State Budgetary Institution of Higher Professional Education
"North-Ossetian State Medical Academy" Of the Ministry of Healthcare of the Russian Federation Education and Methodic management

THE DEPARTMENT OF BIOCHEMISTRY

Abstract of the working program of the discipline " Biochemistry "

Specialty-31.05.01 medicine

1. The purpose of the discipline: development of the discipline **" Biochemistry "**

2. Place of discipline in the structure of the main professional educational program of higher education: discipline " Biochemistry " refers to the basic part of block 1of the federal state educational standard of higher education.

3. Requirements to results of development of discipline:

The process of studying the discipline is aimed at the formation and development of competencies: GPC-7; PC-21; PC-22;

As a result of studying the discipline, the student must

Know:

1) the chemical and biological essence of the processes occurring in the living human body at the molecular and cellular levels;
2) structure and properties of the main classes of biologically important compounds, the main metabolic pathways of their transformation, the role of cell membranes, transport systems, metabolism in the human body;

Know:

1) to apply the learned methods for the solution of professional tasks.
2) to apply the accumulated knowledge on molecular biochemical processes for conducting scientific research.
3) use of physical, chemical and biological equipment.

Own:

1) laboratory and chemical methods for the study of processes occurring in the body;
2) biochemical research methods in the conditions of norm and pathology;

3) Core technologies that convert information, text, spreadsheet, search online.

4. The total complexity of the discipline is 7 credits 252 hours.

5. Main sections of the discipline:

1. Chemistry of simple and complex proteins
2. Enzymes, medical aspects of enzyme science
3. Vitamins and coenzymes
4. Basic biosynthesis of nucleic acids and proteins
5. Lipids, structure, properties, classification. The structure and function of biological membranes.
6. Energy metabolism and the General ways of catabolism
7.Carbohydrate metabolism.
8. Lipid metabolism.
9. Exchange of amino acids.
10. The exchange of nucleotides
11. Metabolism of heme and iron metabolism.
12. Hormonal regulation of metabolism and body functions
13. Biochemistry of blood and immunity.
14. Biochemistry of organs and tissues.
15. Water-mineral exchange. The regulation of water-salt metabolism.
16. Introduction to clinical biochemistry.

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