interventions in case of breakdown.
7	They can make drawings of work pieces on CAD station and apply them on CNC looms. Ability to operate and use CAD / CAM and AUTOCAD package programs.
8	To be able to transfer engineering science and technology to practice by making calculations in the direction of scientific principles.
9	It can repair the elements in pneumatic and hydraulic systems which are indispensable elements of automatic control systems and can regulate their work.
10	The student who is trained as a machine technician during the whole program knows that industrial task definition in the field of work is error finding, problem solving, decision making, planning of functions and activities and they can be achieved by aiming to acquire these characteristics.

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

	L1	L2	L3	L4	L5
P10	2	2	2	2	2