



AYDIN ADNAN MENDERES UNIVERSITY
GRADUATE SCHOOL OF HEALTH SCIENCES
STEM CELL AND REGENERATIVE MEDICINE (INTERDISCIPLINARY)
STEM CELL AND REGENERATIVE MEDICINE INTERDISCIPLINARY
STEM CELL AND REGENERATIVE MEDICINE INTERDISCIPLINARY MASTER
COURSE INFORMATION FORM

Course Title	Regenerative Medicine and Stem Cell Therapies: Basic Approaches								
Course Code	KHÜ502		Course Level		Second Cycle (Master's Degree)				
ECTS Credit	7	Workload	176 (Hours)	Theory	2	Practice	2	Laboratory	0
Objectives of the Course	To give comprehensive information about regenerative medicine and stem cell therapies								
Course Content	The concept of regenerative medicine, regenerative biology, organogenesis, cord blood banking, IPS, cloning, general information about cellular therapies, cellular therapies and clinical applications and examples are explained.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Demonstration, Discussion, Individual Study								
Name of Lecturer(s)	Prof. Kemal ERGİN								

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
6	R. Lanza, J. Gearhart, B. Hogan, D. Melton, R. Pederson, E.D. Thomas, J. Thomson, I. Wilmut. Essentials of Stem Cell Biology. Academic Press.

Week	Weekly Detailed Course Contents	
1	Theoretical	The Concept of Regenerative Medicine
2	Theoretical	Regenerative Biology
3	Theoretical	Animal models used in regeneration studies
4	Theoretical	Organogenesis and organoid
5	Theoretical	Stem cell and cord blood banking
6	Theoretical	Induced pluripotent stem cells
7	Theoretical	Cloning
8	Intermediate Exam	Mid-term exam
9	Theoretical	Introduction to cellular therapies
10	Theoretical	Gene treatments
11	Theoretical	Cellular treatments-I: Ophthalmology and cardiology
12	Theoretical	Cellular treatments-II: Plastic surgery, orthopedics and dermatology
13	Theoretical	Cellular therapies-III: Hematology
14	Theoretical	Cellular therapies-IV: Pediatrics
15	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	13	1	3	52
Assignment	4	10	2	48
Midterm Examination	1	24	2	26



Final Examination	1	48	2	50
			Total Workload (Hours)	176
			[Total Workload (Hours) / 25*] = ECTS	7
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	Gains knowledge of regenerative medicine and biology.
2	Learns the technologies related to regenerative medicine and stem cell therapies.
3	Gains extensive knowledge about stem cell therapies.
4	Have knowledge about gene therapies.
5	Have knowledge about the steps of organogenesis and organoids.

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	5	5	5	5	5
P3	3	2	2	2	2
P4		3			
P6	4	4	4	4	4
P8	4	3	3	3	3
P9	3	3	5	3	3

