AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Apoptosis								
Course Code	VBY646		Couse Level	Third Cycle (Doctorate Degree)					
ECTS Credit	3	Workload	80 *(Hours)*	Theory	1	Practice	0	Laboratory	0
Objectives of the Course	Programmed cell death (apoptosis) during the formation of biochemical events, atresia, factors playing a role in apoptosis, Bax and Bcl-2 proteins								
Course Content	Programmed cell death (apoptosis) during the formation of biochemical events, atresia, factors playing a role in apoptosis, Bax and Bcl-2 proteins.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Individual Study								
Name of Lecturer(s)	Prof. Funda KIRAL								

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	20
Final Examination	1	60
Quiz	2	10
Assignment	2	10

Recommended or Required Reading	
1	Lippincott's Illustrated Reviews Biyokimya Seri Editörleri Richard A HARVEY, Pamela C. CHAMPE Biyokimya Çeviri Editörü Doç.Dr. Engin ULUKAYA, Nobel Tıp Kitabevleri 2007
2	Lehninger Biyokimyanın İlkeleri. David L. Nelson Michael M. COX. Çeviri Editörü Prof.Dr. Nedret KILIÇ, Palme Yayıncılık
3	Harper Biyokimya Robert K. Murray, Daryl K. Granner, Peter A. Mayes, Victor W. Rodwell. Çeviri Editörleri: Nurten DİKMEN, Tuncay ÖZGÜNEN. Nobel Tıp Kitabevleri

Week	Weekly Detailed Course Contents	
1	Theoretical	Apoptosis and formation
2	Theoretical	Apoptosis and its history
3	Theoretical	Cell types seen in apoptosis
4	Theoretical	Apoptosis and disease
6	Theoretical	Apoptotic mechanisms
7	Theoretical	Regulation of apoptosis of cytotoxic
8	Intermediate Exam	Midterm exam
9	Theoretical	Modulators of apoptosis
10	Theoretical	Induction of apoptosis
11	Theoretical	Caspase activities
12	Theoretical	Methods for determination of apoptosis (morphological imaging techniques)
13	Theoretical	Methods for determination of apoptosis (histochemical methods)
14	Theoretical	Methods for determination of apoptosis (biochemical and immunological methods)
15	Theoretical	Discussion
16	Final Exam	Final exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	1	14
Lecture - Practice	14	0	2	28
Assignment	2	2	1	6
Quiz	2	5	0.5	11
Midterm Examination	1	7	1	8

Final Examination	1	12	1	13
			Total Workload (Hours)	80
			[Total Workload (Hours) / 25*] = **ECTS**	3
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	To be informed about apoptosis.
2	To learn the methods of apoptosis determination
3	To have knowledge about apoptotic mechanisms
4	To have information about apoptosis and diseases
5	To learn the differences between apoptosis and necrosis

Programme Outcomes *(Biochemistry (Veterinary Medicine) Doctorate)*	
1	Has a deep and broad knowledge about the field and the interdisciplinary area related with the field through the achievements gained in undergraduate and professional levels.
2	Has the knowledge to create original ideas, analyze them and develop definition/product/diagnosis methods by using the knowledge gained in undergraduate and/or professional experience, when needed.
3	Is knowledgeable about theories and practices in methodological and scientific research methods to run an independent research.
4	Excels in the laboratory, clinical and similar fields by using the theoretical and practical information gained in former education, and has the ability to create solutions in related fields.
5	Designs and develops scientific methodology for the advanced level/newly defined/emerged problems about the field.
6	Excels in the known scientific methods in the field for the advanced level/ newly defined/emerged problems.
7	Designs unique researches and implements independently.
8	Analyzes, synthesizes and evaluates the new ideas in related fields by using critical thinking.
9	Plans, creates teams and carries out the interdisciplinary research projects in order to create solutions to the known/newly defined problems.
10	Joins to congresses, panels, symposiums, workshops, seminars, article discussions and problem solving sessions in different disciplines, and exchanges information with the other professionals to contribute to the solutions.
11	Broadens the borders of scientific information by publishing scientific articles in national and/or international peer-reviewed journals.
12	Creates new ideas and methods to contribute to the technological, social and cultural progress, or to help the development of information society by using the theoretical, practical, independent research, abilities responsibly.
13	Designs and implements social projects with the awareness of creating an information society.
14	Compiles and interprets any type of data (field observation, scientific knowledge etc.) in accordance with the aims.
15	Develops and uses strategies about related topics with the field.
16	Implements and defends institutional and practical information and abilities in accordance with the needs of the country and the world, and changes when necessary.
17	Follows up and uses all the updates about the field (scientific information, legislations etc.), and has the qualification to change them.
18	Adopts lifelong learning as a principle and acknowledges that the information gained through research is the most valuable gain.

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
P2	5				
P3	5	5	5	5	5
P8	5				
P12	4	5	5	4	4
P15	4				
P17	4		4	4	4
P18		3	3	3	3