Fizik Bölümü / PHYSICS /									
Course Code	Course Name				Teorical	Practice	Laboratory	Credits	ECTS
-ZK-3040	Energy Systems				3.00	0.00	0.00	3.00	6.00
Course Detail									
Course Language	: Turkish								
Qualification Degree	: Bachelo	or							
Course Type	: Optional	I							
Preconditions	: Not								
Objectives of the Course	: General	l information about energ	yy systems and developmer	nts about their applications					
Course Contents	: The olde introduce		urces, Petroleum, Coal, Nati	ural Gas provides informat	ion on produc	ction and consu	Imption. New ge	neration ene	rgy sources a
Recommended or Requiı Reading	red : Fossil E	Energy Production, Mkye	r Kutz-Ali Elkamel 2020, No	n conventional and Renew	able Energy	Sources, SS T	hipse 2014		
Planned Learning Activiti Feaching Methods	es and : Lecture,	, homework, application							
Recommended Optional Programme Components		research topics for stud	ent.						
Instructors	: Prof. Dr.	. Caner Çiçek							
nstructor's Assistants	: No								
Presentation Of Course	: Face to	face							
Course Outcomes									
Upon the completion of this cours	e a student :								
1 Learns what is energy. Knows	the old generation energ	gyresources. Learns to use to	day.						
2 Learns new generation energy	resources. Examines c	current situations. Learns abou	t energy investments.						
3 Compares old and new genera	ation energy sources. An	nalyzes the last current situatio	n.						
Preconditions									
Course Code	Course Name				Teorical	Practice	Laboratory	Credits	ECTS
Weekly Contents									
Teorical		Practice	Laboratory		Prenaration	Info	Teach	ing Method	2

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods
1.Week	*What is energy.				
2.Week	*The concept of the older generation of energy.				
3.Week	*What is petroleum energy.				
4.Week	*Oil production and view of the current situation.				
5.Week	*Coal energy and its definition.				
6.Week	*Coal consumption and thermal power plants				
7.Week	*Natural gas energy and resources, use.				
8.Week	*Exam				
9.Week	*Obtaining and using solar energy.				
10.Week	*Wind energy and wind power plants.				
11.Week	*Geothermal energy resources in the world and Turkey				
12.Week	*Other New Energy sources.				
13.Week	*Nuclear energy overview.				
14.Week	*Comparison of energy efficiency in the use of old and new				

Assesment Methods %

1 Mid Term Exam 1 : 40.000

2 Final : 60.000

## ECTS Workload

Activities	Count	Time(Hour)	Sum of Workload
Vize	1	3.00	3.00
Final	1	3.00	3.00
Individual study before lecture	14	3.00	42.00

Count	Time(Hour)	Sum of Workload					
14	3.00	42.00					
1	18.00	18.00					
1 20.00		20.00					
14 3.00		42.00					
	Total	: 170.00					
Sum of Workload / 30 ( Hour ) : 6							
	14 1 1	14 3.00   1 18.00   1 20.00   14 3.00					

## Program And OutcomeRelation

	P.O.	1 P.O.	2 P.O.	3 P.O.	4 P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 12	P.O. 13	P.O. 14	P.O. 15	P.O. 16	P.O. 17	P.O. 18	P.O. 19	P.O. 20	P.O. 21	P.O. 22	P.O. 23	P.O. 24
L.O. 1	2	1	3	4	1	2	3	3	2	3	2	2	2	3	2	0	0	0	0	0	0	0	0	0
L.O. 2	3	3	3	4	3	3	3	3	3	3	3	3	3	4	3	0	0	0	0	0	0	0	0	0
L.O. 3	4	4	4	3	4	3	4	5	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0
4			1	1		1																		Þ

## Ders/Program Çıktıları İlişkisi

P.O. 1 P.O. 2 P.O. 3 P.O. 4 P.O. 5 P.O. 6 P.O. 7 P.O. 8 P.O. 9 P.O. 10 P.O. 11 P.O. 12 P.O. 13 P.O. 7	14 P.O. 15 P.O. 16 P.O. 17 P.O. 18 P.O. 19 P.O. 20 P.O. 21 P.O. 22 P.O. 23 P.O. 24 P.O. 2
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