

Документ подписан простой электронной подписью
Информация о владельце:
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УТВЕРЖДАЮ
Проректор по УМР

Е.В. Коновалова

13 июня 2024 г., протокол УМС №5

АННОТАЦИИ
к рабочим программам дисциплин по направлению подготовки:
31.05.01 Лечебное дело
Профиль: *Лечебное дело*

Biology

1. COURSE OBJECTIVES

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| 1.1 | The purpose of studying the discipline "Biology" is the formation of students' systemic fundamental knowledge, skills and abilities of the greatest interest for practical healthcare, in preparing students for the systematic perception of general medical, social and clinical disciplines and the formation of their natural science worldview and the logic of biological thinking necessary for the subsequent practical activity of a doctor. |
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2. COURSE OVERVIEW

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| Course code (in curriculum): | Б1.О.04 |
| 2.1 Assumed background: | |
| 2.1.1 | Biology (school course). Be able to: analyze biological phenomena and patterns of natural processes. |
| 2.1.2 | Have skills of: working with a microscope, models, macro-and micro-preparations of animals; working with literature in biology, lecture notes and the theoretical part of practical classes. |
| 2.2 Post-requisite courses and practice: | |
| 2.2.1 | Histology, Embryology, Cytology |
| 2.2.2 | Biochemistry |
| 2.2.3 | Hominal Physiology |
| 2.2.4 | Microbiology, Virology |
| 2.2.5 | Neurology, Medical Genetics, Neurosurgery |
| 2.2.6 | Internal Diseases Propaedeutics |
| 2.2.7 | Paediatrics, Childhood Infections |
| 2.2.8 | Obstetrics |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

GPC-5.2: Knows the structure of the cell, the phases of its division, the theoretical principles of genetics and the biology of insects and helminths, their role in the etiology of human diseases

GPC-5.5: Demonstrates knowledge of the structure, physiology of microorganisms, their etiological role in human diseases based on the subject «microbiology»

By the end of the course students must

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| 3.1 know: | |
| 3.1.1 | Safety regulations and work in biological laboratories with reagents, devices, animals |
| 3.1.2 | General laws of the origin and development of life, the structure of the cell, the phases of its division, human anthropogenesis and ontogenesis; theoretical foundations of genetics, its significance for medicine, the laws of heredity and variability in individual development as the basis for understanding the pathogenesis and etiology of hereditary and multifactorial human diseases; basic concepts and problems of the biosphere and ecology, the phenomenon of parasitism, understanding of the biology of insects and helminths, their role in the etiology of human diseases; features of the organizational and population levels of the organization of life |
| 3.2 be able to: | |

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| 3.2.1 | Use educational, scientific, popular science literature, the Internet for professional activities; use biological equipment; work with magnifying equipment (microscopes, optical and simple magnifiers); make calculations based on the results of the experiment, to carry out elementary statistical processing of experimental data; explain the nature of deviations in the course of development that can lead to the formation of variants of anomalies and defects; describe the morphological changes of the studied macroscopic, microscopic preparations and electronograms; diagnose the pathogens of human parasitic diseases on the drug, slide, and photo. |
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4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term /Academic year | Academic hours | Competences | Literature | Notes |
|------------|--|---------------------|----------------|--------------------|-----------------------------|-------|
| | Module 1. Introduction. The device of a light microscope and the technique of microscopy. Cellular level of life organization | | | | | |
| 1.1 | Cell biology. The cellular level of the organization of life /Lecture/ | 1 | 2 | GPC-5.2 GPC-5.5 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 1.2 | The structural and functional organization of the hereditary material and its implementation into a trait. The structural organization of the core. Spatial arrangement of chromosomes. The role of nuclear structures in the vital activity of the cell. The mechanism of mutagenesis. Replication. The mechanism of repair /Lecture/ | 1 | 2 | GPC-5.2 GPC-5.5 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 1.3 | The device of a light microscope and the technique of microscopy. The cellular level of the organization of biological systems. Structure and functions of organelles /Practice/ | 1 | 2 | GPC-5.2 GPC-5.5 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 1.4 | Cell membranes. Vesicular transport /Practice/ | 1 | 2 | GPC-5.2 GPC-5.5 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 1.5 | Cytoskeleton and structural proteins, intracellular transport, signaling and adhesion. Mitochondria and energy metabolism. Cellular respiration /Practice/ | 1 | 2 | GPC-5.2 GPC-5.5 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 1.6 | Reproduction at the cellular level. Cell cycle, mitosis, apoptosis, the mechanism of cell death. Levels of regulation of gene expression. Transcription. Broadcast /Practice/ | 1 | 2 | GPC-5.2 GPC-5.5 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 1.7 | Colloquium on the topic: "The cellular level of the organization of life" /Practice/ | 1 | 2 | GPC-5.2 GPC-5.5 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 1.8 | Preparation for an oral quiz, tests /Self-study / | 1 | 8 | GPC-5.2 GPC-5.5 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| | Module 2. Organism (ontogenetic) level of biological system organization | | | | | |
| 2.1 | Developmental biology. Prenatal ontogenesis /Lecture/ | 1 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 2.2 | Developmental biology. Postnatal ontogenesis /Lecture/ | 1 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |

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| 2.3 | Regulation of ontogenesis /Lecture/ | 1 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 2.4 | Homeostasis /Lecture/ | 1 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 2.5 | Ontogenesis. General regularities of progenesis, embryogenesis, postembryonic period of ontogenesis /Practice/ | 1 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 2.6 | Regulation of ontogenesis /Practice/ | 1 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 2.7 | Colloquium on the topic: "The main patterns of individual development". "Homeostasis" /Practice/ | 1 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 2.8 | Preparation for an oral quiz, tests /Self-study / | 1 | 8 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| | Module 3. Population-specific level of living systems organization. Questions of evolution | | | | | |
| 3.1 | The evolutionary doctrine /Lecture/ | 1 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 3.2 | Evolution of Organ Systems /Lecture/ | 1 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |

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| 3.3 | The evolutionary doctrine. Man as an object of the action of evolutionary factors. The evolution of the musculoskeletal system. Phylogenetically determined defects of the musculoskeletal system /Practice/ | 1 | 2 | GPC-5.2 | L1.1 L1.2 E1 E2 E3 E4 E5 | |
| 3.4 | The evolution of the digestive system. Phylogenetically determined defects of the digestive system /Practice/ | 1 | 2 | GPC-5.2 | L1.1 L1.2 E1 E2 E3 E4 E5 | |
| 3.5 | The evolution of the respiratory system. Phylogenetically determined defects of the respiratory system /Practice/ | 1 | 2 | GPC-5.2 | L1.1 L1.2 E1 E2 E3 E4 E5 | |
| 3.6 | The evolution of the circulatory system. Phylogenetically determined heart and vascular defects /Practice/ | 1 | 2 | GPC-5.2 | L1.1 L1.2 E1 E2 E3 E4 E5 | |
| 3.7 | Evolution of the excretory system. Phylogenetically determined defects of the excretory system /Practice/ | 1 | 2 | GPC-5.2 | L1.1 L1.2 E1 E2 E3 E4 E5 | |
| 3.8 | The evolution of integration systems: nervous, endocrine. Phylogenetically determined defects of integration systems /Practice/ | 1 | 2 | GPC-5.2 | L1.1 L1.2 E1 E2 E3 E4 E5 | |
| 3.9 | Colloquium on the topic: "Evolution of organ systems" /Practice/ | 1 | 2 | GPC-5.2 | L1.1 L1.2 E1 E2 E3 E4 E5 | |
| 3.10 | Final lesson /Practice/ | 1 | 2 | GPC-5.2 | L1.1 L1.2 L2.1 L2.2 E1 E2 E3 E4 E5 | |
| 3.11 | Control work | 1 | 0 | GPC-5.2 | L1.1 L1.2 L2.1 L2.2 E1 E2 E3 E4 E5 | |
| 3.12 | Preparation for an oral quiz, tests. Writing Essays /Self-study / | 1 | 8 | GPC-5.2 | L1.1 L1.2 L2.1 L2.2 E1 E2 E3 E4 E5 | |

