# AYDIN ADNAN MENDERES UNIVERSITY
# COURSE INFORMATION FORM

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Course Title | Stem Cells in Tissues and Organs | | | | | | | | |
| Course Code | KHÜ527 | | Couse Level | | Second Cycle (Master's Degree) | | | | |
| ECTS Credit | 6 | Workload | 153 *(Hours)* | Theory | 2 | Practice | 0 | Laboratory | 0 |
| Objectives of the Course | Giving information about stem cells and diseases in tissues and organs | | | | | | | | |
| Course Content | Stem cells from fetal and umbilical cord, stem cells from amnion and placenta, stem cells in teeth, adipose tissue, stem cells in nervous system, stem cells in digestive system and diabetes, stem cells in muscle, skeleton, heart and vascular system, stem cells in skin, genital stem cells in the system will be explained. | | | | | | | | |
| 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 | Fetal and umbilical cord-derived stem cells |
| 3 | Theoretical | Amniotic and placenta-derived stem cells |
| 4 | Theoretical | Stem cells in the tooth |
| 5 | Theoretical | Stem cells in adipose tissue |
| 6 | Theoretical | Stem cells in the nervous system |
| 7 | Theoretical | Stem cells in pancreas and its relationship with diabetes |
| 8 | Intermediate Exam | Mid-term exam |
| 9 | Theoretical | Stem cells in the liver |
| 10 | Theoretical | Stem cells in musculoskeletal system |
| 11 | Theoretical | Stem cells in the cardiovascular system |
| 12 | Theoretical | Stem cells in the skin |
| 13 | Theoretical | Stem cells in the male genital system |
| 14 | Theoretical | Stem cells in the female genital system |
| 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 | Understands the properties of stem cells in tissues |
| 2 | Learn the properties of stem cells in organs |
| 3 | Understands the differences between stem cells in tissues and organs and examines the relationship with diseases |
| 4 | Have knowledge about stem cells in male and female genital system |
| 5 | Understand the clinical importance of stem cells in tissues and organs |

| **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 | 4 | 4 | 4 | 4 | 4 |
| P2 | 4 | 4 | | | |
| P3 | 5 | 5 | 4 | 4 | 4 |
| P4 | 3 | 3 | 3 | 3 | 3 |
| P6 | 3 | 3 | 4 | 4 | 4 |
| P8 | | | 2 | 2 | 2 |
| P9 | | | 3 | 3 | 3 |