AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Cells of the Immune Reaction								
Course Code	VHE528		Couse Level	Second Cycle (Master's Degree)					
ECTS Credit	2	Workload	50 *(Hours)*	Theory	2	Practice	0	Laboratory	0
Objectives of the Course	To teach the structure and their works in detail of antigen-presenting cells, monocytes, B lymphocytes, plasma cells ant T lymphocytes								
Course Content	Antigen-presenting cells, monocytes and macrophages, lymphocytes, B-lymphocytes, plasma cells, T-lymphocytes.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion, Individual Study								
Name of Lecturer(s)									

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading	
1	Abbas AK, Lichtman AH, Pober 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 ompanies,USA
5	Kierszenbaum, A. L. (2007) Histology and Cell Biology. An introduction to Pathology, Mosby, Elsevier, Kanada.

Week	Weekly Detailed Course Contents	
1	Theoretical	Antigen, antibody, immune reactions
2	Theoretical	Sites of immune reactions
3	Theoretical	Monocytes and macrophages
4	Theoretical	Antigen presentation by B lymphocytes
5	Theoretical	Dendritic cells
6	Theoretical	Dendritic cells
7	Theoretical	Antigen presentation
8	Intermediate Exam	Midterm exam
9	Theoretical	Cellular and humoral response
10	Theoretical	Antigens recognition by B lymphocytes
11	Theoretical	Plasma cells
12	Theoretical	Antibody production
13	Theoretical	Types of T lymphocytes
14	Theoretical	Antigen recognition by T lymphocytes,
15	Theoretical	Cell mediated immune responce
16	Final Exam	Final exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Assignment	1	0	4	4
Midterm Examination	1	8	1	9

Final Examination	1	8	1	9
			Total Workload (Hours)	50
			[Total Workload (Hours) / 25*] = **ECTS**	2
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes	
1	Learns the cells involved in the immune reaction.
2	Gain information about the antigen-presenting cells.
3	Learn about the B-lymphocyte-plasma cells.
4	Learn about types of T-lymphocytes.
5	Learn about functions of T-lymphocytes.

Programme Outcomes *(Histology and Embryology (Veterinary Medicine) Master's Without Thesis)*	
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	Comprehends and defines interactions among disciplines related to histology-embryology.
4	Knows national and international laws and regulations concerning histology and embryology.
5	Determines and uses laboratory equipment and consumables in a histology laboratory.
6	Forms ideas to solve complex problems using theoretical and practical information gained throughout the histology/embryology education.
7	Integrates and interprets information in the area of histology/embryology with information in different fields and, if the need arises, provides scientific information and solutions to solve problems.
8	Performs his/her expertise with the recognition of the rights and responsibilities obtained with the completion of the master of Science in histology/embryology.
9	Develop alternative strategies to solve national and international problems in the field of histology/embryology using expert knowledge and expertise in histology/embryology obtained during his/her training, solves them and evaluates the data . If the need arises, takes a part as a team member to solve problems outside his/her field.
10	Takes responsibility in individual and collective work and completes his/her duties. Takes professional and ethical responsibilities.
11	Comprehends methods associated with attainment and presentation of scientific information.
12	Evaluates his/her expert information gained during the master of Science critically and determines new information and sources of information and attends to activities to complement his/her educational deficiencies
13	For his/her professional development, evaluates and uses any available information and activity in his/her studies.
14	If the need arises, gives information and organizes activities to define a problem in his/her field of expertise.
15	Takes responsibilities in professional organizations and committees related to his/her field of expertise.
16	Relying on his/her professional skills and rights, he/she plans and realizes projects with the conciseness of social responsibility. He/she follows the developments in the world and is sensitive to events.
17	In order to maintain his/her professional development and to have social interactions, he/she uses at least one foreign language.
18	Uses advanced technological means that might be necessary for both professional applications and social interactions.
19	Reviews, evaluates and interprets any data (field observations, available scientific information etc.) towards a specific purpose. Develops and uses strategies in his/her field of expertise.
20	Applies and defines his/her expert knowledge with realizing the needs of the region and the country.

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	2	2	2	2	2
P3	4	4	4	4	4
P5	4	4	4	4	4
P6	3	3	3	3	3
P7	4	4	4	4	4
P8	4	4	4	4	4
P10	4	4	4	4	4
P11	4	4	4	4	4
P12	4	4	4	4	4
P13	4	4	4	4	4

P19	4	4	4	4	4