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| 3.13 | Credit | 1 | 0 | GPC-5.2 | L1.1 L1.2 L2.1 L2.2 E1 E2 E3 E4 E5 |
| | Module 4. Human genetics and anthropogenesis | | | | |
| 4.1 | Human genetics and anthropogenesis /Lecture/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 |
| 4.2 | Human genetics. The role of genetic factors and the environment in the formation of the phenotype. Genotype - an evolutionarily developed system of genes /Practice/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 |
| 4.3 | Concatenated inheritance. Genetics of sex. Gender-linked inheritance /Practice/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 |
| 4.4 | Variability and its forms /Practice/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 |
| 4.5 | Anthropogenesis /Practice/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 |
| | Module 5. Biogeocenotic and biospheric levels of biological systems organization | | | | |
| 5.1 | Ecology. General ecology. The main sections. General characteristics of the ecological system. Environmental factors. Endo -, out -, dem -, synecology/ Human Ecology. The doctrine of the biosphere /Lecture/ | 2 | 4 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 |
| 5.2 | General ecology, human ecology, medical ecology /Practice/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 |
| 5.3 | Colloquium on the topic: "Human genetics. Anthropogenesis. Ecology" /Practice/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 |
| | Module 6. General and medical parasitology | | | | |
| 6.1 | Parasitism as an ecological phenomenon. Human parasitic diseases /Lecture/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 |
| 6.2 | General and Medical protozoology /Lecture/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 |
| 6.3 | Fundamentals of medical protozoology. The Sarcodes class. Flagellate class /Practice/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 |
| 6.4 | The Sporoviki class. Infusoria Class /Practice/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 |
| | Module 7. General and Medical Helminthology | | | | L1.1 L2.1 E1 E2 E3 E4 E5 |
| 7.1 | General and medical helminthology /Lecture/ | 2 | 4 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 |
| 7.2 | Basic concepts of helminthology. Species Flatworms. Class Flukes. System organization and morphology. Life cycle /Practice/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 |

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| 7.3 | Basic concepts of helminthology. Species Flatworms. Class Tapeworms. System organization and morphology. Life cycle /Practice/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 7.4 | Roundworms. Class Actually round. System organization and morphology /Practice/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 7.5 | Species Ringed Worms. Class Leech /Practice/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| Module 8. General and medical arachnoentomology | | | | | | |
| 8.1 | General and medical arachno- entomology /Lecture/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 8.2 | Type Arthropods. Subtype Toad. Class Crustaceans /Practice/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 8.3 | Type Arthropods. Subtype Helicer. Spider-like class /Practice/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 8.4 | Type Arthropods. Subtype Tracheus. Insect Class /Practice/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 8.5 | Colloquium on the topic: " Fundamentals of medical parasitology" /Practice/ | 2 | 2 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 8.6 | Preparation for an oral quiz, tests. Solving situational problems. Writing Essays /Self- study / | 2 | 24 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 8.7 | Control work /Control/ | 2 | 0 | GPC-5.2 | L1.1 L2.1 E1 E2 E3 E4 E5 | |
| 8.8 | Exam /Exam/ | 2 | 36 | GPC-5.2 GPC-5.5 | L1.1 L2.1 E1 E2 E3 E4 E5 | |

Chemistry

1. COURSE OBJECTIVES

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| 1.1 | The objectives of studying the discipline are: to study theoretical basis and principles of modern chemistry; to study main classes of chemical compounds and their properties; to study physical and chemical points of bio- and medical processes, role of biogenic elements and essential compounds in human systems; to form the idea of main biochemical reactions. |
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2. COURSE OVERVIEW

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| Cycle (section) GE: | | B1.O.01 |
| 2.1 | Requirements for preliminary preparation of the student: | |
| 2.1.1 | Assumed background: For the study of Chemistry, the student must know: the high school level chemistry, biology and natural sciences. | |
| 2.2 | Disciplines and practices for which mastering this discipline (module) is necessary as a prerequisite: | |
| 2.2.1 | Biochemistry | |
| 2.2.2 | Microbiology, Virology | |
| 2.2.3 | Pharmacology | |

3. COMPETENCIES UPON COMPLETION OF THE COURSE (MODULE)

GPC-5.3 Demonstrates knowledge and understanding of the chemistry of bioorganic compounds and their participation in metabolism;

GPC-5.4 Demonstrates knowledge of the classification and structure of biochemical compounds, mechanisms of biochemical processes in the body, and understands their importance in maintaining homeostasis, metabolism, and pathogenesis of human disease;

By the end of the course students must

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| 3.1 Know: | |
| 3.1.1 | Student has incomplete, unsystematic knowledge of physico-chemical nature of the processes occurring in a living organism at the molecular, cellular, tissue and organ levels; theoretical content of the course has been fractionally acquired, but the gaps are not significant, some of the performed tasks contain errors. |
| 3.1.2 | Student does not fully know the educational material content; does not always clearly set out his position on the described issues, but he knows the physico-chemical essence of the processes occurring in a living organism at the molecular, cellular, tissue and organ levels. |
| 3.1.3 | The theoretical content of the course is completely acquired, without gaps; necessary knowledge of the physico-chemical essence of the processes occurring in a living organism at the molecular, cellular, tissue and organ levels is fully formed. |
| 3.2 Be able to: | |
| 3.2.1 | Ability to use chemical equipment; to make calculations according to the results of the experiment; to conduct elementary static processing of experimental data formed at the minimum acceptable level. |
| 3.2.2 | The ability to use chemical equipment; to make calculations according to the results of the experiment, to carry out elementary static processing of experimental data is formed for the most part. |
| 3.2.3 | The ability to use chemical equipment; to make calculations according to the results of the experiment, to carry out elementary static processing of experimental data is fully formed. |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Notes |
|------------|---|----------------------|----------------|----------------------|--|-------|
| | Section 1. Basics of chemical thermodynamics and bioenergy. Laws of thermodynamics. | | | | | |
| 1.1 | Lecture /Lec/ | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 1.2 | Laboratory /Lab/ | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 1.3 | Practical work /Pr/ | 2 | 4 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 1.4 | Self-study /Self-study/ | 2 | 1 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| | Section 2. Solutions. Protolytic reactions. Buffer solutions. Colligative properties of solutions. | | | | | |

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| 2.1 | Lecture /Lec/ | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 2.2 | Laboratory /Lab/ | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 2.3 | Practical work /Pr/ | 2 | 4 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 2.4 | Self-study /Self-study/ | 2 | 1 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| | Section 3. Chemical kinetics and catalysis. Chemical equilibrium. Basics of Electrochemistry. | | | | | |
| 3.1 | Lecture / Lec / | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 3.2 | Laboratory / Lab / | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 3.3 | Practical work / Pr / | 2 | 4 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 3.4 | Self-study / Self-study / | 2 | 1 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| | Section 4. Physical chemistry of dispersed systems. | | | | | |
| 4.1 | Lecture / Lec / | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |

