



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Principles of Physiology and Cell Physiology							
Course Code		VFZ601		Course Level		Third Cycle (Doctorate Degree)			
ECTS Credit	6	Workload	150 ( <i>Hours</i> )	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		Comprehension of essential basic mechanisms as well as the structure and physiology of the cell due to provide homeostasis. The introduction of neuro-immuno-endocrine processes.							
Course Content		Homeostasis, transport, the formation and transformation of energy, the structure of cell membrane.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Individual Study, Problem Solving					
Name of Lecturer(s)									

### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	38
Final Examination	1	60
Quiz	4	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.

Week	Weekly Detailed Course Contents	
1	Theoretical	Biophysical events in the cell.
2	Theoretical	Gibbs-Donnan equilibrium
3	Theoretical	Establishment of potential difference.
4	Theoretical	Propagation of the action potential.
5	Theoretical	Electrical potentials of all cells of the body.
6	Theoretical	Synaptic conduction.
7	Theoretical	The functional systems of the cell.
8	Theoretical	Midterm
9	Theoretical	Establishment of potential difference
10	Theoretical	The structure of DNA and genetic encoding
11	Theoretical	Lipid barrier of the cell membrane and cell membrane transport proteins.
12	Theoretical	Diffusion of protein channels and their features.
13	Theoretical	Transport through selective permeability membrane.
14	Theoretical	Protein synthesis and regulation of the cell functions.
15	Theoretical	Cell division

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	2	42
Assignment	4	8	1	36
Term Project	1	26	1	27
Quiz	4	1	1	8



Midterm Examination	1	11	1	12
Final Examination	1	24	1	25
Total Workload (Hours)				150
[Total Workload (Hours) / 25*] = ECTS				6
*25 hour workload is accepted as 1 ECTS				

### Learning Outcomes

1	1. To realize the membrane potentials and action potentials.
2	2. To realize which systems provide acid-base balance, furthermore the reasons of acidosis and alkalosis.
3	3. To get information about the structure and functions of the cell, communication systems, the interaction between different types of cell.
4	4. To get information about genetic control of protein synthesis and cell reproduction.
5	5. To realize biological control systems.

### 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	1	1	1	1	1
P5	2	2	2	2	2
P6	2	2	2	2	2
P7	2	2	2	2	2
P8	1	1	1	1	1
P9	1	1	1	1	1
P10	3	3	3	3	3
P11	4	4	4	4	4



P12	2	1	1	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

