**ANNOTATION**
**work program of the discipline**

**"Normal Physiology"**

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| Speciality | 05/31/01 General medicine |
| Number of credits | In accordance with the RUP |
| Interim certification form (test/test with assessment/exam) | Test/exam |

**1. The purpose of studying the discipline**

Contribute to the formation of studentssystematized knowledge about the life activity of the whole organism, the patterns of functioning of organs and the mechanisms of their regulation in interaction with each other and with environmental factors, as well as about the functional foundations of clinical, laboratory and instrumental research methods.

**2. Summary of the discipline**

Section 1: “General Physiology”

Subject and tasks of physiology. Physiological function, its norm. Methods of physiological research, requirements for them. General characteristics of excitable tissues. Bioelectric phenomena in excitable cells. Physiology of nerve, muscle and glandular cells. Physiology of nerve and neuromuscular synapses. Physiology of nerve centers. Methodological principles of the reflex theory of adaptive activity of the body. Functional system, its components.

Section 2: “Physiology of the body’s sensory systems”

General principles of organization of sensory systems. Physiology of smell, taste, somatovisceral sensitivity, physiology of pain. Physiology of vestibular sensitivity, hearing and vision. Methods for studying analyzers.

Section 3: “Nervous and hormonal regulation of functions”

Functions of the spinal cord, brain stem and cerebellum. Functions of the striopallidal system, limbic system and cerebral cortex. Methods for studying the central nervous system. Physiology of somatic movements. Physiology of the autonomic (vegetative) nervous system. Physiology of endocrine glands, tissues and cells.

Section 4: “Physiological foundations of mental activity”

Physiology of higher nervous activity. Memory and sleep functions. Physiology of higher mental functions of humans.

Section 5: “Physiology of the internal environment of the body”

Physiology of body fluids. Laboratory methods for blood testing. Blood functions. Blood constants, clinical and physiological methods of their study. Physiological basis of immunity. Physiological basis of blood transfusion. Physiology of coagulation, anticoagulation systems and fibrinolysis.

Section 6: “Physiology of Blood Circulation”

Physiology of the heart. Clinical and physiological methods of heart research. Physiology of systemic hemodynamics. Clinical and physiological methods for studying arterial pulse and blood pressure. Regulation of blood pressure. Physiology of regional hemodynamics.

Section 7: “Physiology of Respiration”

Physiology of external respiration. Methods for studying the function of external respiration. Regulation of breathing.

Section 8: “Physiology of energy metabolism, thermoregulation, nutrition and digestion” Digestive transport conveyor. Physiology of digestion in the oral cavity, stomach and intestines. Laboratory methods for studying gastric juice, pancreatic juice and bile. Physiological basis of energy metabolism. Principles of rational nutrition. Physiological basis of thermoregulation.

Section 9: “Physiology of excretion, osmotic and acid-base homeostasis”

The concept of excretion, its role in maintaining homeostasis. Physiology of the kidneys. An idea of the homeostatic functions of the kidneys (regulation of fluid volume, osmotic pressure, acid-base balance).