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| 4.2 | Laboratory / Lab / | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 4.3 | Practical work / Pr / | 2 | 4 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 4.4 | Self-study / Self-study / | 2 | 1 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| | Section 5. Chemistry of biogenic elements. Complex compounds. | | | | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 5.1 | Lecture / Lec/ | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 5.2 | Laboratory / Lab / | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 5.3 | Practical work / Pr / | 2 | 4 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 5.4 | Self-study / Self-study / | 2 | 1 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| | Section 6. Organic compounds. Mutual influence of atoms and reaction mechanisms. Stereochemistry. | | | | | |
| 6.1 | Lecture / Lec / | 2 | 1 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 6.2 | Laboratory / Lab / | 2 | 1 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |

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| 6.3 | Practical work / Pr / | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 6.4 | Self-study / Self-study / | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 | |

L1.3 L2.2

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| | Section 7. Structure, biomedical properties of poly-and heterofunctional compounds. Chemistry of biologically active heterocyclic compounds. | | | | | |
| 7.1 | Lecture / Lec / | 2 | 1 | GPC -5.3 GPC -5.4 | L1.1 L1.2 L1.3 L2.1 L3.1 L1 L2 | |
| 7.2 | Laboratory / Lab / | 2 | 1 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 7.3 | Practical work / Pr/ | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 7.4 | Self-study / Self-study / | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| | Section 8. Amino acids, peptides and proteins. | | | | | |
| 8.1 | Lecture /Lec/ | 2 | 1 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 8.2 | Laboratory /Lab/ | 2 | 1 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 8.3 | Practical work /Pr/ | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 8.4 | Self-study / Self-study / | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| | Section 9. Carbohydrates: mono-, oligo- and polysaccharides. | | | | | |
| 9.1 | Lecture /Lec/ | 2 | 1 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 9.2 | Laboratory /Lab/ | 2 | 1 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |

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| 9.3 | Practical work /Pr/ | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 9.4 | Self-study /Self-study/ | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| | Section 10. Nucleic acids. Lipids. | | | | | |
| 10.1 | Lecture /Lec/ | 2 | 1 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |

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|------|--|---|----|----------------------|---|--------------|
| 10.2 | Laboratory /Lab/ | 2 | 1 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 10.3 | Practical work /Pr/ | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 10.4 | Self-study /Self-study/ | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 | |
| | Section 11. Steroids and terpenoids. Enzymes. Vitamins. | | | | E1 E2 | |
| 11.1 | Lecture /Lec/ | 2 | 1 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 11.2 | Laboratory /Lab/ | 2 | 1 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 11.3 | Practical work /Pr/ | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 11.4 | Self-study /Self-study/ | 2 | 2 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | |
| 11.5 | Control work /Cont. work./ | 2 | 0 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | Control work |
| 11.6 | Exam /Ex/ | 2 | 27 | GPC -5.3 GPC -5.4 | L1.5 L1.1 L1.4 L1.2 L1.3 L2.2 L3.1 E1 E2 | Exam |

Foreign language (Russian)

1. COURSE OBJECTIVES

- 1.1 The discipline "Foreign Language (Russian)" is an important component in the training of a specialist who, within the framework of general cultural and colloquial subjects, should relatively freely produce and reproduce foreign speech, both in written and oral form. The purpose of this discipline is to achieve practical mastery of the Russian language as a means of oral and written communication, that is, the acquisition by students of such a level of communicative competence that would allow the use of the Russian language at the everyday level and would become the basis for mastering subsequent disciplines, such as a foreign language in the professional field. (Russian language). The tasks of the discipline include: the formation of the main types of SA: listening, speaking (monologic, dialogical speech), reading, writing; the formation of spelling, lexical-grammatical and stylistic skills for expressing thoughts and communicating; the formation of communicative reading skills, the ability to extract the necessary information and interpret it; the formation of sociocultural foreign language competence, which ensures the cultural orientation of education, the inclusion of students in the dialogue of cultures; development of the ability to carry out foreign language speech activity, including the development of integrative communication skills, including the ability to conduct a conversation; the ability to build one's speech and non-speech behavior adequately to the socio-cultural specifics of the country of the language being studied and taking into account the characteristics of the official, neutral and unofficial registers of communication; enrichment of the active vocabulary of students, characteristic of the neutral style of speech, as well as familiarity with the elements of the colloquial style of speech and idioms; improving grammar skills; formation of professional skills and abilities; development of interest in the culture of Russia; improving the skills and abilities to communicatively and stylistically correctly formulate a statement in oral and written form, as well as the formation of competencies indicated in the program as a result of mastering the discipline.

2. COURSE OVERVIEW

Course code (in curriculum): B1.O.02

2.1 Assumed background:

- 2.1.1 This discipline is studied from the "zero level" of knowledge, the requirements for input knowledge, skills and competences of students are formed on the basis of the program of complete secondary education in a foreign language (basic level), as well as those obtained in the process of learning the first foreign language about phonetic, lexical, grammatical, word-formation phenomena.
- 2.1.2 Foreign language (English language)
- 2.1.3 History of the Russian Federation

2.2 Post-requisite courses and practice:

- 2.2.1 Foreign Language in the Professional Field (Russian Language)
- 2.2.2 Professional Practice, Practice of a Therapeutic Profile
- 2.2.3 Professional Practice, Surgical Practice
- 2.2.4 Professional Practice, Practice of Obstetrics and Gynecology
- 2.2.5 Professional Practice, Practice of a General Medical Profile
- 2.2.6 Educational Practice in Research
- 2.2.7 Professional Practice, Practice in Emergency Medical Manipulations Using Simulation Technologies
- 2.2.8 Preparation for Passing the State Exam

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

UK-4.1: Chooses the style of communication in the State language of the Russian Federation in accordance with the purpose and conditions of communication

UK-4.2: Presents the results of academic activity in the State language of the Russian Federation and a foreign language (oral and written business communication)

UK-4.3: Translates the official and professional texts from a foreign language into Russian and from Russian into a foreign language for the purpose of business communication

By the end of the course students must:

| | |
|----------------------------|--|
| 3.1 Know : | |
| 3.1.1 | principles of presenting the results of academic activities in oral and written forms in business communication in the state language of the Russian Federation and a foreign language; features of the translation of official and professional texts from the native language into Russian and from Russian into the native language for the purpose of business communication; features of the competent use of lexical means of the Russian language as a foreign language in the main types of speech activity; features of the competent use of grammatical, word-building and syntactic means of the language in the main types of speech activity, the main ways of word formation and grammatical categories, types of sentences, types of syntactic communication at the level of phrases and sentences, spelling and punctuation rules. |
| 3.2 Be able to : | |
| 3.2.1 | present the results of academic activities in oral and written forms in business communication in the state language of the Russian Federation and a foreign language; translate official and professional texts from the native language into Russian and from Russian into the native language for the purpose of business communication; competently use the lexical means of the Russian language as a foreign language in the main types of speech activity, use the skills of paraphrasing, the phenomena of synonymy, antonymy, homonymy and polysemy, use the idiomatic language; competently use the grammatical, word-forming and syntactic means of the language in the main types of speech activity, the main methods of word formation and grammatical categories, types of sentences, types of syntactic communication at the level of phrases and sentences, spelling and punctuation rules. |
| 3.3 Have skills of: | |
| 3.3.1 | presenting the results of academic activities in oral and written forms in business communication in the state language of the Russian Federation and a foreign language; skills in translating official and professional texts from the native language into Russian and from Russian into the native language for the purpose of business communication; lexical means of the Russian language as a foreign language in the main types of speech activity, paraphrasing skills, the phenomena of synonymy, antonymy, homonymy and polysemy, language idioms; grammatical, word-building and syntactic means of the language in the main types of speech activity, the main ways of word formation and grammatical categories, types of sentences, types of syntactic connection at the level of phrases and sentences, spelling and punctuation rules. |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic | Academic hours | Competences | Literature | Interactive |
|------------|--|-----------------|----------------|----------------------------|---|-------------|
| | Section 1. Term 1 | | | | | |
| 1.1 | Class 1 __ / pr / | 1 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 1.2 | Class 1 __ / Self-study / | 1 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 1.3 | Class 2. Phonetics. Greeting phrases. Nominative case. Genus name noun. / pr / | 1 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |

