



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Photovoltaic Cell Technology							
Course Code		AEK117		Course Level		Short Cycle (Associate's Degree)			
ECTS Credit	3	Workload	73 (Hours)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		Students are expected to gain fundamental constituents of photovoltaic cells as unit components of solar panels, and types of PVs.							
Course Content		Historical development of photovoltaic (PV) technologies; operation principles of pv cell; types of PV cells with respect to the base materials; cell efficiency; and energy issues.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, 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	Fotovoltaik Teknoloji Yazar: Durmuş Kaya , H. Hüseyin Öztürk
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Week	Weekly Detailed Course Contents	
1	Theoretical	Fotovoltaik (PV) teknolojilerinin tarihsel gelişimi, , imal edildiği malzemeye göre PV hücre türleri, hücre verimliliği ve enerji konuları genel hatlarıyla öğrencilere tanıtılacaktır.
2	Theoretical	PV hücrelerinin çalışma ilkeleri
3	Theoretical	PV hücrelerinin çalışma ilkeleri
4	Theoretical	PV hücre tasarımı
5	Theoretical	İnce film PV hücreleri
6	Theoretical	İnorganik temelli PV hücreler
7	Theoretical	Organik temelli PV hücreler
8	Intermediate Exam	Mid-term exam
9	Theoretical	Arge aşamasındaki PV hücre tipleri, PV hücre imali
10	Theoretical	Hücre tipine bağlı olarak PV sistemlerde maliyet hesabı
11	Theoretical	Hücre tipine bağlı olarak PV sistemlerde enerji verimliliği hesabı
12	Theoretical	Hücre tipine bağlı olarak PV sistemlerde stabilite ve kullanım sürelerinin belirlenmesi
13	Theoretical	PV malzemelerin geri dönüşümü
14	Theoretical	Güneş enerjisi sistemlerinin çevresel etkileri
15	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	3	56
Project	5	0	1	5
Midterm Examination	1	5	1	6
Final Examination	1	5	1	6
Total Workload (Hours)				73
[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	4	4	4	4
P2		5	5	5	5
P3	4	3	3	3	3
P4		3	3	3	3
P5		3	3	3	3
P6		3	3	3	3

