



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Energy Producing From Living Things (bioenergy)							
Course Code		ÇS011		Couse Level		Short Cycle (Associate's Degree)			
ECTS Credit	3	Workload	73 (Hours)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		Providing information on solid (compost, fertilizer, etc.), liquid (biodiesel, bioethanol, etc.), gaseous (biogas, syngaz, leangaz, poor gas, etc.) fuel and electricity production facilities (biogas plant, incineration, pyrolysis, gasification plant, etc.) from biomass products and biological agricultural products such as domestic, animal, forester and agricultural wastes.							
Course Content		What are the definitions and types of bioenergy. Bioenergy products and processes.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Experiment, Demonstration, Discussion, Case Study, Individual Study					
Name of Lecturer(s)		Ins. Adem KESKİN, Lec. Sevil ÖZCAN							

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

Recommended or Required Reading

1	Mustafa ACAROĞLU, Alternative energy resources. Nobel Publishing
2	Nedim SARAÇOĞLU, Global Climate Change, Bioenergy and Energy Forestry. Elif Publishing
3	http://www.emo.org.tr/ekler/bee909821a8c133_ek.pdf

Week	Weekly Detailed Course Contents	
1	Theoretical	What is Bioenergy? What are Bioenergy Types?
2	Theoretical	What is biogas, what products, how to obtain?
3	Theoretical	Use of vegetable, animal and municipal wastes in obtaining biogas.
4	Theoretical	Energy recovery from wastes and treatment plants.
5	Theoretical	Fermentation technologies and their simple applications.
6	Theoretical	What is biomass energy, what products, how to obtain?
7	Theoretical	Use of agricultural and industrial wastes as biomass.
8	Intermediate Exam	Midterm
9	Theoretical	Use of domestic and forest waste as biomass.
10	Theoretical	Thermal technologies.
11	Theoretical	Compost technologies.
12	Theoretical	Pellet-briquette technologies.
13	Theoretical	Biodiesel and bioethanol production.
14	Theoretical	Laboratory application
15	Theoretical	Laboratory application
16	Final Exam	final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Individual Work	3	5	1	18
Midterm Examination	1	10	1	11
Final Examination	1	15	1	16
Total Workload (Hours)				73
[Total Workload (Hours) / 25*] = ECTS				3

*25 hour workload is accepted as 1 ECTS



Learning Outcomes

1	Know bioenergy products.
2	Know the types of Bio Energy.
3	Knows the processes of obtaining bioenergy.
4	Know the use of plant wastes in obtaining energy.
5	Knows the processes of electricity production from biological products in solid, liquid and gaseous form.

Programme Outcomes (First and Emergency Aid)

1	To be able to be aware of their professional authorities and responsibilities.
2	To be able to use the principles of individual and organizational communication skills.
3	To be able to define the emergency medical services and the pre-hospital emergency medical system devices used in Turkey and the world .
4	To be able to perform physical assessment of the patient and primary and secondary inspection.
5	To be able to apply the methods of handling and transportation of the patient
6	To be able to recognize the rules of the general approach to trauma patients and to be able to be capable of handling and maintenance of trauma equipment.
7	To be able to recognize emergency vehicles' mechanical and technical equipment and to be able to drive emergency vehicles.
8	To be able to identify the principles of pre-hospital emergency care in cases of environmental emergencies.
9	To be able to identify the principles of pre-hospital emergency care in medical emergencies.
10	To be able to analyze the ECG rhythm and apply the principles of pre-hospital emergency care for rhythm Disorders.
11	To be able to recognize and apply the pre-hospital emergency care drugs and fluids.
12	To be able to identify basic life support applications, Advanced Life Support applications and Advanced air way applications.
13	To be able to recognize the principles of pre-hospital emergency during disasters.
14	To be able to protect and maintain the highest level of physical and mental health.
15	To be able to recognize human anatomy and physiology.
16	To be able to develop good communication and human relations skills with colleagues and patients.
17	To be able to apply Infection Control Methods and check infectious situations of emergency vehicles and equipment, ensure the conditions of asepsis-antisepsis and pre-hospital emergency care with Infectious Diseases.
18	To have the appropriate knowledge of medical sciences at the level of interest, to use specific medical terms and terminology of field

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	1	1	1	1	1
P2	3	3	3	3	3
P3	1	1	1	1	1
P4	1	1	1	1	1
P5	1	1	1	1	1
P6	1	1	1	1	1
P7	2	2	2	2	2
P8	1	1	1	1	1
P9	1	1	1	1	1
P10	1	1	1	1	1
P11	1	1	1	1	1
P12	1	1	1	1	1
P13	1	1	1	1	1
P14	2	2	2	2	2
P15	3	3	3	3	3
P16	5	5	5	5	5
P17	2	2	2	2	2

