AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Energetics, Adaptation of Temperature and Environments								
Course Code	VFZ622		Couse Level		Third Cycle (Doctorate Degree)				
ECTS Credit	2	Workload	50 *(Hours)*	Theory	1	Practice	0	Laboratory	0
Objectives of the Course	Protein, carbohydrate and lipid metabolisms in mammals, heat transfer, the effects of environmental temperature on animals and body temperature regulation mechanisms								
Course Content	Energy metabolism, metabolic rate, homeothermie, poikilothermie, body temperature regulation								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion, Case Study, Individual Study, Problem Solving								
Name of Lecturer(s)	Prof. Hümeyra ÜNSAL								

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	38
Final Examination	1	60
Quiz	2	1
Term Assignment	1	1

Recommended or Required Reading	
1	Reece W.O. (2008) Dukes Veteriner Fizyoloji Cilt I ve II, Onikinci Baskı (Türkçe Çeviri). Ed: Yıldız S. Medipres, Malatya.
2	Guyton AC, Hall JE (2001) Tıbbi Fizyoloji Onuncu baskı (Türkçe Çeviri). Ed: Çavuşoğlu H. Nobel Tıp Kitabevi, İstanbul.
3	Noyan A. (2003). Yaşamda ve Hekimlikte Fizyoloji. 13. baskı, Meteksan-Ankara.
4	Randall D., Burggren W., French K, Fernald R., (1997). Eckert Animal Physiology. Mechanisms and Adaptations. 4th Ed., New York.
5	G.C. Whittow et al. (1998). Sturke's Avian Physiology.
6	Willmer P., Stone G., Johnston I. (2005). Environmental Physiology of Animals. 2nd Ed. Blackwell Publishing.
7	Despopoulos A., Silbernagl S. (2003). Color Atlas of Physiology 5th Ed. Thieme, Stuttgart New York.
8	Vander et al. (2001). Human Physiology: The Mechanism of Body Function, 8th Ed. The McGraw-Hill Companies

Week	Weekly Detailed Course Contents	
1	Theoretical	The control of energy balance
2	Theoretical	Metabolic pathways
3	Theoretical	Metabolic rate
4	Theoretical	Metabolic intermediates and end products
5	Theoretical	Energy balance and respiratory respiratory coefficient
6	Theoretical	Energy supply in the nutrients
7	Theoretical	Poikilotermie and homeotermie
8	Theoretical	Midterm
9	Theoretical	Body temperature
10	Theoretical	The factors affecting body temperature
11	Theoretical	Hypothermia
12	Theoretical	Hyperthermia
13	Theoretical	Neural and hormonal control of body temperature
14	Theoretical	Thermoregulation in the hot weather
15	Theoretical	Thermoregulation in the cold weather

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	1	28
Term Project	1	6	1	7

Quiz	2	1	1	4
Midterm Examination	1	4	1	5
Final Examination	1	5	1	6
			Total Workload (Hours)	50
			[Total Workload (Hours) / 25*] = **ECTS**	2
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	1. To be informed about the functioning of the control of energy balance in the body, carbohydrates, protein and fat metabolism
2	2. To have information about the heat and transfer, poikilotermie and homeotermie
3	3. To have information about the body temperature, heat metabolism, and environmental physiology
4	4. To be informed about the control of body temperature and thermoregulatory disorders
5	5. To have information about heat production and heat loss

Programme Outcomes *(Physiology (Veterinary Medicine) Doctorate)*	
1	Has a deep and broad knowledge about the field and the interdisciplinary area related with the field through the achievements gained in undergraduate and professional levels
2	Has the knowledge to create original ideas, analyze them and develop definition/product/diagnosis methods by using the knowledge gained in undergraduate and/or professional experience, when needed
3	Is knowledgeable about theories and practices in methodological and scientific research methods to run an independent research
4	Excels in the laboratory, clinical and similar fields by using the theoretical and practical information gained in former education, and has the ability to create solutions in related fields
5	Designs and develops scientific methodology for the advanced level/newly defined/emerged problems about the field
6	Excels in the known scientific methods in the field for the advanced level/ newly defined/emerged problems
7	Designs unique researches and implements independently
8	Analyzes, synthesizes and evaluates the new ideas in related fields by using critical thinking
9	Plans, creates teams and carries out the interdisciplinary research projects in order to create solutions to the known/newly defined problems
10	Joins to congresses, panels, symposiums, workshops, seminars, article discussions and problem solving sessions in different disciplines, and exchanges information with the other professionals to contribute to the solutions
11	Broadens the borders of scientific information by publishing scientific articles in national and/or international peer-reviewed journals
12	Creates new ideas and methods to contribute to the technological, social and cultural progress, or to help the development of information society by using the theoretical, practical, independent research, abilities responsibly
13	Designs and implements social projects with the awareness of creating an information society
14	Compiles and interprets any type of data (field observation, scientific knowledge etc.) in accordance with the aims
15	Develops and uses strategies about related topics with the field
16	Implements and defends institutional and practical information and abilities in accordance with the needs of the country and the world, and changes when necessary
17	Follows up and uses all the updates about the field (scientific information, legislations etc.), and has the qualification to change them
18	Adopts lifelong learning as a principle and acknowledges that the information gained through research is the most valuable gain

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	2	2	2	2	2
P2	1	1	1	1	1
P3	1	1	1	1	1
P4	2	2	2	2	2
P5	2	2	2	2	2
P6	2	2	2	2	2
P7	1	1	1	1	1
P8	3	3	3	3	3
P9	1	1	1	1	1
P10	3	3	3	3	3

P11	4	4	4	4	4
P12	2	2	2	2	2
P13	1	1	1	1	1
P14	4	4	4	4	4
P15	4	4	4	4	4
P16	4	4	4	4	4
P17	4	4	4	4	4
P18	4	4	4	4	4