

ЛД-16 ИИ

**Abstract of the educational practice program “RESEARCH WORK (OBTAINING
PRIMARY SCIENTIFIC SKILLS
RESEARCH WORK)”**

The main professional educational program of higher education is specialty programs in the specialty 31.05.01 General Medicine, approved on 24.05.2023.

Full-time form of education

Duration of mastering OPOP: 6 years

Department: Internal Medicine No. 1

1. Purpose of practice: formation of important professional skills in examining a patient, the basics of clinical thinking, as well as medical ethics and deontology.

2. Place of practice in the structure of OOP: educational practice “Research work (obtaining primary skills in research work)” refers to block 2 of the Federal State Educational Standard for Higher Education in the specialty 05/31/01 “General Medicine”

3. Requirements for the results of mastering practice:

The process of studying practice is aimed at the formation and development of competencies: GPC-1, GPC-5, GPC-6, PC-1, PC-2, PC-6.

As a result of studying practice, the student must

Know: **Chemistry**

- thermodynamic and kinetic laws that determine the course of chemical and biochemical processes;
- physicochemical aspects of the most important biochemical processes and various types of homeostasis in the body: theoretical foundations of bioenergetics, factors influencing the shift in the equilibrium of biochemical processes;
- methods of expressing the concentration of substances in solutions, methods of preparing solutions of a given concentration;
- mechanisms of action of the body's buffer systems, their relationship and role in maintaining acid-base homeostasis; features of the acid-base properties of amino acids and proteins;
- patterns of physical and chemical processes in living systems from the point of view of their competition, which arises as a result of the combination of equilibria of different types;
- the role of colloidal surfactants in the absorption and transfer of low-polarity substances in a living organism;
- structure and chemical properties of the main classes of biologically important biological compounds;
- the role of nutrients and their compounds in living systems;
- physicochemical basis of surface phenomena and factors influencing free surface energy;
- features of adsorption at various phase boundaries;
- physicochemical methods of analysis in medicine (titrimetric, electrochemical, chromatographic, viscometric).

Be able to:

- use physical and chemical equipment;
- work with magnifying equipment (microscopes, optical and simple magnifying glasses);
- classify chemical compounds based on their structural formulas;
- predict the results of physical and chemical processes occurring in

- living systems, based on theoretical principles;
- scientifically substantiate observed phenomena;
- make physical and chemical measurements characterizing certain properties of solutions, mixtures and other objects that simulate the internal environments of the body;
- make observations of the progress of chemical reactions and draw informed conclusions;

Biology

Know:

- general patterns of the origin and development of life, properties of biological systems, human anthropogenesis and ontogenesis; know the basic patterns of evolutionary transformation of human organs and organ systems;
 - laws of genetics and its significance for medicine; modern methods of studying human genetics; principles of medical genetic counseling; patterns of heredity and variability in individual development as the basis for understanding the pathogenesis and etiology of hereditary and multifactorial diseases;
 - biosphere and ecology, basic properties of ecosystems, environmental laws and rules, features of anthropobioecosystems, influence of biotic, abiotic and social factors on the human body, human adaptation to the environment, the phenomenon of parasitism and bioecological diseases;

- use laboratory equipment, work with a microscope;

Be able

to:

- determine the mitotic activity of tissues;
- explain the nature of deviations in the course of development leading to the formation of variants, anomalies and defects;
- identify human parasites on micro- and macropreparations

Physics

Know:

- Ecological and ethical aspects of the impact of physical factors on humans
- Fundamentals of the use of physical factors for diagnosis and treatment: ultrasound, sound, electromagnetic waves, radionuclides, ionizing radiation.
- Physical parameters characterizing the functional state of organs and tissues: mechanical, electrical, electromagnetic, optical.
- Physical phenomena and processes underlying the life activity of the organism and their characteristics.
- Safety rules when working with physical devices

Be able

to: – Measure physical parameters and evaluate the physical properties of biological objects using mechanical, electrical and optical methods.

4. Total labor intensity of practice is 5 credit units (180 hours)

- **5. Semester:** 2

- **6. Main sections of practice:**

- 1. General issues of nursing medical and surgical patients.

- 2. Particular issues of caring for therapeutic and surgical patients with pathologies of various systems and organs.

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- Author:

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