

**International School of Medicine / Medicine (English)**

**2023 - 2024 Academic Year**

**PHYSIOLOGY**

**Syllabus**

<b>Course Description</b>					
<b>Name</b>	<b>Code</b>	<b>Semester</b>	<b>T+A Hour</b>	<b>Credit</b>	<b>ECTS</b>
PHYSIOLOGY	ISM1014668	Yearly	28+4	0	3
<b>Prerequisites Courses</b>					
<b>Recommended Elective Courses</b>					
<b>Language of Instruction</b>	English				
<b>Course Level</b>	First Cycle (Bachelor's Degree)				
<b>Course Type</b>	Committee Course				
<b>Course Coordinator</b>	Prof.Dr. Gürkan ÖZTÜRK				
<b>Name of Lecturer(s)</b>	Prof.Dr. Gürkan ÖZTÜRK, Assoc.Prof. Sundus TARIQ				
<b>Assistant(s)</b>					
<b>Aim</b>	To construct a general understanding of physiological mechanisms, to explain the structure – function relationship in cell membrane and the principles of cellular mechanics.				
<b>Course Content</b>	This course contains; Introduction to physiology – Description and Scope, Cell as a functional unit., Functions of cell membrane., Material transport in cell membrane., Transmembrane Transport and Membrane Potential, Cell Communication and Secondary Messengers in the Cell.				
<b>Course Learning Outcomes</b>			<b>Teaching Methods</b>	<b>Assessment Methods</b>	
Will be able to describe the cell as a physiological unit.			10, 16, 9	A	
Categorises types of transport through the cell membrane.			10, 16, 9	A	
Summarises the basics of regulation of cell volume.			10, 16, 9	A	
Explains cell communication and intracellular secondary messengers.			10, 16, 9	A	
Explain why the resting membrane potential in most cells is close to the Nernst potential for K+.			10, 16, 9	A, G	
Describe membrane potential changes in signalling (depolarization and hyperpolarization) and action potential.			10, 16, 9	A, G	
Explain what neurotransmitters are, their types, and how they are released and removed.			10, 16, 9	A, G	
Explain the sequence of events occurring during neurotransmission at the neuromuscular junction (NMJ).			10, 16, 9	A	
Explain regulation of force generation and graduation of muscle contraction in skeletal muscle.			10, 16, 9	A	
<b>Teaching Methods</b>	10: Discussion Method, 16: Question - Answer Technique, 9: Lecture Method				
<b>Assessment Methods</b>	A: Traditional Written Exam, G: Quiz				
<b>Lecture Schedule</b>					
<b>Sequence</b>	<b>Topics</b>	<b>Preliminary Preparation</b>			
1	Introduction to physiology – Description and Scope				
2	Cell as a functional unit.				
3	Functions of cell membrane.				
4	Material transport in cell membrane.				
5	Transmembrane Transport and Membrane Potential				
6	Cell Communication and Secondary Messengers in the Cell				
<b>Evaluation Methods</b>		<b>Weight(%)</b>			
Midterm Exam		40			
General Exam		60			

<b>Resources</b>
• Medical Physiology – Guyton • Ganong's Review of Medical Physiology • Molecular Biology of the cell - Alberts Ders notları ve sunum dosyaları