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| 1.4 | Class 2. Phonetics. Greeting phrases. Nominative case. Genus name noun. / Self-study / | 1 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.5 | Class 3. Phonetics. Question "Where?". Personal pronouns. Professions. / pr / | 1 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.6 | Class 3. Phonetics. Question "Where?". Personal pronouns. Professions. / Selfstudy / | 1 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.7 | Class 4. Phonetics. Interrogative and affirmative intonation. Word stress. Verbs of 1 conjugation. Many / Few. / pr / | 1 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.8 | Class 4. Phonetics. Interrogative and affirmative intonation. Word stress. Verbs of 1 conjugation. Many / Few. / Self-study/ | 1 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.9 | Class 5. Phonetics. Verbs of 1 conjugation. Verbs 2 conjugations. Here / there. / pr / | 1 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.10 | Class 5. Phonetics. Verbs of 1 conjugation. Verbs 2 conjugations. Here / there. / Selfstudy / | 1 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.11 | Class 6 Personal pronouns in the accusative case. "My name is...". Dating phrases. / pr / | 1 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |

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| 1.12 | Class 6 Personal pronouns in the accusative case. "My name is...". Dating phrases. /Self-study / | 1 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.13 | Class 7 Hard/soft consonants. The verb " to love ". / pr / | 1 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.14 | Class 7 Hard/soft consonants. The verb " to love ". / Self-study / | 1 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.15 | Class 8 voiceless/voiced consonants. Stunning voiced consonants at the end of a word. plural number name noun. / pr / | 1 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.16 | Class 8 voiceless/voiced consonants. Stunning voiced consonants at the end of a word. plural number name noun. / Selfstudy / | 1 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.17 | Class 9 Hissing consonants. Intonation. "Who has the + nominative case?". Also / else. Personal things. / pr / | 1 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.18 | Class 9 Hissing consonants. Intonation. "Who has the + nominative case?". Also / else. Personal things. / Self-study / | 1 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.19 | Class 10 Possessive pronouns. Personal information. Family. plural number words denoting _ members families. / pr / | 1 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.20 | Class 10 Possessive pronouns. Personal information. Family. plural number words denoting _ members families. / Self-study / | 1 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |

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| 1.21 | Class 11 In/on. countries and cities. "Where is the + nominative case?". The verb is "to live". / pr / | 1 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.22 | Class 11 In/on. countries and cities. "Where is the + nominative case?". The verb is "to live". / Self-study / | 1 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.23 | Class 12 Adverbs. Past tense of verbs. Already / more. / pr / | 1 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.24 | Class 12 Adverbs. Past tense of verbs. Already / more. / Self-study / | 1 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.25 | Class 13 "I have + where ...". Adverbs frequency. / pr / | 1 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.26 | Class 13 "I have + where ...". Adverbs frequency. / Self-study / | 1 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.27 | Class 14 The verb "want". "Possible + accusative." Days of the week. / pr / | 1 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.28 | Class 14 The verb "want". "Possible + accusative." Days of the week. /Self-study / | 1 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 1.29 | Credit | 1 | 0 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| Section 2. Term 2 | | | | | |

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| 2.2 | Class 15 Seasons and months. Climate and weather . / Self-study / | 2 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 2.3 | Class 16 "It's time + infinitive". "Enough + infinitive." Parts of the day. Adverbs of frequency. / pr / | 2 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 2.4 | Class 16 "It's time + infinitive". "Enough + infinitive." Parts of the day. Adverbs of frequency. /Self-study / | 2 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 2.5 | Class 17 Verbs with the suffix "-va-". The verbs "sleep" and "cook". Perfect day. / pr / | 2 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 2.6 | Class 17 Verbs with the suffix "-va-". The verbs "sleep" and "cook". Perfect day. / Self-study / | 2 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 2.7 | Class 18 Greeting phrases. Adverbsamplifiers. / pr / | 2 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 2.8 | Class 18 Greeting phrases. Adverbsamplifiers. / Self-study / | 2 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 2.9 | Class 19 Terminational words. denominative adjectives. / pr / | 2 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |
| 2.10 | Class 19 inTerminational words. denominative adjectives. / Self-study / | 2 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 |

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|------|--|---|---|----------------------------|---|--|
| 2.11 | Class 20 Which one? / How? / pr / | 2 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 2.12 | Class 20 Which one? / How? /Self-study / | 2 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 2.13 | Class 21 The verbs "to be able" and "to be able". / pr / | 2 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 2.14 | Class 21 The verbs "to be able" and "to be able". /Self-study / | 2 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 2.15 | Class 22 Russian/Russian. Russian / in Russian. / pr / | 2 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 2.16 | Class 22 Russian/Russian. Russian / in Russian. /Self-study / | 2 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 2.17 | Class 23 Proposed case. Preposition "about" / "about" / "about". / pr / | 2 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 2.18 | Class 23 Proposed case. Preposition "about" / "about" / "about". /Self-study / | 2 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 2.19 | Class 24 The verbs "drink", "take", "eat". / pr / | 2 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |

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| 2.20 | Class 24 The verbs "drink", "take", "eat". / Self-study / | 2 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 2.21 | Class 25 The verb "search". Colors. Character traits. pointing pronouns. / pr / | 2 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 2.22 | Class 25 The verb "search". Colors. Character traits. pointing pronouns. / Selfstudy / | 2 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 2.23 | Class 26 Shoes. The verb "to wear". / pr / | 2 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 2.24 | Class 26 Shoes. The verb "to wear". /Selfstudy / | 2 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 2.25 | Class 27 Verbs with the suffix "-ova-". "Me interested in ...". / pr / | 2 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 2.26 | Class 27 Verbs with the suffix "-ova-". "Me interested in ...". / Self-study / | 2 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 2.27 | Class 28 Ordinals. "Where is...?". House, apartment. / pr / | 2 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 2.28 | Class 28 Ordinals. "Where is...?". House, apartment. / Self-study / | 2 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |

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|--------------------------|--|---|---|----------------------------|---|--------------|
| 2.29 | Class 29 _ / pr / | 2 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 2.30 | Class 29 _ / Self-study / | 2 | 3 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 2.31 | Class 30 / pr / | 2 | 2 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | Control work |
| 2.32 | Class 30 /Self-study / | 2 | 3 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 2.33 | Credit | 2 | 0 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | Credit |
| Section 3. Term 3 | | | | | | |
| 3.1 | Class 31 _ verbs . / pr / | 3 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.2 | Class 31 _ verbs . / Self-study / | 3 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.3 | Class 32 Vessels and contents. "At + who?". "No + whom? / What?. / Pr / | 3 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.4 | Class 32 Vessels and contents. "At + who?". "No + who? / what?. / Self-study / | 3 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.5 | Class 33 Prepositions. / pr / | 3 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |

