APOPTOSIS AND MOLECULAR APPLICATIONS

1	Course Title:	APOPTOSIS AND MOLECULAR APPLICATIONS
2	Course Code:	MBG4120
3	Type of Course:	Optional
4	Level of Course:	First Cycle
5	Year of Study:	4
6	Semester:	8
7	ECTS Credits Allocated:	6.00
8	Theoretical (hour/week):	3.00
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:	Doç. Dr. BURCU ERBAYKENT
15	Course Lecturers:	
16	Contact information of the Course Coordinator:	Dr. Ögr. Üyesi Burcu ERBAYKENT TEPEDELEN e-posta: berbaykent@uludag.edu.tr 0 224 29 42847 Fen-Edebiyat Fakültesi, Moleküler Biyoloji ve Genetik Bölümü, Görükle Kampüsü, 16059 Bursa
17	Website:	
18	Objective of the Course:	In this course, the definition of apoptosis, types of cell death, activation and regulation of apoptosis, apoptosis-related diseases and treatments, and methods used in determining apoptosis are planned to explain.
19	Contribution of the Course to Professional Development:	It contributes to postgraduate education in research laboratories working on this subject.
20	Learning Outcomes:	

	1	Defining cell death types
	2	Knowing the definition and role of caspases
	3	Describe the induction mechanisms of apoptosis
	4	To know extrinsic and intrinsic pathways
	5	Describe the role of Bcl proteins
	6	Describe the role of extracellular survival factors in apoptosis
	7	To know the relationship between apoptosis and diseases
	8	Learning the methods used to determine apoptosis
	9	
	10	

21	Course Content:	

Course Content:

Week	Theoretical	Practice
1	Apoptosis: Overview	
2	Different forms of cell death	
3	Role of caspases in apoptosis	

4	Caspase activation pathways: Extrinsic pathway	
5	Caspase activation pathways: Intrinsic pathway	
6	Apoptosis regulation: Bcl proteins	
7	Apoptosis regulation: Extracellular survival factors	
8	Inhibitors of apoptosis	
9	Autophagy	
10	Apoptosis in disease and treatment	
11	Methods used in the determination of apoptosis: Morphological imaging methods	
12	Methods used in the determination of apoptosis: Histochemical methods	
13	Methods used in the determination of apoptosis: Biochemical methods	
14	Methods used in the determination of apoptosis: Immunological methods	
22	Textbooks, References and/or Other Materials:	1. When Cells Die II: A Comprehensive Evaluation of Apoptosis and Programmed Cell Death; Editors: Richard A. Lockshin, Zahra Zakeri 2. Apoptosis and Cancer: Methods and Protocols, 2nd edition; Editors: Gil Mor, Ayesha B. Alvero

Activites		Number	Duration (hour)	Total Work Load (hour)
TERM LEARNING ACTIVITIES Theoretical	**NUMBER** 14	**WEIGHT**	3.00	42.00
Practicals/Labs	0		0.00	0.00
Self study and preperation Quiz	0	0.00	4.00	56.00
Homeworks	0		0.00	0.00
Projects Final Exam	1	60.00	0.00	0.00
Field Studies	0		0.00	0.00
Midterm exams Contribution of Term (Year) Learning Activities to	1 40.00		30.00	30.00
Others	0		0.00	0.00
Final Exams Contribution of Final Exam to Success Grade	1 60.00		52.00	52.00
Total Work Load				180.00
Total work load/ 30 hr Measurement and Evaluation Techniques Used in the	Written examination			6.00
ECTS Credit of the Course				6.00

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	0	5	2	5	0	0	3	3	3	0	0	0	0	0	0
ÖK2	5	0	5	2	5	0	0	3	3	3	0	0	0	0	0	0
ÖK3	5	0	5	2	5	0	0	3	3	3	0	0	0	0	0	0
ÖK4	5	0	5	2	5	0	0	3	3	3	0	0	0	0	0	0

ÖK5	5	0	5	2	5	0	0	3	3	3	0	0	0	0	0	0
ÖK6	5	0	5	2	5	0	0	3	3	3	0	0	0	0	0	0
ÖK7	5	0	5	2	5	0	0	3	3	3	0	0	0	0	0	0
ÖK8	5	0	5	2	5	0	0	3	3	3	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