



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Environmental Control in Animal Barns							
Course Code		ZTY505		Course Level		Second Cycle (Master's Degree)			
ECTS Credit	7	Workload	175 (<i>Hours</i>)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		Provide students to analyze living-environment-structure relationships, to understand controlling principles and techniques of climatic factors on animal production structures, planning of environmental control systems, to develop scientific solutions for planning problems and to follow new developments in environmental control.							
Course Content		Environmental requirements in animal production structures, temperature and humidity control, calculation of lighting, ventilation, heating and cooling requirements.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Project Based Study, Individual Study, Problem Solving					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading

1	Johnson J, Eckert D (1995) Best Management Practices. Land Application of Animal Manure. Ohio State University Extension Department of Horticulture and Crop Science, Ohio.
2	Yıldız Y. 2010. Hayvan Barınaklarında Çevre Denetimi. Hasad Yayıncılık.
3	Bengtsson LP, Whitaker SH, (1986) Farm Structures in Tropical Climates, FAO/SIDA Cooperative Programme, Rural Structures in East and South-East Africa, Rome
4	Articles, Papers and Theses Related to Course Topics

Week	Weekly Detailed Course Contents	
1	Theoretical	Course Introduction, giving homework
2	Theoretical	Analyze of effect of Environmental factors in agricultural production structures on animals
3	Theoretical	Air, temperature humidity concepts, psychrometry diagrams.
4	Theoretical	Air, temperature humidity concepts, psychrometry diagrams.
5	Theoretical	Heat (specific heat, sensible heat and latent heat), heat transfer and thermal insulation.
6	Theoretical	Control and regulation of heat balance in animal production structures.
7	Theoretical	Control and regulation of heat balance in animal production structures.
8	Theoretical	Control and regulation of moisture balance in agricultural production structures
9	Theoretical	MID-TERM EXAM
10	Theoretical	Construction features and effects of positioning on environmental control in agricultural production structures
11	Theoretical	Determine the lighting requirements and natural and artificial lighting in animal production structures
12	Theoretical	Calculation of ventilation requirements and planning of ventilation systems in greenhouses
13	Theoretical	Calculation of heating requirements and planning of heating systems in greenhouses
14	Theoretical	Rewiev of sample barn projects
15	Theoretical	Articles, papers and thesis related with lecture topics ,
16	Final Exam	FINAL EXAM

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	8	3	154
Midterm Examination	1	7	2	9



Final Examination	1	10	2	12
Total Workload (Hours)				175
[Total Workload (Hours) / 25*] = ECTS				7
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	To be able to analyze and evaluate the effects of environmental factors on animals in agricultural production structures
2	To be able to use new approaches and modern technologies on planning of proper environmental control systems for building systems
3	To be able to resource environmental problems in animal production structures
4	To be able to follow and to transfer developments and modern applications on environmental control in the animal production structures
5	To be able to analyze present buildings and projects, and to identify and solve the problems.

Programme Outcomes (Agricultural Structures and Irrigation Master)

1	Ability to use, evaluate and improve the knowledge gained from field of study at an expert level
2	Ability to reach necessary the knowledge
3	To able to conduct scientific studies (research) related to the field
4	Ability to consider academical and ethical values the studies
5	Ability to improve editing method and evaluate the results of researches
6	The studies, the ability to reach result and application, develop new approaches
7	A topic in the field of written, verbally and visually as the ability to express
8	Effective use of Turkish language and ability to communicate in a foreign language both written and verbal

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	5	5	5	5
P2	4	5	5	5	4
P3	4	4	5	4	5
P4	4	5	5	5	5
P5	5	4	5	4	4
P6	4	5	4	5	3
P7	5	4	5	5	5
P8	5	5	5	5	5

