AGRICULTURAL TECHNOLOGIES FOR ENERGY EFFICIENCY

1	Course Title:	AGRICULTURAL TECHNOLOGIES FOR ENERGY EFFICIENCY
2	Course Code:	BSM4534-S
3	Type of Course:	Optional
4	Level of Course:	First Cycle
5	Year of Study:	4
6	Semester:	8
7	ECTS Credits Allocated:	3.00
8	Theoretical (hour/week):	2.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Doç. Dr. ONUR TAŞKIN
15	Course Lecturers:	Yok
16	Contact information of the Course Coordinator:	e-posta : onurtaskin@uludag.edu.tr Telefon: 0 224 2941602 Adres: Bursa Uludağ Üniversitesi, Ziraat Fakültesi, Biyosistem Mühendisliği Bölümü, Görükle Kampüsü, 16059, Nilüfer/BURSA
17	Website:	
18	Objective of the Course:	Purpose of the course is to give students basic informations about energy efficiency and its relations with agriculture.
19	Contribution of the Course to Professional Development:	The students will provide professional development in determining the energy efficiency of a machine system or a facility.
20	Learning Outcomes:	

	1	Understand importance of energy efficiency and energy saving
	2	Understand relation between energy efficiency and agriculture
	3	Utilize principles of energy efficiency to practical problems
	4	Learn laws, regulations and standards about energy efficiency
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	Basic consepts about energy and energy efficiency	
2	Energy management system	
3	Unit systems for evaluation of energy	

4	Energy efficiency in respect to illumination	
5	Energy efficiency at cooling machines and A/C facilities	
6	Energy efficiency at heating	
7	Utilizing waste energy and its recycling methods	
8	Energy usage at agricultural production	
9	Energy efficiency at agricultural production	
10	Energy farming	
11	Efficient usage of renewable energy resource	
12	Power factor and compensation	
13	Essential precautions to avoid energy loss in Turkey.	
14	Energy efficiency law, regulations and standards for energy efficiency	

22	Textbooks, References and/or Other Materials:	1. EVÇED, 2023. Enerji Verimliliği Eğitim Kitabı, Enerji ve Tabii Kaynaklar Bakanlığı Tanıtım, Eğİtİm ve Etüt Dairesi Başkanığı. 2. Yavuzcan G., 1994. Enerji Teknolojisi, Ankara Üniversitesi Ziraat Fakültesi Yayın No: 1324, Ankara. 3. Hepbaşlı A., 2010. Enerji Verimliliği ve Yönetim Sistemi, Esen Ofset Matbaacılık, İstanbul. 4. Yaman Y., 2007. Enerji Tasarrufu ve Yenilenebilir Enerji Kaynakları, Birsen Yayınevi, İstanbul.

Activites		Number	Duration (hour)	Total Work Load (hour)
TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**		
Theoretical		14	2.00	28.00
Practicals/Labs		0	0.00	0.00
Self-study and preperation	0	0.00	1.00	14.00
Homeworks		0	0.00	0.00
Projects		0	0.00	0.00
Field Studies		0	0.00	0.00
Quiz		0	0.00	0.00
Midterm Exam	1	40.00	1.00	20.00
Others		0	0.00	0.00
Final Exams	1	60.00	1.00	25.00
Total Work Load				87.00
Total work load/ 30hr				2.90
ECTS Credit of the Course				3.00

Contribution of Term (Year) Learning Activities to Success Grade 40,00

Contribution of Final Exam to Success Grade 60,00

Measurement and Evaluation Techniques Used in the Course

The effect of the midterm exam on the course passing grade is 40%, the effect of the final exam on the course passing grade is 60%.

24	**ECTS / WORK LOAD TABLE**

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	3	4	3	3	4	3	0	4	3	3	0	4	0	0	0	0
ÖK2	5	5	3	4	5	3	0	5	3	3	4	5	0	0	0	0
ÖK3	5	5	3	4	5	3	0	5	3	3	4	5	0	0	0	0

ÖK4	4	4	3	4	4	3	0	4	3	3	3	5	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications					
Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**