AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Neural Stem Cells and Experimental Animal Models						
Course Code	KHÜ528		Couse Level	Second Cycle (Master's Degree)			
ECTS Credit	6	Workload	153 *(Hours)*	Theory	2	Practice	0	Laboratory	0
Objectives of the Course	The aim of this course is to give information about neural stem cell and experimental animal models and their clinical use potential.						
Course Content	Neural stem cells in embryogenesis, signal molecules in neurogenesis, neural stem cell production, neural stem cell characterization, cell culture media properties for neural stem cell, IPS and neural differentiation, neural stem cell and clinical applications, cancer stem cell in brain, neurodegeneration model, dementia model and trauma-injury model.						
Work Placement	N/A						
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Demonstration, Discussion, Individual Study			
Name of Lecturer(s)							

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	20
Final Examination	1	60
Assignment	1	20

Recommended or Required Reading

1	Sell S, Stem Cells Handbook, Humana Press, second edition, 2013
2	Alberio R, Epiblast Stem Cells, Humana Press, Methods and protocols,Wiley Blackwell, 2013
3	Regad T, Sayers TJ, Rees R, Principle of Stem Cell Biology and Cancer,
4	Healy L, Ruban L, Atlas of Human Pluripotent Stem Cells in Culture, Springer, 2015
5	Rich IN, Stem Cell Protocols, Humana Press, 2015

Week	Weekly Detailed Course Contents	
1	Theoretical	Course description and introduction
2	Theoretical	Development of nervous system
3	Theoretical	Neural stem cells in embryogenesis
4	Theoretical	Signal molecules in neurogenesis
5	Theoretical	Isolation of neural stem cells
6	Theoretical	Neural stem cell characterization
7	Theoretical	Cell culture media properties for neural stem cells
8	Intermediate Exam	Mid-term exam
9	Theoretical	IPS and neural differentiation
10	Theoretical	Neural stem cells and clinical applications
11	Theoretical	Cancer stem cell in brain
12	Theoretical	Neurodegeneration model
13	Theoretical	Dementia model
14	Theoretical	Trauma-Damage model
15	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	13	1	2	39
Assignment	2	18	1	38
Midterm Examination	1	24	2	26

Final Examination	1	48	2	50
		Total Workload (Hours)		153
		[Total Workload (Hours) / 25*] = **ECTS**		6

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Learns neural cell sources and characterization
2	Have knowledge about neural stem cell culture
3	Have knowledge about experimental animal neural disease models
4	Discuss the clinical use of neural stem cells
5	Have an idea about neurodegeneration models

Programme Outcomes *(Stem Cell and Regenerative Medicine Interdisciplinary Master)*

1	To have comprehensive and in-depth knowledge of Stem Cell and Regenerative Medicine
2	To have information about stem cell production and characterization
3	To learn stem cell sources, stem cell types and their differences
4	To understand the molecular and genetic structure of stem cells
5	To be able to learn and make stem cell culture methods
6	To be able to adapt the knowledge in the field of stem cells to research in line with current developments
7	To be able to use molecular laboratory methods used in stem cell research
8	Learning in vitro disease models and in vivo experiments related to stem cells
9	To have knowledge about stem cell therapies and clinical use
10	Conduct independent research in accordance with the principles of research and publication ethics

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	1	1	2	2	2
P2	5	3		2	
P3	3	2			
P4	3	2	2	2	2
P5		3			
P6	1	1	2	2	2
P7	3	3		2	
P8		3	4	3	4
P9			3	4	3
P10		3	2		2