Course Information

COURSE INFORMATION

Course Title	Code	Semester	L+U Hour	Credits	ECTS
Renewable Energy Sources	USD1	Term 5	2 + 0	2	3.0

Prerequisites	None
Language of Instruction	Turkish
Course Level	Undergraduate
Course Type	Elective
Mode of delivery	Face to face
Course Coordinator	Lecturer Emine UÇMUŞ
Instructor	Lecturer Emine UÇMUŞ
Assistants	Res. Asst. Bengü GÜNGÖR
Goals	Under the main objective of sustainable development which is "Protection and Management of Natural Resource-Based", there is an increasing requirement to engage with local and renewable energy sources in Turkey. In this case, the aim of this course is to investigate the renewable sources such as, solar, wind, biomass, geothermal, water and wave energy in detail.
Course Content	History and scope of renewable energy, sustainability, production of environmental-friendly technologies, energy sources, new energy sources, renewable energy sources, biomass energy, wind energy, solar energy, hydraulic energy, ocean energy, geothermal energy, global renewable energy and applications, green economy and carbon markets, renewable energy applications and politics in developing Turkey.
Learning Outcomes	• have a knowledge about sustainability and sustainable development, • have information about main issues of renewable energy, • have ability of interpreting dynamics of renewable energy development by examining the relationship between the energy policies, • have information necessary to convert countries' renewable energy potential into value added by analyzing new technologies, • have detailed information about sustainable energy development and related policies by learning effects of energy on global events such as environmental degradation and climate change.

COURSE CONTENT

Week	Topics	Teaching and Learning Methods and Techniques	Study Materials
1. Week	History and scope of renewable energy	Lecture	
2. Week	Basic concepts	Lecture	
3. Week	Hydraulic energy	Lecture and research homework	
4. Week	Solar energy	Lecture and research homework	
5. Week	Wind energy	Lecture and research homework	
6. Week	Biomass energy	Lecture and research homework	
7. Week	Ocean energy	Lecture and research homework	
8. Week	Geothermal energy	Lecture and research homework	
9. Week	Global renewable energy	Lecture and research homework	
10. Week	Renewable energy applications of European Union	Lecture and research homework	
11. Week	Renewable energy applications in the developing world	Lecture and research homework	
12. Week	Green economy and carbon markets	Lecture and research homework	
13. Week	Renewable energy applications in developing Turkey	Lecture and research homework	
14. Week	Renewable energy applications in developing Turkey	Lecture and research homework	

RESOURCES

Recommended Sources

Yenilenebilir Enerji Kaynakları, H. Hüseyin ÖZTÜRK, Birsen Yayınevi-2013-5
Yenilenebilir enerji Kaynalarının Değerlendirilmesi Türkiye Örneği, Abdülkerim KARAASLAN, Mesliha GEZEN, Ekin Basım-Yayın-2017-12
Dünya Sürdürülebilir Kalkınma Zirvesi Johannesburg Uygulama Planı
Enerji Kaynakları, Hayati DOĞANAY, Ogün COŞKUN-Pegem Akademi-2017
https://www.sanayi.gov.tr

ASSESSMENT

Measurement and Evaluation Methods and Techniques

Examination

COURSE CATEGORY

Course Category	Percentage
Basic Vocational Courses	% 30
Engineering Sciences	% 30
Engineering Design	% 40

CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME OUTCOMES

Program Requirements	Contribution Level	DK1	DK2	DK3	DK4	DK5	Measurement Method
PY1	5	X	X		X	X	1,3,4
PY2	5	X	X	X	X	X	1,3,4
PY3	5		X	X	X	X	1,3,4
PY4	4			X	X	X	1,3,4
PY5	4		X		X	X	1,3,4
PY6	1						
PY7	1						
PY8	1						
PY9	1						
PY10	1						
PY11	1						
PY12	2	X					1,3,4

*DK = Course's Contrubution.

	1	2	3	4	5
Level of contribution	Very Low	Low	Fair	High	Very High
Method of assessment/evaluation	Written exam	Oral Exams	Assignment/Project	Laboratory work	Presentation/Seminar

ECTS CREDITS AND COURSE WORKLOAD

Event	Quantity	Duration (Hour)	Total Workload (Hour)
Lecture	16	2	32
Study	16	2	32
Final Examination	1	5	5
Midterm 1	1	5	5
Assignment 1	1	5	5
Assignment 2	1	5	5
		Total Workload	84
		Total Workload / 25.5 (s)	3.29
		Ects Credit of the Course	3