AYDIN ADNAN MENDERES UNIVERSITY
BUHARKENT VOCATIONAL SCHOOL

ELECTRICITY AND ENERGY
ALTERNATIVE ENERGY SOURCES TECHNOLOGY
COURSE INFORMATION FORM

Course Title	Basic Energy Resources								
Course Code	AEK103		Couse Level		Short Cycle (Associate's Degree)				
ECTS Credit	4	Workload	97 *(Hours)*	Theory	2	Practice	0	Laboratory	0
Objectives of the Course	To inform students about basic energy sources, production, processing and how they function.								
Course Content	Solar power the fission reaction and the sun's arc, the solar constant and solar systems, wind energy and wind maps, wind power plants and offshore applications, hydraulic resources and the importance for Turkey storable and renewable energy sources, the peak load problem and power quality, wave energy and its value as source, Study of geothermal resources, Biomass and biogas production and storage, Biobenzin and its production, Biomotorin and its production, Energy security and energy saving.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion, Individual Study, Problem Solving								
Name of Lecturer(s)	Lec. Hakan Can SÖYLEYİCİ								

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

Recommended or Required Reading	
1	Enerji Kaynakları Prof. Dr. Hayati Doğanay, Yrd. Doç. Dr. Ogün Coşkun / Pegem Akademi Yayıncılık

Week	Weekly Detailed Course Contents	
1	Theoretical	Temel Enerji Kaynaklarına giriş
2	Theoretical	Petrol ve doğal gaz özellikleri, oluşumu ve elde edilme yöntemleri. Petrol ve türevlerinden yararlanma yolları. Kömür, linyit özellikleri, üretim teknikleri ve kullanım alanları
3	Theoretical	Konvansiyonel Enerji Kaynaklarının Sürdürülebilirliği
4	Theoretical	Rüzgar Enerjisi Sistemleri
5	Theoretical	Güneş Enerjisi Sistemleri
6	Theoretical	Hidroelektrik Santralleri Sistemleri
7	Theoretical	Nükleer Enerji Sistemleri
8	Intermediate Exam	Mid-term exam
9	Theoretical	Gelgit Enerjisi Sistemleri
10	Theoretical	Hidrojen Enerjisi Sistemleri
11	Theoretical	Jeotermal Enerji Sistemleri
12	Theoretical	Biokütle Enerjisi Sistemleri
13	Theoretical	Enerji Depolama Sistemleri
14	Theoretical	Alternatif Enerji Sistemleri ile Enerji Verimliliği
15	Final Exam	Final exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	15	0	3	45
Assignment	5	4	4	40
Midterm Examination	1	5	1	6
Final Examination	1	5	1	6
			Total Workload (Hours)	97
			[Total Workload (Hours) / 25*] = **ECTS**	4
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	
2	
3	
4	
5	

Programme Outcomes *(Alternative Energy Sources Technology)*	
1	To have knowledge about basic science and technology.
2	To have knowledge about basic energy and alternative energy sources.
3	To have knowledge about basic electrical and electronic laws.
4	To have knowledge about the installation and operation of energy facilities.
5	Learning the methods of recycling of waste and use of energy.
6	To have experience in energy generation and project design.

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	2	2	2	2	4
P2	5	5	5	5	5
P3	2	2	2	2	4
P4	3	3	3	3	3
P5	4	4	4	4	4
P6	3	3	3	3	5