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|------|--|---|---|----------------------------|---|--|
| 3.6 | Class 33 Prepositions. /Self-study / | 3 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.7 | Class 34 Hotel. Own / own / own / own. / pr / | 3 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.8 | Class 34 Hotel. Own / own / own / own. /Self-study / | 3 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.9 | Class 35 Types of transport. Origin: from + genitive. From/s. Perfect vacation. / pr / | 3 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.10 | Class 35 Types of transport. Origin: from + genitive. From/s. Perfect vacation. /Selfstudy / | 3 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.11 | Class 36 / pr / | 3 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.12 | Class 36 / Self-study / | 3 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.13 | Class 37 Prices. "What is the price?". Time . Number phone . / pr / | 3 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.14 | Class 37 Prices. "What is the price?". Time . Number phone . / Self-study / | 3 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.15 | Class 38 Dates. Holidays . / pr / | 3 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |

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| 3.16 | Class 38 Dates. Holidays . / Self-study / | 3 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.17 | Class 39 Russian culture. Union "which". Why do people study Russian? / pr / | 3 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.18 | Class 39 Russian culture. Union "which". Why do people study Russian? / Self-study / | 3 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.19 | Class 40 Character. / pr / | 3 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.20 | Class 40 Character. / Self-study / | 3 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.21 | Class 41 Pairs of verbs. Prefix "po-" with verbs. / pr / | 3 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.22 | Class 41 Pairs of verbs. Prefix "po-" with verbs. /Self-study / | 3 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.23 | Class 42 Self-study / pr / | 3 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | Control work |

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| 3.24 | Class 42 Self-study / Self-study / | 3 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 3.25 | Credit | 3 | 0 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | Credit |
| Section 4. Term 4 | | | | | | |

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|-----|---|---|---|----------------------------|---|--|
| 4.1 | Class 43 Irregular forms. / pr / | 4 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 4.2 | Class 43 Irregular forms. / Self-study / | 4 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 4.3 | Class 44 "How old are you?". / pr / | 4 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 4.4 | Class 44 "How old are you?". / Self-study / | 4 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 4.5 | Class 45 "I like". / pr / | 4 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 4.6 | Class 45 "I like". / Self-study / | 4 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 4.7 | Class 46 Health. "My ____ hurts...". / pr / | 4 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 4.8 | Class 46 Health. "My ____ hurts...". /Selfstudy / | 4 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |

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|------|---|---|---|----------------------------|---|--|
| 4.9 | Class 47 "On + dative case". "Don't + imperfect view." Birthday. / pr / | 4 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 4.10 | Class 47 "On + dative case". "Don't + imperfect view." Birthday. / Self-study / | 4 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |

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| 4.11 | Class 48 "Not + imperfective imperative". / pr / | 4 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 4.12 | Class 48 "Not + imperfective imperative". / Self-study / | 4 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 4.13 | Class 49 Why? / To + infinitive. To + past time. / pr / | 4 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 4.14 | Class 49 Why? / To + infinitive. To + past time. / Self-study / | 4 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 4.15 | Class 50 To be/become/work + who? Interested in / interested in / doing + what? / pr / | 4 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 4.16 | Class 50 To be/become/work + who? Interested in / interested in / doing + what? / Self-study / | 4 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 4.17 | Class 51 Prepositions of the prepositional case. / pr / | 4 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |

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| 4.18 | Class 51 Prepositions of the prepositional case. / Self-study / | 4 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 4.19 | Class 52 Route. / pr / | 4 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |

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| 4.20 | Class 52 Route. / Self-study / | 4 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 4.21 | Class 53 / pr / | 4 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 4.22 | Class 53 /Self-study / | 4 | 6 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 4.23 | Class 54 "Looking + what, ...". "Depend on + genitive". " Many / few + where, ...". The prefix " neither- ". / pr / | 4 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | Control work |
| 4.24 | Class 54 "Looking + what, ...". "Depend on + genitive". " Many / few + where, ...". The prefix " neither- ". / Self-study / | 4 | 4 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | |
| 4.25 | Credit with mark | 4 | 0 | UK-4.1 UK-4.2 UK-4.3 | 1.1; 1.2; 1.3; 1.4; 2.1; 2.2 2.3; 2.4; 3.1; 3.2 E1 E2 E3 E4 | Credit with mark |

Foreign Language (English)

| 1. COURSE OBJECTIVES | |
|----------------------|---|
| 1.1 | The aim of the course is to reach a level sufficient for practical use of foreign language in future professional activity; to develop active writing and speaking skills via the functional and communicative methods and while taking the cultural specifics of the countries in which the language is spoken into account; to expand and systematize the lexicon; to study and systematize grammatical structures and stylistic features for various language skills; to introduce and learn to use historical and cultural realia and etiquette in his/her professional and communicative practice. |
| 1.2 | The objectives of the course are: |
| 1.3 | - to develop knowledge of language means and improve language skills in aspects such as phonetics, vocabulary, grammar; |
| 1.4 | - to enrich terminological vocabulary; |
| 1.5 | - to improve oral speech skills in English within the scope of intercultural and professional communication; |
| 1.6 | - to improve skills of using of intercultural and professional sources in English. |

| 2. COURSE OVERVIEW | |
|--------------------------------|--------------------------------|
| Course code (in curriculum): | B1.O.01 |
| 2.1 Assumed background: | |
| 2.1.1 | Foreign Language School Course |

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|------------|---|
| 2.2 | Post-requisite courses and practice: |
| 2.2.1 | Latin |
| 2.2.2 | Educational Practice, Research Work (obtaining primary skills of research work) |
| 2.2.3 | Foreign Language in the Professional Sphere (Russian Language) |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

UC-4.2: Presents the results of academic activity in oral and written forms in business communication using the state language of the Russian Federation and a foreign language

UC-4.3: Translates official and professional texts from a foreign language into Russian and from Russian into a foreign language for the purpose of business communication

By the end of the course students must:

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| 3.1 | Know: |
| 3.1.1 | - phonetic phenomena, grammatical forms, rules of word formations, lexical units, terminology; |
| 3.1.2 | - educational and professional information of written and oral texts with the subsequent its processing and a statement in oral and written forms; |
| 3.1.3 | - communication patterns (educational and professional); |
| 3.1.4 | - rules of professional ethics in professional communication; |
| 3.1.5 | - algorithm of essay and annotation of professional-oriented texts; |
| 3.1.6 | - basics of public speech (oral presentation, report). |
| 3.2 | Be able to: |
| 3.2.1 | - use Russian and foreign language in oral and written forms to solve the problems of professional activity in interpersonal communication. |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic | Academic hours | Competences | Literature | Interactive |
|------------|--|-----------------|----------------|---------------|---|-------------|
| | Section 1. Introduction to Medicine | year | | | | |
| 1.1 | History of Medicine Grammar: Types of sentences /Pr/ | 1 | 8 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 | |
| 1.2 | History of Medicine Grammar: Types of sentences /Self-study/ | 1 | 10 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 | |
| 1.3 | Basic Biology Grammar: Present Tenses (to be, Present Simple, Present Continuous, Present Perfect) /Pr/ | 1 | 8 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 | |
| 1.4 | Basic Biology Present Tenses (to be, Present Simple, Present Continuous, Present Perfect) /Self-study/ | 1 | 10 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 | |
| 1.5 | Medical Organisations in the Russian Federation Grammar: Past Tenses (Past Simple, Past Continuous) /Pr/ | 1 | 8 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 | |

