

Lectures	Date
<i>Membrane physiology. Membrane Transport Mechanisms. Membrane potentials: Resting Membrane Potential, local potentials, Action Potential. Excitable tissues. Excitability.</i>	18.02 (2 st week)
<i>Synaptic and Neuromuscular Transmission. Muscle physiology (skeletal and smooth muscle).</i>	4.03 (4 rd week)
<i>Physiology of the Central Nervous System (general principles)</i>	18.03 (6 th week)
<i>Motor physiology. Motor functions of the spinal cord, brainstem, cerebellum, basal ganglia, cerebral cortex.</i>	1.04 (8 th week)
<i>Physiology of sensory systems</i>	15.04 (10 th week)

Unit	Classes: date and topic
GENERAL PHYSIOLOGY. PHYSIOLOGY OF CELLS AND EXCITABLE TISSUES	<p>Lesson 1. General principles of physiology. Membrane physiology. Membrane Transport Mechanisms. Resting Membrane Potential.</p> <p>Lesson 2. Excitable tissues. Excitability. Membrane potentials of excitable cells (local response, action potential in comparison). Action potential: shape, graph, phases. Ionic mechanisms of AP.</p> <p>Lesson 3. Nerve Physiology, classification of the nerve fibers. AP propagation in a nerve. The signal transmission between cells (the synapse). Neuromuscular Transmission (steps).</p> <p>Lesson 4. Physiology of skeletal and smooth muscle.</p>
COLLOQUIUM 1	Lesson 5.
PHYSIOLOGY OF THE CENTRAL NERVOUS SYSTEM AND HUMORAL REGULATION	<p>Lesson 6. General physiology of the central nervous system. Functions of the CNS. The interaction of the processes of excitation and inhibition in the CNS. The main neurotransmitters of the CNS. Neural circuits. Reflex principle, a reflex arc.</p> <p>Lesson 7. Motor physiology. Spinal cord and brainstem functions. Cerebellum and basal ganglia. Motor cortex.</p> <p>Lesson 8. Autonomic nervous system. Hypothalamus as the main regulator of homeostasis. Limbic system.</p> <p>Lesson 9. The concept of humoral regulation in the body. Endocrine system.</p>
COLLOQUIUM 2	Lesson 10.
PHYSIOLOGY OF SENSORY SYSTEMS AND HIGHER BRAIN FUNCTIONS	<p>Lesson 11. The physiology of sensory systems. General principles. Visual and auditory sensory systems.</p> <p>Lesson 12. Gustatory, olfactory, vestibular, tactile (touch) and thermal (temperature) sensory systems. Nociceptive (pain) sensory system. Antinociceptive system.</p> <p>Lesson 13. The Pavlov's doctrine about the higher nervous activity. Unconditioned and conditioned reflexes and their inhibition. The main</p>

	principles of behavior formation and learning. Needs, emotions, motivations, memory. The functional areas of the cerebral cortex.
COLLOQUIUM 3	Lesson 14.
ZACHET	Lesson 15.