AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Wind Turbine Design								
Course Code	AEK114		Couse Level	Short Cycle (Associate's Degree)					
ECTS Credit	3	Workload	74 *(Hours)*	Theory	2	Practice	1	Laboratory	0
Objectives of the Course	It is aimed to teach design principles of wind turbines and their applications.								
Course Content	Turbin Wing Design / Syncronized Wind Turbins, Power Control of Wind Turbines, Mathematical Modelling of Wind Turbines, Relevant Simulations, Off-Grid Wind Power Systems, Grid-Wind Turbin Systems, Economic Life Expectancy of Wind Turbines								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion, Individual Study, Problem Solving								
Name of Lecturer(s)									

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

Recommended or Required Reading	
1	RÜZGAR TÜRBİNİ KANADI TASARIMI - Devrim Tuna

Week	Weekly Detailed Course Contents	
1	Theoretical	Temel kavramlar ve derse giriş
2	Theoretical	Türbin Kanat Tasarımı
3	Theoretical	Türbin Kanat Tasarımı
4	Theoretical	Değişken Hızlı Rüzgar Türbinleri
5	Theoretical	Sabit Hızlı Rüzgar Türbinleri
6	Theoretical	Senkron-asenkron Rüzgar Türbinleri
7	Theoretical	Senkron-asenkron Rüzgar Türbinleri
8	Theoretical	Senkron-asenkron Rüzgar Türbinleri
9	Theoretical	Rüzgar Türbin Sistemlerinin Güç Kontrolü
10	Theoretical	Rüzgar Enerji Sistemlerinin Matematiksel Modellenmesi ve Simülasyonu
11	Theoretical	Rüzgar Enerji Sistemlerinin Matematiksel Modellenmesi ve Simülasyonu
12	Theoretical	Bağımsız Rüzgar Enerji Sistemleri
13	Theoretical	Şebekeye Bağlı Rüzgar Enerji Sistemleri
14	Theoretical	Rüzgar Enerji Sistemlerinin Ömür Analizi
15	Theoretical	Rüzgar Enerji Sistemlerinin Ömür Analizi
16	Final Exam	Final exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	13	0	2	26
Lecture - Practice	13	1	1	26
Assignment	5	0	2	10
Midterm Examination	1	5	1	6
Final Examination	1	5	1	6
			Total Workload (Hours)	74
			[Total Workload (Hours) / 25*] = **ECTS**	3
**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				5	
P2	5	5	3		
P4			5	4	5
P5	4	4			4
P6			5	4	3