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| 1.6 | Medical Organisations in the Russian Federation Grammar: Past Tenses (Past Simple, Past Continuous) /Self-study/ | 1 | 10 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 |
| 1.7 | Modern Medicine: the Most Important Inventions Grammar: Future Simple, to be going to /Pr/ | 1 | 8 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 |
| 1.8 | Modern Medicine: the Most Important Inventions Grammar: Future Simple, to be going to /Self-study/ | 1 | 10 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 |
| 1.9 | /Test./ | 1 | 0 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 |
| 1.10 | /Credit/ | 1 | 0 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 |
| Section 2. Human Anatomy and Physiology | | | | | |

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|-----|---|---|----|---------------|---|
| 2.1 | Basic Human Systems and their Functions Grammar: Nouns, Articles /Pr/ | 2 | 8 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 |
| 2.2 | Basic Human Systems and their Functions Grammar: Nouns, Articles /Self-study/ | 2 | 10 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 |
| 2.3 | Anatomy and Physiology of the Skeletal System Grammar: Pronouns /Pr/ | 2 | 8 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 |
| 2.4 | Anatomy and Physiology of the Skeletal System Grammar: Pronouns /Self-study/ | 2 | 10 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 |
| 2.5 | Anatomy and Physiology of the Muscular System Grammar: Adverb /Pr/ | 2 | 8 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 |
| 2.6 | Anatomy and Physiology of the Muscular System Grammar: Adverb /Self-study/ | 2 | 10 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 |
| 2.7 | Anatomy and Physiology of the Cardiovascular System Grammar: Passive Voice /Pr/ | 2 | 8 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 |

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| 2.8 | Anatomy and Physiology of the Cardiovascular System Grammar: Passive Voice /Self-study/ | 2 | 10 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 | |
| 2.9 | /Test./ | 2 | 0 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 | |
| 2.10 | /Credit/ | 2 | 0 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 | |
| Section 3. Human Anatomy and Physiology | | | | | | |
| 3.1 | Anatomy and Physiology of the Gastrointestinal System Grammar: Modal Verbs /Pr/ | 3 | 8 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 | |
| 3.2 | Anatomy and Physiology of the Gastrointestinal System Grammar: Modal Verbs /Self-study/ | 3 | 10 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 | |

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| 3.3 | Anatomy and Physiology of the Respiratory System Grammar: Numerals /Pr/ | 3 | 8 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 |
| 3.4 | Anatomy and Physiology of the Respiratory System Grammar: Numerals /Self-study/ | 3 | 10 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 |
| 3.5 | Anatomy and Physiology of the Urinary System Grammar: Subjunctive Sentences /Pr/ | 3 | 8 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 |
| 3.6 | Anatomy and Physiology of the Urinary System Grammar: Subjunctive Sentences /Self-study/ | 3 | 10 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 |
| 3.7 | Anatomy and Physiology of the Reproductive System Grammar: Sequence of Tenses /Pr/ | 3 | 8 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 |
| 3.8 | Anatomy and Physiology of the Reproductive System Grammar: Sequence of Tenses /Self-study/ | 3 | 10 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 I3.2 I3.3 E1 E2 E3 |

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|---|---|---|----|---------------|---|--|
| 3.9 | /Test./ | 3 | 0 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 13.2 13.3 E1 E2 E3 | |
| 3.10 | /Credit/ | 3 | 0 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 13.2 13.3 E1 E2 E3 | |
| Section 4. Section 4. Professional Communication | | | | | | |
| 4.1 | Taking a Clinical History Grammar: Non-finite Forms of Verbs (Infinitive) /Pr/ | 4 | 8 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 13.2 13.3 E1 E2 E3 | |
| 4.2 | Taking a Clinical History Grammar: Non-finite Forms of Verbs (Infinitive) /Selfstudy/ | 4 | 10 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 13.2 13.3 E1 E2 E3 | |
| 4.3 | Patient Examination Grammar: Non-finite Forms of Verbs (Gerund) /Pr/ | 4 | 8 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 13.2 13.3 E1 E2 E3 | |
| 4.4 | Patient Examination Grammar: Non-finite Forms of Verbs (Gerund) /Self-study/ | 4 | 10 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 13.2 13.3 E1 E2 E3 | |

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|-----|---|---|----|---------------|--|--|
| 4.5 | Special Examination and Laboratory Findings Grammar: Non-finite Forms of Verbs (Participles) /Pr/ | 4 | 8 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 13.2 13.3 E1 E2 E3 | |
| 4.6 | Special Examination and Laboratory Findings Grammar: Non-finite Forms of Verbs (Participles) /Self-study/ | 4 | 10 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 13.2 13.3 E1 E2 E3 | |
| 4.7 | Making Diagnosis and Treatment Planning Grammar: Revision /Pr/ | 4 | 8 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 13.2 13.3 E1 E2 E3 | |
| 4.8 | Making Diagnosis and Treatment Planning Grammar: Revision /Self-study/ | 4 | 10 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 13.2 13.3 E1 E2 E3 | |
| 4.9 | /Test./ | 4 | 0 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 13.2 13.3 E1 E2 E3 | |

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|------|---------------|---|---|---------------|--|
| 4.10 | /Credit/Mark/ | 4 | 0 | UC-4.2 UC-4.3 | L1.1 L1.2 L2.1 L2.2 L3.1 L3.2 L3.3 E1 E2 E3 |
|------|---------------|---|---|---------------|--|

Game sports

| 1. COURSE OBJECTIVES | |
|----------------------|--|
| 1.1 | The aim of the course is to acquire practical experience of applying a variety of means and methods of physical culture and sport to preserve and strengthen health, maintain a proper level of physical fitness as a condition for ensuring full social and professional activity. |

| 2. COURSE OVERVIEW | |
|-----------------------------|---|
| Course code (in curriculum) | Б1.О.03.ДВ.01 |
| 2.1 | Assumed background: Basic level of knowledge in high school subjects "Physical Education", "Basics of Life Safety" |
| 2.2 | Post-requisite courses and practice: |

| 3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE) | |
|---|--|
| UC-7.3 - Maintains the proper level of physical fitness to ensure full-fledged social and professional activity, regularly engaging in physical exercises | |

By the end of the course student must:

| | |
|-------|--|
| 3.1 | Know: |
| 3.1.1 | the basics of exercise technique and methods of their application to maintain a proper level of physical fitness |
| 3.2 | Be able to: |
| 3.2.1 | apply physical exercises in the process of regular exercise in various types of motor activities |
| 3.3 | Have skills of: |
| 3.3.1 | maintaining an adequate level of physical fitness to ensure full social and professional activity |

| 4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE) | | | | | | |
|--|---|----------------------|----------------|-------------|---|-------------|
| Class Code | Topics/Class type | Term / Academic year | Academic hours | Competences | Literature | Interactive |
| Section 1. Sports orientation stage | | | | | | |
| 1.1 | Propaedeutics in sports, types of physical activity /pr/ | 2 | 40 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. | |
| 1.2 | General physical training /pr/ | 2 | 8 | UC-7.3 | 1.1E1 , 1.2, 1.3, 1.4, E2 E3 E4 E5 2.1, 2.2. E1 E2 E3 E4 E5 | |
| 1.3 | General physical training /Self-study/ | 2 | 8 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. 1 2 3 4 5 | |
| 1.4 | Credit | 2 | 0 | UC-7.3 | E E E E | |
| Section 2. Stage of sport specialisation | | | | | | |
| 2.1 | The history of the emergence and current state of development of the sport /Self-study/ | 3 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 | |

| | | | | | | |
|-----|--|---|----|--------|---|--|
| 2.2 | Technical and tactical training by sport /pr/ | 3 | 32 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. | |
| 2.3 | General and special physical training for the type of sport /pr/ | 3 | 12 | UC-7.3 | 1.1E1 , 1.2, 1.3, 1.4, E2 E3 E4 E5 2.1, 2.2. E1 E2 E3 E4 E5 | |
| 2.4 | Integral training by sport /pr/ | 3 | 16 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. 1 2 3 4 5 | |
| 2.5 | Structure and content of a training session in a sport discipline /pr/ | 3 | 2 | UC-7.3 | 1.1 ^E , 1.2, 1.3, 1.4, E E E E 2.1, 2.2. 1 2 3 4 5 | |
| 2.6 | Fundamentals of refereeing competitions in a sport /pr/ | 3 | 2 | UC-7.3 | E E E E E 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. 1 2 3 4 5 | |
| 2.7 | Fundamentals of refereeing competitions in a sport /Self-study/ | 3 | 2 | UC-7.3 | 1.1 ^E , 1.2, 1.3, 1.4, ^E E E E E 2.1, 2.2. E1 E2 E3 E4 E5 | |
| 2.8 | Credit | 3 | 0 | UC-7.3 | | |

