

**PROGRAM OF LECTURES IN PHYSIOLOGY WITH PATHOPHYSIOLOGY
FOR THE STUDENTS OF THE 4-YEARS MEDICAL SCHOOL
(2016/2017)**

	DATES	SUBJECT	TEACHER
1	2 hours 17.10.2016 This lecture starts at 11.45 a.m. Monday	Introduction to physiology and pathophysiology.	ACJ/TZ
2	3 hours 24.10.2016 Monday	Principles of neurophysiology Generation and function of action potential in nerve cells, dendrites, axons, pacemaker cells, cardiac and smooth muscle cells. Mechanism of transmission of the action potential. Physiology of synapses. Mechanisms of signal transmission through electrical and chemical synapses.	ESajSul
3	3 hours 07.11.2016 Monday	Physiology of the sensory system. Receptors and receptive fields. Somatic and visceral sensation. Deep sensation. Physiology of pain and pain inhibition.	TZ
4	3 hours 14.11.2016 Monday	Physiology of the motor system. Motor activity of the spinal cord. Functional organization of spinal motor centres. Alpha, beta and gamma motoneurons. Motor and sensory innervation of the skeletal muscle. Muscle spindles as sensory organs. The gamma loop, its role in the generation of movements. Organization of the reflex arch. Spinal reflexes. Autonomic functions of the spinal cord.	TZ
5	3 hours 21.11.2016 Monday	Control of spinal motor mechanisms by brain stem centres. Vestibular system. Maintenance of body equilibrium. Role of basal ganglia and cerebellum in the control of motor functions. Clinical aspects of their dysfunction – parkinsonian syndrome, chorea, vertigo, ataxia.	TZ
6	3 hours 23.11.2016 Wednesday	Biological rhythms. Physiology of sleep and wakefulness. Physiology of the higher psychic functions.	TZ
7	3 hours 28.11.2016 Monday	Learning and memory. Neurobiology of speech. Cognitive disorders (delirium, amnesia, dementia).	ESajSul
8	3 hours 30.11.2016 Wednesday	Neurotransmitter systems in the brain: classical, peptide and unconventional neurotransmitters. Neuroanatomy of these systems, regulation of biosynthesis of individual neurotransmitters, of their release and inactivation. Brain and body functions regulated by individual neurotransmitters. Disturbances of body functions resulting from the impairment of individual neurotransmitters systems.	ESajSul
9	3 hours 05.12.2016 Monday	Dysfunctions of cerebral circulation. Hemorrhagic and ischemic stroke.	EK
10	3 hours, 07.12.2016 Wednesday	Characteristics of function and structure of the autonomic nervous system. Synaptic transmission through the autonomic ganglia. Autonomic innervation of the cardiovascular and respiratory system. Examples of autonomic reflexes.	EK
11	3 hours 12.12.2016 Monday	Physiology of skeletal and heart muscle fibers. Structure and function of the contractile systems, electromechanical coupling in skeletal and heart muscle. Physiology of smooth muscle fibers. Mechanism of excitation and contraction of smooth muscle.	EK
	14.12.2016 Wednesday	No Lecture	

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	19.12.2016 Monday	No Lecture	
12	3 hours 21.12.2016 Wednesday	Hemodynamic cycle of the heart. Regulation of rhythm and force of contraction. Heart sounds.	ACJ
	02.01.2017 Monday	No Lecture	
13	3 hours 04.01.2017 Wednesday	Pathophysiology of acute and chronic heart failure.	TZ
14	3 hours 09.01.2017 Monday	Pathophysiology of the most common heart valve diseases.	AW
15	3 hours 11.01.2017 Wednesday	Principles of blood flow in the cardiovascular system. Arterial blood pressure, vascular resistance, venous circulation.	MŚm
16	3 hours 16.01.2017 Monday	Short and long-term regulation of blood pressure. Arterial hypertension.	ACJ
17	3 hours 18.01.2017 Wednesday	Coronary artery disease. Myocardial infarction.	TZ

Teachers: ACJ – Agnieszka Cudnoch-Jędrzejewska , MD, PhD; EK- prof. Ewa Koźniewska, PhD;
ESajSul - prof.Elżbieta Sajdel-Sułkowska, DSc; ESS – prof. Ewa Szczepańska-Sadowska, MD, PhD;
MŚm - Maciej Śmietanowski, PhD; Agnieszka Wsół , MD, PhD; TZ – Tymoteusz Żera , MD, PhD;

**Please note that lectures on Monday are held from 10:30 till 13:00 in room 142 (Didactic Center)
and on Wednesday from 12.00 till 14:30
in room 234 (Didactic Center).
This includes 15 min for breaks.**