



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Cell Culture							
Course Code		BYK520		Course Level		Second Cycle (Master's Degree)			
ECTS Credit	5	Workload	125 (<i>Hours</i>)	Theory	2	Practice	2	Laboratory	0
Objectives of the Course		To learn about cell culture and its properties							
Course Content		In vitro propagation conditions of eukaryotic cells, mediums used in cell cultures, media used in general purpose and their contents, media improved for suspension cultures and their contents, media for specialized cells (tumors, bone, cartilage, cloth, tissue, etc.), substances such as serum and synthetic "supplemented" added to the media, use of cell cultures. Conditions required to be in the cell culture laboratories, concepts of sterility and isolation, equipment and layout of the laboratory, certainly should be and not be in the laboratory, washing, sterilization and storage. Aseptic techniques, sterilization methods, sterile manipulation, cell count, cell viability test.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Experiment, Demonstration, Discussion, Individual Study					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading

1	Animal Cell Culture: Essential methods
2	Basic Cell Culture Protocols
3	Basic Cell Culture: J.M.Davis

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to cell culture
2	Theoretical	Cell culture laboratory features and requirements
3	Theoretical	Sterility
	Practice	Sterility
4	Theoretical	Media used in cell culture
5	Practice	Preparation of medium
6	Theoretical	Primary cell culture
	Practice	Explant cell culture
7	Practice	Subculturing and cell countin
8	Intermediate Exam	Quiz
9	Theoretical	Cell Lines
	Practice	Cryopreservation
10	Theoretical	Karyotype analysis in cell culture
	Practice	Karyotype analysis
11	Theoretical	Cytotoxicity analysis
	Practice	Cytotoxicity analysis
12	Practice	Cytotoxicity analysis
	Theoretical	Apoptosis analysis
13	Practice	Apoptosis analysis
	Theoretical	Cancer cell culture
14	Theoretical	Prenatal cell culture
15	Theoretical	
16	Final Exam	Final exam



Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	8	1	3	32
Lecture - Practice	6	1	3	24
Assignment	1	1	2	3
Individual Work	11	2	4	66
Total Workload (Hours)				125
[Total Workload (Hours) / 25*] = ECTS				5
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	To know the necessary infrastructure of cell culture laboratory
2	Learning why and how cell culture is done
3	Learning the characteristics of culture cells
4	Learning the equipments used in culture
5	To know the application areas of cell culture in medical biochemistry

Programme Outcomes (Biochemistry (Medical) Master)

1	To have basic theoretical knowledge about biochemistry and to help understanding biochemistry
2	To have the basic laboratory knowledge, apparatus and methods used in biochemistry
3	Analysis: To be able to analyze information critically
4	Synthesis: To be able to synthesize and adapt the knowledge in the field from different directions
5	Evaluation: To critically evaluate research in the field

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	4	5	4	5	5
P2	5	5	5	5	5
P3	4	4	5	5	5
P4	4	4	5	4	5
P5	5	5	4	5	4