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|--|--|---|----|--------|---|--|
| 2.9 | Technical and tactical training by sport /pr/ | 4 | 32 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 | |
| 2.10 | General and special physical training for the type of sport /pr/ | 4 | 12 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 | |
| 2.11 | Integral training by sport /pr/ | 4 | 16 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 | |
| 2.12 | Structure and content of a training session in a sport discipline /pr/ | 4 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 | |
| 2.13 | Structure and content of a training session in a sport discipline /Self-study/ | 4 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 | |
| 2.14 | General and special physical training for the type of sport /pr/ | 4 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 | |
| 2.15 | General and special physical training for the type of sport /Self-study/ | 4 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 | |
| 2.16 | Credit | 4 | 0 | UC-7.3 | | |
| Section 3. Sports improvement stage | | | | | | |
| 3.1 | Technical and tactical training by sport /pr/ | 5 | 22 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 | |
| 3.2 | Specialised physical training /pr/ | 5 | 12 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 | |
| 3.3 | General physical training /pr/ | 5 | 12 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 | |
| 3.4 | Integral training by sport /pr/ | 5 | 14 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 | |

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|------|--|---|----|--------|---|
| 3.5 | Organization and methodology of competitions in a sport. Refereeing of competitions in a sport /pr/ | 5 | 4 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 |
| 3.6 | Organization and methodology of competitions in a sport. Refereeing of competitions in a sport /Self-study/ | 5 | 4 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 |
| 3.7 | Credit | 5 | 0 | UC-7.3 | |
| 3.8 | Technical and tactical training by sport /pr/ | 6 | 22 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 |
| 3.9 | Special physical training by sport /pr/ | 6 | 8 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 |
| 3.10 | General physical training /pr/ | 6 | 8 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 |
| 3.11 | Integral training by sport /pr/ | 6 | 16 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 |
| 3.12 | Organization and methodology of competitions in a sport. Refereeing of competitions in a sport /pr/ | 6 | 4 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 |
| 3.13 | Organization and methods of conducting a training session in a type of sport /pr/ | 6 | 4 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 |
| 3.14 | Requirements for planning and control of independent physical culture and sports activities of different target orientation /pr/ | 6 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 |
| 3.15 | Requirements for planning and control of independent physical culture and sports activities of different target orientation /Self-study/ | 6 | 4 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2. E1 E2 E3 E4 E5 |
| 3.16 | Credit | 6 | 0 | UC-7.3 | |

General physical training

1. COURSE OBJECTIVES

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|-----|--|
| 1.1 | The aim of the course is to acquire practical experience of applying a variety of means and methods of physical culture and sport to preserve and strengthen health, maintain a proper level of physical fitness as a condition for ensuring full social and professional activity. |
|-----|--|

2. COURSE OVERVIEW

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|-----------------------------|---|
| Course code (in curriculum) | Б1.О.03.ДВ.01 |
| 2.1 | Assumed background: Basic level of knowledge in high school subjects "Physical |
| 2.2 | Education", "Basics of Life Safety" Post-requisite courses and practice: |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

| | |
|--|--|
| UC-7.3 - Maintains the proper level of physical fitness to ensure full-fledged social and professional activity, regularly engaging in physical exercises | |
| By the end of the course student must: | |
| 3.1 | Know: |
| 3.1.1 | the basics of exercise technique and methods of their application to maintain a proper level of physical fitness |
| 3.2 | Be able to: |
| 3.2.1 | apply physical exercises in the process of regular exercise in various types of motor activities |

| | |
|------------|---|
| 3.3 | Have skills of: |
| 3.3.1 | maintaining an adequate level of physical fitness to ensure full social and professional activity |

| 4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE) | | | | | | |
|--|---|----------------------|----------------|-------------|---|-------------|
| Class Code | Topics/Class type | Term / Academic year | Academic hours | Competences | Literature | Interactive |
| | Section 1. Sports orientation stage | | | | | |
| 1.1 | Propaedeutics in sports, types of physical activity /pr/ | 2 | 40 | UC-7.3 | 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5. E1 E2 E3 E4 E5 | |
| 1.2 | General physical training /pr/ | 2 | 8 | UC-7.3 | 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5. E1 E2 E3 E4 E5 | |
| 1.3 | General physical training /Self-study/ | 2 | 8 | UC-7.3 | 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5. E1 E2 E3 E4 E5 | |
| 1.4 | Credit | 2 | 0 | UC-7.3 | | |
| | Section 2. Stage of specialisation in the form of motor activity | | | | | |
| 2.1 | History of emergence and current state of development of the motor activity type /Self-study/ | 3 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5. E1 E2 E3 E4 E5 | |
| 2.2 | Technique of performing physical exercises of different target orientation /pr/ | 3 | 8 | UC-7.3 | 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5. E1 E2 E3 E4 E5 | |
| 2.3 | Technique of performing physical exercises of different target orientation /Self-study/ | 3 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5. E1 E2 E3 E4 E5 | |
| 2.4 | General physical training /pr/ | 3 | 52 | UC-7.3 | 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5. E1 E2 E3 E4 E5 | |
| 2.5 | Structure and content of physical exercise classes of different target orientation /pr/ | 3 | 4 | UC-7.3 | 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5. E1 E2 E3 E4 E5 | |
| 2.6 | Credit | 3 | 0 | UC-7.3 | | |

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|------|---|---|----|--------|---|--|
| 2.7 | Organization and methodology of physical exercise classes of different target orientation /pr/ | 4 | 6 | UC-7.3 | 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5. E1 E2 E3 E4 E5 | |
| 2.8 | Organization and methodology of physical exercise classes of different target orientation /Self-study/ | 4 | 4 | UC-7.3 | 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5. E1 E2 E3 E4 E5 | |
| 2.9 | General physical training /pr/ | 4 | 58 | UC-7.3 | 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5. E1 E2 E3 E4 E5 | |
| 2.10 | Credit | 4 | 0 | UC-7.3 | | |
| | Section 3. Physical improvement stage | | | | | |
| 3.1 | Basics of rational nutrition in the process of physical training and health-improving activities /Self-study/ | 5 | 4 | UC-7.3 | 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5. E1 E2 E3 E4 E5 | |
| 3.2 | Organization and methodology of physical exercise classes of different target orientation /pr/ | 5 | 12 | UC-7.3 | 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5. E1 E2 E3 E4 E5 | |
| 3.3 | General physical training /pr/ | 5 | 52 | UC-7.3 | 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5. E1 E2 E3 E4 E5 | |
| 3.4 | Credit | 5 | 0 | UC-7.3 | | |

| | | | | | |
|-----|--|---|----|--------|---|
| 3.5 | Organization and methodology of physical exercise classes of different target orientation /pr/ | 6 | 6 | UC-7.3 | 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5. E1 E2 E3 E4 E5 |
| 3.6 | General and special physical training /pr/ | 6 | 52 | UC-7.3 | 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5. E1 E2 E3 E4 E5 |
| 3.7 | Requirements for planning and control of independent physical culture and sports activities of different target orientation /pr/ | 6 | 6 | UC-7.3 | 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5. E1 E2 E3 E4 E5 |
| 3.8 | Requirements for planning and control of independent physical culture and sports activities of different target orientation /Self-study/ | 6 | 4 | UC-7.3 | 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5. E1 E2 E3 E4 E5 |
| 3.9 | Credit | 6 | 0 | UC-7.3 | |

