HISTOPATHOLOGICAL TECHNIQUES

1	Course Title:	HISTOPATHOLOGICAL TECHNIQUES
2	Course Code:	VPT 5003
3	Type of Course:	Compulsory
4	Level of Course:	Second Cycle
5	Year of Study:	1
6	Semester:	1
7	ECTS Credits Allocated:	5.00
8	Theoretical (hour/week):	1.00
9	Practice (hour/week):	2.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. M.MÜFIT KAHRAMAN
15	Course Lecturers:	-
16	Contact information of the Course Coordinator:	gursels@uludag.edu.tr, 224 2941303, Uludağ Üniv. Veteriner Fak. Patoloji Anabilim Dalı Görükle Kampüsü 16059 BURSA
17	Website:	http://saglikbilimleri.uludag.edu.tr
18	Objective of the Course:	To teach students the fixation, decalcification, processing of tissues, preparation of sections and staining methods for histopathological examination
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

	1	The student learns fixative solutions and application techniques, fixation problems and delcalcification techniques
	2	The student learns processing of tissues and embedding in paraffin
	3	The student learns preparation of sections
	4	The student learns routine hematoxylin and eosin staining method
	5	The student learns special staining techniques
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21	Course Content:

Course Content:

Week	Theoretical	Practice
1	Preparation of tissues (fixation)	Preparation and application of fixative solutions
2	Preparation of tissues (decalcification)	Preparation and application of decalcifying solutions
3	Processing of tissues (dehydration, clearing, paraffin embedding)	Dehydrating, clearing and embedding in paraffin of tissues
4	Preparation of sections	Preparation of sections

5	Routine staining procedures (Hematoxylin and Eosin methods)	Routine Hematoxylin and Eosin staining
6	Staining methods of connective tissue (collagen, keratin, mucin, muscle)	Connective tissue staining
7	Staining methods of cytoplasmic granules (mast cells, chromaffin)	Mast cells staining
8	Staining methods of hematologic and nuclear elements	Giemsa staining
9	Staining methods of fats and lipids	Fat staining
10	Staining methods of carbohydrates and mucoproteins (amyloid, glycogen)	Amyloid and glycogen staining
11	Staining methods of pigments and minerals (biluribin, calcium, urate crystal)	Calcium and urate crystals staining
12	Staining methods of pigments and minerals (cooper, hemosiderin, iron)	Iron staining
13	Staining methods of nerve cells and fibers (astrocytes, nerve fibers)	Nerve fibers staining
14	Staining methods of bacteria and fungi (acid fast organisms, Gram, fungi)	Bacteria and fungi staining

22	Textbooks, References and/or Other Materials:	Histological and Histochemical Technics (Davenport, H.A., 1960, W.B.Saunders Comp, Philadelphia) Manual of Histologic Staining Methods of the Armed Forces Institute of Pathology (Luna, L.G., 1969, McGraw-Hill Book Comp, London) Theory and Practice of Histological Techniques (Bancroft,

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	1.00	14.00
Practicals/Labs	14	2.00	28.00
Self study and preperation	14	2.00	28.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Quiz	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	0	0.00	0.00
Final Exam	1	100.00	
Others	10	4.00	40.00
Final Exams	1	40.00	40.00
Contribution of Term (Year) Learning Activities to		0.00	
Total Work Load			150.00
Total work load / 30 hr			
Contribution of Final Exam to Success Grade		100.00	5.00
ECTS Credit of the Course			5.00

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Quiz	0	0.00
Midterm exams	1	100.00
Contribution of Term (Year) Learning Activities to		0.00
Contribution of Final Exam to Success Grade		100.00

Measurement and Evaluation Techniques Used in the Course	

24	**ECTS / WORK LOAD TABLE**

25	**CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS**															
	PQ1	**PQ2**	**PQ3**	**PQ4**	**PQ5**	**PQ6**	**PQ7**	**PQ8**	**PQ9**	**PQ10**	**PQ11**	**PQ12**	**PQ13**	**PQ14**	**PQ15**	**PQ16**
ÖK1	5	4	3	5	5	4	5	5	5	4	5	4	0	0	0	0
ÖK2	5	4	3	5	5	4	5	5	5	4	5	4	0	0	0	0
ÖK3	5	4	3	5	5	4	5	5	5	4	5	4	0	0	0	0

ÖK4	5	4	3	5	5	4	5	5	5	4	5	4	0	0	0	0
ÖK5	5	4	3	5	5	4	5	5	5	4	5	4	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**