



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Stem Cells: An Overview and Basic Culture Methods							
Course Code		BYK633		Couse Level		Third Cycle (Doctorate Degree)			
ECTS Credit	5	Workload	125 (<i>Hours</i>)	Theory	2	Practice	2	Laboratory	0
Objectives of the Course		The aim of this course is to teach stem cell definitions, technology and clinical treatment applications.							
Course Content		Definitions and the evolution of stem cells. General concepts of stem cell biology, Plasticity, pluripotency and nuclear reprogramming. Cancer and stem cells. Differentiation mechanisms and the functions of stem cells.							
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	Stem Cells:C. Potten
2	Stem Cells: From Mechanisms to Technologies:Michal K. Stachowiak, ?Emmanuel S. Tzanakakis
3	Stem cells:Cherian Eapen, ?Nandhini G, ?Kurian Anil

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction and Definitions of Stem Cells
2	Theoretical	Types of Stem Cells
3	Theoretical	Embryonic Stem Cells
4	Theoretical	Cord Blood as a Stem Cell Source
5	Theoretical	Adult and Hematopoietic Stem Cells I
6	Theoretical	Adult and Hematopoietic Stem Cells II
7	Theoretical	Mesenchymal Stem Cells I
8	Theoretical	Stem Cell: Overview and Basic Culture Techniques Midterm Exam
9	Theoretical	Clinical Use of Stem Cells
10	Theoretical	Clinical Stem Cell Applications
11	Theoretical	Hematopoietic Stem Cell Transplantation
12	Theoretical	Stem Cell Applications in Cardiovascular Diseases
13	Theoretical	Clinical Tissue Engineering
14	Theoretical	Clinical Use of Mesenchymal Stem Cells
15	Theoretical	Treatment of Liver, Pancreas and Other Gastrointestinal Organ Diseases with Stem Cells
16	Final Exam	Stem Cell: Overview and Basic Culture Techniques Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0.5	1	21
Lecture - Practice	14	0.5	4	63
Assignment	1	15	3	18
Laboratory	2	1	4	10
Midterm Examination	1	5	1	6



Final Examination	1	6	1	7
Total Workload (Hours)				125
[Total Workload (Hours) / 25*] = ECTS				5
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	To be able to follow and interpret the innovations related to stem cells
2	To have information about stem cell therapies for different diseases
3	Being able to follow innovations for stem cell therapies for different diseases
4	To have knowledge about stem cell and stem cell types and to be able to apply and develop to research areas
5	To be able to perceive and interpret the research results in the stem cell field

Programme Outcomes (Biochemistry (Medical) Doctorate)

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

