

# MICROSCOPE TYPES AND MICROPHOTOGRAPHY

1	Course Title:	MICROSCOPE TYPES AND MICROPHOTOGRAPHY	
2	Course Code:	VHE5019	
3	Type of Course:	Optional	
4	Level of Course:	Second Cycle	
5	Year of Study:	1	
6	Semester:	1	
7	ECTS Credits Allocated:	3.00	
8	Theoretical (hour/week):	2.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	-	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. NESRİN ÖZFİLİZ	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	Prof. Dr. Nesrin Özfiliz, Bursa Uludağ Üniversitesi Veteriner Fakültesi Histoloji ve Embriyoloji Anabilim Dalı nesrin@uludag.edu.tr	
17	Website:		
18	Objective of the Course:	To teach microscope types and microphotography	
19	Contribution of the Course to Professional Development:	Must have knowledge about microscopes in order to conduct laboratory work in the field of Histology and Embryology and to evaluate the results. Must learn microphotography to be able to record microscope images.	
20	Learning Outcomes:		
		1	Learns the classical light microscope and its working principle.
		2	Learn microscopes using different light sources and their working principles
		3	Learns the types of lens used in microscopes.
		4	Learns the importance and working principles of microscope, microphoto device and computer connections.
		5	Can take photographs under the microscope and obtain a micrograph.
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21	Course Content:		
		<b>Course Content:</b>	
Week	Theoretical	Practice	
1	Microscope definition and development,		
2	Sections of the light microscope		
3	Resolution and numerical aperture		

4	Issues to be considered during the use of light microscope,	
5	Light setting and its importance in light microscopes	
6	Evaluation of histological sections in light microscopic examinations	
7	Lens types used in microscopes and their effects on microphotography	
8	Types of microscopes that use daylight today	
9	Types of microscopes that use light sources other than daylight today	
10	Transmission and Scanning Electron microscopes operating principles	
11	Transmission and Scanning microscope micrographs examination	
12	Photographing applications in light microscope	
13	Photographing applications in light microscope	
14	Evaluating photos taken under a light microscope	

22	Textbooks, References and/or Other Materials:	1. Dellman, H.D., Brown, E. M. (1981) : Texbook of Veterinary Histology Lea and Febiger, Philadelphia, USA. 2. Banks, W.J. (1986): Applied Veterinary Histology (second edition). Williams and Wilkins, Baltimore, USA 3. P. J. W. M. M. (1988) : C. L. M. f.
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Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical		14	2.00	28.00
Practicals/Labs		0	0.00	0.00
Self study and preperation		14	2.00	28.00
Homeworks		4	8.00	32.00
<b>PERIODS LEARNING ACTIVITIES</b>	<b>NUMBE</b>	<b>WEIGHT</b>	0.00	0.00
Field Studies		0	0.00	0.00
Midterm Exam	0	0.00	0.00	0.00
Midterm exams	0	0.00	0.00	0.00
Others		0	0.00	0.00
Home work-project	0	0.00	1.00	1.00
Final Exams	1	1.00		
Total Work Load				89.00
Total work load/ 30 hr	1	100.00		2.97
ECTS Credit of the Course				3.00

Contribution of Final Exam to Success Grade	100.00
Total	100.00
Measurement and Evaluation Techniques Used in the Course	Final exam

24	<b>ECTS / WORK LOAD TABLE</b>
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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	0	5	4	4	3	4	1	3	0	0	0	0	0	0	0

ÖK2	5	0	4	4	4	4	3	4	3	0	0	0	0	0	0	0
ÖK3	5	1	4	4	3	4	3	4	4	0	0	0	0	0	0	0
ÖK4	5	1	4	5	4	4	3	5	4	0	0	0	0	0	0	0
ÖK5	5	0	4	4	3	4	3	4	4	0	0	0	0	0	0	0
LO: Learning Objectives    PQ: Program Qualifications																
Contribution Level:	1 very low			2 low			3 Medium			4 High			5 Very High			