

CELL CYCLE AND APOPTOSIS

1	Course Title:	CELL CYCLE AND APOPTOSIS	
2	Course Code:	VHE6021	
3	Type of Course:	Optional	
4	Level of Course:	Third 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:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. Berrin Zık	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	bzık@uludag.edu.tr Uludağ Ün. Veteriner Fak. Histoloji Embriyoloji Anabilim Dalı	
17	Website:	http://www.veteriner.uludag.edu.tr	
18	Objective of the Course:	Learn cell division and mechanism of physiological cell death	
19	Contribution of the Course to Professional Development:	Student learns cell division and mechanism of physiological cell death.	
20	Learning Outcomes:		
		1	Learn the importance of cell cycle
		2	Learn control mechanism of cell cycle.
		3	Learn to role in tumor formation of cell cycle
		4	Learn Synchronization of cell cultures
		5	Learn cell cycle checkpoint
		6	Learning role of tumor suppressor in cell cycle
		7	Learn the importance of apoptosis in embryology
		8	Learn the mechanism of apoptosis
		9	Learn role of apoptosis in cancer
		10	Learn the difference between apoptosis and necrosis
21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	
1	The cell divide: mitosis and meiosis		
2	Phases of cell cyle		
3	Growth factors and D cyclins		
4	Cell cyle restriction points and checkpoints		
5	Role of Cyclins and Cyclin-dependent kinases		
6	Cell cycle inhibitors		

7	Determination of cell cycle phases	
8	Identification and history of apoptosis	
9	The properties of Apoptosis and Necrosis	
10	Apoptosis Inducing Factors	
11	Apoptotic mechanisms, caspases and structure of caspases	
12	Apoptotic pathway basics: extrinsic and intrinsic pathway	
13	Inhibitors of apoptosis	
14	Determination of apoptosis	

22	Textbooks, References and/or Other Materials:	1.Schwartz, MD Cell Death and the Caspase Cascade Circulation. 1998; 97:227-229 2.Ulukaya E Apoptosis ders notları U.Ü. Biyokimya ABD 3. Schimmer AD Inhibitor of apoptosis proteins: translating basic knowledge into clinical practice. Cancer res. 2004 Oct 15;64(20):7183-90. 4. ÖZER A.. Temel Histoloji. Nobel Yayın Sanayi Ltd Şti, Bursa, 2011.
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23	Assesment
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TERM LEARNING ACTIVITIES		NUMBER	WEIGHT		
Midterm Exam		0	0.00		
Quiz		0	0.00		
Activites		Number		Duration (hour)	Total Work Load (hour)
Total		14			
Theoretical		1	100.00	2.00	28.00
Practicals/Labs		0		0.00	0.00
Self study and preperation		14		2.00	28.00
Contribution of Final Exam to Success Grade		100.00			
Homeworks		1		28.00	28.00
Total Projects		0	100.00	0.00	0.00
Field Studies		0		0.00	0.00
Midterm exams		0		0.00	0.00
24 ECTS / WORK LOAD TABLE					
Others		0		0.00	0.00
Final Exams		1		2.00	2.00
Total Work Load					86.00
Total work load/ 30 hr					2.87
ECTS Credit of the Course					3.00

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	4	5	5	5	5	4	4	5	5	0	0	0	0	0
ÖK2	5	4	4	5	5	5	5	4	4	5	5	0	0	0	0	0
ÖK3	5	4	4	5	5	5	5	4	4	5	5	0	0	0	0	0
ÖK4	5	4	4	5	5	5	5	4	4	5	5	0	0	0	0	0

ÖK5	5	4	4	5	5	5	5	4	4	5	5	0	0	0	0	0
ÖK6	5	4	4	5	5	5	5	4	4	5	5	0	0	0	0	0
ÖK7	5	4	4	5	5	5	5	4	4	5	5	0	0	0	0	0
ÖK8	5	4	4	5	5	5	5	4	4	5	5	0	0	0	0	0
ÖK9	5	4	4	5	5	5	5	4	4	5	5	0	0	0	0	0
ÖK10	5	4	4	5	5	5	5	4	4	5	5	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			