

**The planned schedule of lecture by "Fundamentals of Functional Diagnostics"
6 semester 2025 – 2026 of academic year for medical faculty**

№	Lecture titles	List of educational questions for the lecture
1. 03.02.2026 Erkenova L.D.	Introduction to the Basics of Functional Diagnostics. Methods of Functional Diagnostics of the Blood System	1. Introduction to the subject. Main goals and objectives of functional diagnostics. Methods of functional diagnostics. 2. Principles of identifying morphological and functional disorders of systems and organs. 3. Homeostatic constants of blood, methods of their assessment. 4. Laboratory methods for studying formed elements of blood, determining blood groups and assessing group compatibility. 5. Methods of functional diagnostics of the blood hemostasis system: determination of dynamic indicators, content of coagulation and anticoagulation factors , hemostatic potential.
2. 17.02.2026 Radzievskaya N.G.	Principles of functional diagnostics of the cardiovascular system. Methods for assessing cardiac activity. Indicators and methods for assessing hemodynamics.	1. Methods of functional diagnostics of the vascular system and hemodynamics. Clinical and physiological indicators of cardiac contractility. Heart sound analysis. 2. Ultrasound methods of functional diagnostics of the heart. 3. Electrophysiological methods of cardiac examination: electrocardiography, vectorcardiography . Physiological foundations of electrocardiography. 4. Methods for determining blood pressure. Pulse examination. Methods for studying blood flow in the vessels of individual organs.
3. 03.03.2026 Erkenova L.D.	Principles of functional diagnostics of the digestive system.	1. Approaches to the study of the functions of the digestive tract. 2. Basic methods for assessing the condition of the gastrointestinal tract.
4. 17.03.2026 Radzievskaya N.G.	Principles of functional diagnostics of the kidneys and urinary tract.	1. The main functions of the kidneys. 2. Laboratory methods for assessing kidney function. 3. X-ray examination of the kidneys, ureters and bladder. 4. Instrumental methods of examination of the kidneys and urinary tract.
5. 31.03.2026 Erkenova L.D.	Principles of functional diagnostics of the external respiratory system	1. Physiological basis of methods for studying respiration. 2. Physiological indicators of pulmonary ventilation, airway resistance. 3. Methods of functional diagnostics of external respiration. 4. Methods for determining the diffusion capacity of the lungs. 5. Functional tests with breath holding.
6. 14.04.2026 Radzievskaya N.G.	Principles of functional diagnostics of the immunobiological surveillance system.	1. Concepts about the types of immunity and its components. 2. Methods for identifying allergic diseases. 3. Assessment of the immune status of the body. 4. The concept of serodiagnostics of infectious diseases.
7. 28.04.2026 Radzievskaya N.G.	Principles of functional diagnostics of the brain.	1. Modern levels of brain research. 2. Electroencephalography (EEG): EEG recording technique, physiological nature of EEG, main rhythms described in clinical practice, EEG processing. 3. Magnetoencephalography . Evoked potential method. Computed tomography. Magnetic resonance imaging. Positron emission tomography.
8. 12.05.2026 Erkenova L.D.	Methods of functional diagnostics in oncology.	1. Diagnostic methods in oncology: anamnesis, general clinical examination. 2. Visualization methods in oncology. 3. Radiation diagnostic methods. 4. Cytological and histological research methods.

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22.01.2026

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