



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Histochemical Methods							
Course Code		VHE504		Couse Level		Second Cycle (Master's Degree)			
ECTS Credit	5	Workload	125 ( <i>Hours</i> )	Theory	2	Practice	2	Laboratory	0
Objectives of the Course		To describe the purposes for histochemical and cytochemical techniques, to teach the basic principles of histochemistry and cytochemistry, histochemical methods also give examples.							
Course Content		Basic principles of histochemistry and cytochemistry, the usage purposes of histochemical and cytochemical techniques, the examples of histochemical methods.							
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	Banks WJ. (1986) Applied Veterinary Histology, Williams & Wilkins, USA.
2	Culling C.F.A., Allison R.T., Barr W.T.: Cellular Pathology Technique. Butterworths and Co Ltd, 1985, London.
3	Dellman HD, Brown LM. (1987) Textbook of Veterinary Histology, Lea & Febiger, USA
4	Gartner LP, Hiatt JL. (1997) Color Textbook of Histology, W.B. Saunders Company, USA.
5	Junqueira LC, Carneiro J. (1983) Basic Histology, The McGraw-Hill Companies, USA
6	Leeson RR, Leeson TS, Paparo AA. (1985) Textbook of Histology, W.B. Saunders Company. USA
7	Ross MH, Reith EJ, Romrell LJ. (1989) Histology. A Text and Atlas, Williams & Wilkins, London

Week	Weekly Detailed Course Contents	
1	Theoretical	Basic histochemical principles
	Practice	Basic histochemical principles
2	Theoretical	Ions
	Practice	Ions
3	Theoretical	Phosphates
	Practice	Phosphates
4	Theoretical	Nucleic acids
	Practice	Nucleic acids
5	Theoretical	Fulgen reaction
	Practice	Fulgen reaction
6	Theoretical	Methyl green pyronin staining
	Practice	Methyl green pyronin staining
7	Theoretical	Literature discussion
	Practice	Literature discussion
8	Practice	Midterm exam
	Intermediate Exam	Midterm exam
9	Theoretical	Demonstration of proteins
	Practice	Millon reaction
10	Theoretical	Demonstration of glycogen
	Practice	PAS reaction



11	Theoretical	Demonstration of glycogen
	Practice	Best's carmine staining method
12	Theoretical	Demonstration of lipids
	Practice	Sudan black B staining method
13	Theoretical	Demonstration of lipids
	Practice	Oil red O staining method
14	Theoretical	Demonstration of mucus
	Practice	Alcian blue staining method
15	Theoretical	Demonstration of mucus
	Practice	Aldehyde fuchsin staining method
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
Reading	12	0	2	24
Midterm Examination	1	20	2	22
Final Examination	1	22	1	23
Total Workload (Hours)				125
[Total Workload (Hours) / 25*] = ECTS				5

\*25 hour workload is accepted as 1 ECTS

### Learning Outcomes

1	Knows the usage areas of histochemical techniques
2	Knows the usage areas of cytochemical techniques
3	Comprehend basic principles of histochemistry.
4	Comprehend basic principles of cytochemistry.
5	Gain experience by making the sample histochemical staining.

### 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

