AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title		Microscopic Technique							
Course Code		VHE503		Couse Level		Second Cycle (Master's Degree)			
ECTS Credit	5	Workload	125 *(Hours)*	Theory	1	Practice	2	Laboratory	0
Objectives of the Course		To teach the preparation of tissues for light microscopy.							
Course Content		Taking of tissue samples for light microscopy, tissue fixation, the chemical properties of fixatives, dehydration, clearing, infiltration, blocking of the tissues, sectioning and staining..							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Experiment, Demonstration, 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	Alberts B, Bray D, Lewis J, Raff M, Roberts K, Watson JD. (1989) Molecular Biology of the Cell, Garland Publishing, Inc. London.
2	Banks, W.J. (1986). Applied Veterinary Histology, Williams&Wilkins, U.S.A.
3	Culling C.F.A., Allison R.T., Barr W.T.: Cellular Pathology Technique. Butterworths and Co Ltd, 1985, London.
4	Eren Ü (1998) Mikroskop Bilgisi. (Yardımcı Ders Kitabı), ADÜ Basımevi, Aydın
5	Junqueira LC, Carneiro J. (2005) Basic Histology,The McGraw-Hill Companies,USA
6	Kierszenbaum, A. L. (2007) Histology and Cell Biology. An introduction to Pathology, Mosby, Elsevier, Kanada.
7	Ross MH, Reith EJ, Romrell LJ. (1989) Histology. A Text and Atlas, Williams &Wilkins, London

Week	Weekly Detailed Course Contents	
1	Theoretical	Tissue sampling for light microscopy
	Practice	Tissue sampling for light microscopy
2	Theoretical	Fixation and fixatives
	Practice	Fixation of tissue samples
3	Theoretical	Properties of chemical fixatives
	Practice	Examples of mixture fixatives
4	Theoretical	Properties of chemical fixatives
	Practice	Examples of mixture fixatives
5	Theoretical	Dehidration
	Practice	Dehidration
6	Theoretical	Clearing
	Practice	Clearing
7	Theoretical	Protection from chemical hazards
	Practice	Protection from chemical hazards
8	Intermediate Exam	Midterm
9	Theoretical	Infiltration
	Practice	Infiltration
10	Theoretical	Tissue blocking
	Practice	Tissue blocking
11	Theoretical	Tissue blocking
	Practice	Tissue blocking
12	Theoretical	Tissue sectioning
	Practice	Tissue sectioning

13	Theoretical	Tissue sectioning
	Practice	Tissue sectioning
14	Theoretical	Tissue staining
	Practice	Tissue staining
15	Theoretical	Tissue staining
	Practice	Tissue staining
16	Final Exam	Final exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	1	14
Lecture - Practice	14	0	2	28
Laboratory	14	0	2	28
Reading	6	0	2	12
Midterm Examination	1	20	1	21
Final Examination	1	20	2	22
			Total Workload (Hours)	125
			[Total Workload (Hours) / 25*] = **ECTS**	5
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	tudents learn the tissue sampling.
2	Students learn the blocking.
3	Student knows sectioning
4	Students comprehend the properties of staining procedure.
5	Students learn application staning methods.

Programme Outcomes *(Histology and Embryology (Veterinary Medicine) Master)*	
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*

	L2	L3	L5
P1	4	4	4
P3	4	4	4
P5	5	5	5
P18	4	4	4