



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Immune System							
Course Code		VHE624		Couse Level		Third Cycle (Doctorate Degree)			
ECTS Credit	5	Workload	125 (<i>Hours</i>)	Theory	2	Practice	2	Laboratory	0
Objectives of the Course		Teaching of histology and function of the primary lymphoid organs. Teaching of histology and function of secondary lymphoid tissues and organs. Giving information about the topics of immune reactions and mucosal immunity.							
Course Content		Primary lymphoid organs: bone marrow, thymus, bursa of Fabricius. Secondary lymphoid tissues and organs: the lymph follicle and immune reaction, tonsils, lymph nodes, hemal nodes, hemal lymph nodes, spleen, mucosal immunity							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Individual Study					
Name of Lecturer(s)		Prof. Levent KARAGENÇ, Prof. Şadiye KUM							

Assessment Methods and Criteria

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

Recommended or Required Reading

1	Abbas AK, Lichtman AH, Poher JS (1991) Cellular and Molecular Immunology, WB Saunders Company, London.
2	Abbas AK, Lichtman AH. (2007) Temel İmmunoloji. Çeviri Editörleri Y Camcıoğlu, G Deniz. İstanbul Medikal Yayıncılık, İstanbul
3	Diker KS (1998) İmmunoloji. Medisan Yayınevi, Ankara
4	Junqueira LC, Carneiro J. (2005) Basic Histology, The McGraw-Hill Companies, USA
5	Kierszenbaum, A. L. (2007) Histology and Cell Biology. An introduction to Pathology, Mosby, Elsevier, Kanada.
6	Sağlam M, Aştı RN, Özer A. (2001) Genel Histoloji Ders Kitabı, Yorum Matbaacılık, Ankara
7	Tanyolaç A. (1999) Özel Histoloji Ders Kitabı, Yorum Matbaacılık, Ankara

Week	Weekly Detailed Course Contents	
1	Theoretical	Characteristics of stem cells and progenitor cells
	Practice	Video-slide presentation
2	Theoretical	bone marrow
	Practice	bone marrow
4	Theoretical	Bursa of Fabricius
	Practice	Bursa of Fabricius
5	Theoretical	Characteristics of primary and secondary lymphoid tissue and organs
	Practice	Video-slide presentation
6	Theoretical	Immune reaction
	Practice	Video-slide presentation
7	Theoretical	Lymphoid follicle
	Practice	Lymphoid follicle
8	Practice	midterm
	Intermediate Exam	midterm
9	Theoretical	Tonsils
	Practice	Tonsils
10	Theoretical	Lymph node
	Practice	Lymph node
11	Theoretical	Hemal node
	Practice	Hemal node
12	Theoretical	Hemal lymph node
	Practice	Hemal lymph node



14	Theoretical	Mucosal immunity
	Practice	GALT, BALT
15	Theoretical	Article Discussion
	Practice	Article presentation
16	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Lecture - Practice	14	0	2	28
Assignment	2	10	1	22
Reading	4	0	2	8
Midterm Examination	1	10	2	12
Final Examination	1	25	2	27
Total Workload (Hours)				125
[Total Workload (Hours) / 25*] = ECTS				5

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Learns the primary lymphoid organs.
2	Learns the secondary lymphoid organs.
3	Establishes structure-function relationship of primary and secondary lymphoid organs.
4	Understands the issue of immune reactions.
5	Understands the issue of mucosal immunity.

Programme Outcomes (Histology and Embryology (Veterinary Medicine) Doctorate)

1	Gains expert knowledge on the function and basic histological features of cells, tissues and systems in animals.
2	Gains expert knowledge on the stages of embryonal and fetal development in both mammals and birds.
3	Based on his/her training during the Master of Science program, he/she has in depth knowledge in the field of histology/embryology as well as in areas related to his/her area of expertise.
4	Using basic knowledge gained during the undergraduate and master of science program, develops ,critically evaluates and tests novel ideas in his/her area of expertise.
5	Endowed with theoretical and practical knowledge as for the scientific research and methodology to be able to conduct an independent research project.
6	Has theoretical knowledge concerning skills (leadership, entrepreneurship, ability to reach information technologies, organization, industrial correspondence etc.). Knows laws and regulations concerning his/her area of expertise and related subjects.
7	Determines and uses laboratory equipment and consumables in a histology laboratory. Has the ability to solve problems in his/her area of expertise.
8	Has the ability to design and develop scientific methodology concerning new developments in his/her area of expertise. Has the ability to put established methods in use to tackle current problems in his/her area of expertise.
9	Designs and conducts an independent research project on his/her own.
10	Critically evaluates and reaches to a synthesis of new ideas in his/her area of expertise and related fields.
11	Uses and develops modern technologies in his/her area of expertise towards the industry in a systematic and critical manner.
12	Performs his/her expertise with the recognition of the rights and responsibilities obtained with the completion of doctorate program in histology/embryology.
13	Is able to break down new and immature ideas into simple components and suggest alternative solutions by using his/her ability to recognize possible relationships among these components.
14	If the need arises, designs an interdisciplinary research project , forms a team, leads and finalizes the research project to solve an old or a new problem in the field of histology/embryology.
15	Attends to activities such as congresses, panels, symposiums, workshops, seminars, journal clubs in his/her area of expertise, shares information in his/her area of expertise and contributes to the solution of a problem by interacting with experts in other fields.
16	Expands a growing body of information in his/her area of expertise by publishing scientific articles in national and international journals.
17	Is in recognition of taking professional and ethical responsibilities.
18	Develop new ideas and methods that has the potential to ignite social and cultural progress or add values to the information society by using practical and theoretical knowledge gained throughout his/her training and his/her skill to work independently and to take responsibilities.



19	Makes the concept of life-long learning a matter of principle and recognizes the fact that evidence-based information is the most important gain of education.
20	Provides information and manages information exchanges on issues of public and animal health in committees with the aim of defining and solving a problem using his/her expertise.

Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L3	L4
P1	5	5
P4	4	4
P7	3	3
P15	3	3

