

# SOLAR ENERGY

1	Course Title:	SOLAR ENERGY
2	Course Code:	FZK5611
3	Type of Course:	Optional
4	Level of Course:	Second Cycle
5	Year of Study:	1
6	Semester:	1
7	ECTS Credits Allocated:	6.00
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	There are no prerequisites
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Doç.Dr. AHMET PEKSÖZ
15	Course Lecturers:	Yrd. Doç. Dr. Aslı Ayten KAYA
16	Contact information of the Course Coordinator:	aslitay@uludag.edu.tr 0 224 294 16 94 Uludağ Üniversitesi, Fen-Edebiyat Fakültesi, Fizik Bölümü, 16059 Görükle, Bursa.
17	Website:	
18	Objective of the Course:	Investigate of renewable energy source Investigate to structure and properties of photovoltaic cells Investigate to electrical and optical properties of the PV systems
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	
	1	To have knowledge about renewable energy sources
	2	Choose appropriate techniques and methods for renewable energy
	3	To make a comment about energy efficiency
	4	To understand the importance of renewable energy
	5	Having information about our energy sources
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21	Course Content:	
	<b>Course Content:</b>	
Week	Theoretical	Practice
1	Renewable energy sources	
2	Comparison with other energy sources of solar energy	
3	Introduction to Active solar energy systems	

4	Several basic concepts of energy, working principles	
5	The advantages and disadvantages of energy systems	
6	Application fields of renewable energy systems	
7	Photovoltaic systems (PV) and application areas	
8	PV energy	
9	Properties of PV cells	
10	PV materials	
11	electrical properties of PV materials	
12	optical properties of PV materials	
13	production techniques of PV materials	
14	Analysis of PV materials	

22	Textbooks, References and/or Other Materials:	1. Michael Boxwell, Solar Electricity Handbook 2010 Edition: A Simple, Practical Guide to Solar Energy - Designing and Installing Photovoltaic Solar Electric Systems, Code Gren Publishing, 2010. 2. D. Yogi Goswami, Principles of Solar Engineering, Taylor & Francis Publishing, 2000.
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23	Assesment
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TERM LEARNING ACTIVITIES		NUMBE R	WEIGHT		
Activites			Number	Duration (hour)	Total Work Load (hour)
Home work-project		0	0	3.00	42.00
Practicals/Labs			0	0.00	0.00
Self study and preperation		1	10	6.00	84.00
Homeworks			4	4.00	16.00
Success Grade Projects			14	3.00	42.00
Field Studies			0	0.00	0.00
Midterm exams			0	0.00	0.00
Others			0	0.00	0.00
Final Exams			1	2.00	2.00

<b>24 ECTS / WORK LOAD TABLE</b>					
Total Work Load					186.00
Total work load/ 30 hr					6.20
ECTS Credit of the Course					6.00

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	4	4	3	5	0	4	0	0	3	3	4	0	0	0	0	0
ÖK2	5	5	3	4	0	4	0	0	3	3	4	0	0	0	0	0
ÖK3	4	4	2	3	0	3	0	0	3	3	3	0	0	0	0	0
ÖK4	4	4	3	4	0	3	0	0	2	3	4	0	0	0	0	0

ÖK5	5	5	5	4	0	4	0	0	4	3	3	0	0	0	0	0
LO: Learning Objectives    PQ: Program Qualifications																
Contrib ution Level:	1 very low			2 low			3 Medium			4 High			5 Very High			