AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Hematopoietic System								
Course Code	VFZ605		Couse Level	Third Cycle (Doctorate Degree)					
ECTS Credit	6	Workload	150 *(Hours)*	Theory	2	Practice	2	Laboratory	0
Objectives of the Course	To realize blood and the function of blood, the structure and competition of blood, coagulation mechanisms.								
Course Content	The functions and competition of blood, the structure and functions of hematopoietic organs, iron metabolism, erythropoiesis and anemia, leukocytes, Igs and fibrinolisis.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Experiment, Demonstration, Discussion, Case Study, Individual Study, Problem Solving								
Name of Lecturer(s)	Assoc. Prof. Cengiz ÜNSAL								

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	38
Final Examination	1	60
Quiz	1	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.
9	Harvey J.W. (2001). Atlas of Veterinary Hematology. W.B. Saunders Company.
10	Weiss D.J.,Wardrop J. (2010). Schalm's Veterinary Hematology. 6th Ed.

Week	**Weekly Detailed Course Contents**	
1	Theoretical	General features of blood.
	Practice	General view of red blood cells.
2	Theoretical	The function of blood.
	Practice	Erythroblasts
3	Theoretical	Hematologic parameters in different species.
	Practice	The perturbations of Hemoglobin.
4	Theoretical	The amount of blood, blood stored organs.
	Practice	The index of Red blood cells and to evaluation of blood smear.
5	Theoretical	İmmun System.
	Practice	HCT , and its clinical importance
6	Theoretical	Cytological research of bone marrow.
	Practice	Polisitemia.

7	Theoretical	Detection of the volume of blood and red blood cell.
	Practice	Osmotic fragilite
8	Theoretical	Midterm
	Practice	Midterm
9	Theoretical	Genesis of blood cells.
	Practice	The clinical evaluation of red blood cells.
10	Theoretical	The progression og blood cells. Masurement of the size of red blood cell.
	Practice	Masurement of the size of red blood cell.
11	Theoretical	The functions of blood cells.
	Practice	The classification and clinica evaluation of anemias.
12	Theoretical	Coagulation mecnanism.
	Practice	The types of leucocytes and their appearance in the blood smear.
13	Theoretical	Calculation of the index of red blood cells.
	Practice	Neutrophils
14	Theoretical	Blood types
	Practice	Parasites in white blood cells.
15	Theoretical	Leukomias.
	Practice	Clinical evaluation of sedimentation.

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	2	42
Lecture - Practice	14	1	2	42
Assignment	4	2	1	12
Term Project	1	20	0	20
Quiz	4	1	1	8
Midterm Examination	1	10	1	11
Final Examination	1	14	1	15
			Total Workload (Hours)	150
			[Total Workload (Hours) / 25*] = **ECTS**	6

**25 hour workload is accepted as 1 ECTS*

Learning Outcomes

1	1. To get information about features and functions, structure and competition, shape and size, genesis of blood cells.
2	2. To realize the hematologic differencesin different species
3	3. To get information about the structure and competition of blood.
4	4. To be able to evaluate and make some hematologic analyses.
5	5. To be able to evaluate anemia by using hematologic parameters.

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	2	2	2	2	2
P3	1	1	1	1	1
P4	2	3	3	3	3
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	2
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