

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
FZK-4037	Wind Energy Physics	3.00	0.00	0.00	3.00	6.00
Course Detail						
Course Language	: Turkish					
Qualification Degree	: Bachelor					
Course Type	: Optional					
Preconditions	: Not					
Objectives of the Course	: It is aimed to teach wind energy and its applications.					
Course Contents	: Wind definition, the use of wind energy, wind power plants, sample applications on Earth.					
Recommended or Required Reading	: Güç Sistemlerinde Rüzgâr Gücü, Thomas, Ackermann. 2009, Rüzgar enerjisi Teori ve Uygulama., Murat Durak- Serra Özer 2008					
Planned Learning Activities and Teaching Methods	: Lecture, homework, application					
Recommended Optional Programme Components	: Current research topics for student.					
Instructors	: Prof. Dr. Caner Çiçek					
Instructor's Assistants	: No					
Presentation Of Course	: Face to face					

Course Outcomes

Upon the completion of this course a student :

- 1 Learns the definition of wind. Knows the current and historical development of wind power
- 2 Learns the designs for wind turbines. knows turbines and detects the introduction to power electronics for wind
- 3 Learns the effect and application of wind power among new energy sources.
- 4 Learns the wind power efficiency. It works on the efficiency effect.
- 5 Learns new information about wind energy engineering.

Preconditions

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
-------------	-------------	----------	----------	------------	---------	------

Weekly Contents

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods
1.Week	*Introduction to the concept of wind				
2.Week	*Historical development and current state of wind power				
3.Week	*Wind Power in Power Systems.				
4.Week	*Generators and Power Electronics for Wind Turbines				
5.Week	*Power Quality Standards for Wind Turbines				
6.Week	*Technical Regulations for Connecting Wind Farms to Power Systems				
7.Week	*Value of Wind Power				
8.Week	*Midterm exam				
9.Week	*Example of Germany for wind power.				
10.Week	*Wind Power for USA				
11.Week	*Economic Aspects of Wind Power in Power Systems.				
12.Week	*Application of wind power in Turkey.				
13.Week	*Wind Power in Regions with Limited Production Capacity				
14.Week	*Wind power market.				

Assesment Methods %

1 Md Term Exam 1 : 40.000

2 Final : 60.000

ECTS Workload

