



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Biology of Stem Cells							
Course Code		TIB628		Course Level		Third Cycle (Doctorate Degree)			
ECTS Credit	6	Workload	151 ( <i>Hours</i> )	Theory	2	Practice	2	Laboratory	0
Objectives of the Course									
Course Content									
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation)					
Name of Lecturer(s)									

### Assessment Methods and Criteria

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

### Recommended or Required Reading

1	1. NCBI Pubmed ve güncel bilimsel yayınlar
2	2. Essentials of Stem Cell Biology, Third Edition, Robert Lanza and Anthony Atala, Elsevier Publishing (2013)

Week	Weekly Detailed Course Contents	
1	Theoretical	The definition of stem cell and its evolution
2	Theoretical	The stem cell concept in different tissues
3	Theoretical	Self-renewal mechanism, cell division symmetry and lineage (branching)
4	Theoretical	The stem cell niche
5	Theoretical	Plasticity, pluripotency and nuclear programming
6	Theoretical	The definition of stem cell in human cancers, the differences between gene and protein expression of cancer stem cells and adult stem cells
7	Theoretical	The self-renewal mechanisms of cancer stem cells
8	Intermediate Exam	Midterm Exam
9	Theoretical	The destruction of cancer stem cells via the defense mechanism of the body with minimal toxicity
10	Theoretical	Embryonic stem cells
11	Practice	The usage of monoclonal antibodies recognizing cancer stem cells I
12	Practice	The usage of monoclonal antibodies recognizing cancer stem cells II
13	Practice	Isolation of mesenchymal stem cells from a vistar albino rat I
14	Practice	Isolation of mesenchymal stem cells from a vistar albino rat II
15	Final Exam	Final Exam

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	13	4	2	78
Lecture - Practice	13	3	2	65
Midterm Examination	1	2	2	4
Final Examination	1	2	2	4
Total Workload (Hours)				151
[Total Workload (Hours) / 25*] = ECTS				6

\*25 hour workload is accepted as 1 ECTS

### Learning Outcomes

1	
2	
3	



4	
5	

**Programme Outcomes** (*Medical Biology Doctorate*)

1	To acquire fundamental knowledge on medical biology field
2	To gain expertise on molecular biology techniques
3	To utilize molecular biology techniques
4	To be able to construct and conduct a research project
5	To be able to follow and interpret scientific advancements

**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	4	3	3	3
P2	2	3	4	4	4
P3	2	2	3	3	3
P4	3	3	3	4	5
P5	3	3	3	3	3