HISTOLOGY, EMBRYOLOGY, CYTOLOGY

| 1. COURSE OBJECTIVES | |
|--|--|
| 1.1 | <p>The aim of the course of histology, embryology, and cytology in higher medical schools is to master the knowledge of the microscopic functional morphology and development of the cellular, tissue and organ systems of the human body. It provides the basis for studying clinical disciplines and contributes to the formation of medical thinking.</p> <p>The objectives of mastering the discipline "Histology, embryology, cytology" are:</p> <ul style="list-style-type: none"> - to study general and specific structural and functional properties of body cells and tissues and their patterns of embryonic and post-embryonic development; - to study the histo-functional characteristics of main body systems, patterns of their embryonic development, as well as functional, age-related and protective-adaptive changes in organs and their structural elements; - to form students' skills in microscopic examination of histological specimens. |
| 2. COURSE OVERVIEW | |
| Course code (in curriculum) | B1.O.04 |
| 2.1 | <p>Assumed background:</p> <p>Human anatomy</p> <p>Biology</p> <p>Latin</p> <p>Chemistry</p> <p>Human anatomy</p> |
| 2.2 | <p>Post requisites:</p> <p>Immunology</p> <p>Pathologic Anatomy</p> <p>Clinical Pathologic Anatomy</p> <p>Dermatovenereology</p> <p>Neurology, Medical Genetics, Neurosurgery</p> <p>Otorhinolaryngology</p> <p>Ophthalmology</p> <p>Obstetrics and Gynecology</p> <p>Pediatrics</p> <p>Hospital Therapy, Endocrinology</p> <p>Dentistry</p> <p>Oncology, X-Ray Therapy</p> <p>Traumatology and Orthopedics</p> <p>Clinical Anatomy</p> <p>Clinical cytology and biochemistry</p> |
| 3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE) | |

GPC-5.1 Demonstrates knowledge and understanding in the sections of fundamental medicine - anatomical, histological structures (anatomy of the human body, tissue structure of organs and their microscopic differentiation), physiological processes (human physiology, mechanisms of regulation of homeostasis, functional systems of the body in norm

GPC-5.2 Demonstrates knowledge of cell structure, phases of cell division, theoretical foundations of genetics, understanding of the biology of insects and helminths, their role in the etiology of human diseases

GPC-5.6. Demonstrates knowledge and skills to identify: the structure of the human body, morphological macro- and microscopic parameters in pathology; diagnose criteria of general pathological pathophysiological processes in various nosologies; on the basis of which he/she possesses skills in topographic anatomy and is able to solve questions of operative surgery

By the end of the course students must:

| | |
|------------------------|--|
| 3.1 know: | |
| | safety and operating instructions for work in physical, chemical, biological laboratories with reagents, equipment, animals; |
| | chemical and biological essence of the processes occurring in a living organisms at the molecular, cellular, tissue and organ levels; |
| | the basic development and functioning patterns of the organisms on the basis of structural organization of their cells, tissues and organs; |
| | histo-functional peculiarities of tissue elements and their research methods; |
| | the structure, topography and development of cells, tissues, organs and systems of the organism in correlation with their function, peculiarities of the organismic and population life organization levels; |
| | functional systems of the human body, their regulation and self-regulation when exposed to the external environment; |
| | the structure and functions of the human immune system, its age-related peculiarities, cellular-molecular development and functioning mechanisms of the immune system, the main stages, types, genetic control of the immune response; |
| | microscopic structure, functions and sources of cell development; |
| | tissue and microscopic structure, functions and sources of organ development; |
| | the main stages of embryonic development and their characteristics; |
| | critical periods of human embryonic development; |
| | age-related peculiarities of tissue and organ structure. |
| 3.2 be able to: | |
| | use educational, scientific, popular scientific literature and the Internet for professional activity; |
| | use physical, chemical and biological equipment; |
| | work with magnifying equipment (microscopes, optical and simple lenses); |
| | make a histophysiological assessment of the state of various cellular, tissue and organ structures; |
| | explain the nature of the deviations in the development pattern which can lead to the variants of abnormalities and malformations; |
| | interpret the results of the most common functional diagnostics methods used to detect the pathology of blood, heart and blood vessels, lungs, liver, kidneys and other organs and systems. |
| | draw histological and embryological specimens and to designate the structural elements in them; |
| | examine histological and embryological specimens with the microscope; |
| | analyse histological and embryological specimens; |
| | examine electron microphotographs of cells and non-cellular structures; |
| | prepare oral and written description of the specimens; |
| | apply the knowledge of histology in practice for solving standard problems in the professional activity of a doctor (solving situational tasks). |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Notes |
|------------|------------------------------------|----------------------|----------------|-------------------------------|---------------------------|-------|
| | 1.1 Cell structure /lecture | 2 | 2 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |

| | | | | | | |
|--|--|---|---|-------------------------------|--|--|
| | 1.2 Microscopy, Cell structure /practical classes | 2 | 6 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 1.3 Microscopy, Cell structure /self-study | 2 | 3 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 2.1 Cell Nucleus, DNA, Cell Division /lecture | 2 | 2 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 2.2 Cell Nucleus, DNA, Cell Division /practical classes | 2 | 6 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 2.3 Cell Nucleus, DNA, Cell Division /self-study | 2 | 3 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 3.1 Epithelial Tissue /lecture | 2 | 2 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 3.2 Epithelial Tissue /practical classes | 2 | 6 | GPC-5.1 GPC-5.2 GPC-5.6 | LL1, L2, L31, L2, L3 E1 E2 E3 E4 | |
| | 3.3 Epithelial Tissue /self-study | 2 | 3 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |

| | | | | | | |
|--|--|---|---|-------------------------------|--|--|
| | 4.1 Glands /lecture | 2 | 2 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 4.2 Glands /practical classes | 2 | 6 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 4.3 Glands /self-study | 2 | 2 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 5.1 Connective Tissue /lecture | 2 | 2 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 5.2 Connective Tissue I /practical classes | 2 | 5 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 5.3 Connective Tissue I /practical classes | 2 | 2 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 5.4 Connective Tissue II /practical classes | 2 | 5 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 5.5 Connective Tissue II /practical classes | 2 | 1 | GPC-5.1 GPC-5.2 GPC-5.6 | LL1, L2, L31, L2, L3 E1 E2 E3 E4 | |

| | | | | | | |
|--|--|---|---|-------------------------------|---------------------------|--|
| | 6.1 Cartilage and Bone /lecture | 2 | 2 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 6.2 Cartilage and Bone /practical classes | 2 | 6 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 6.3 Cartilage and Bone /self-study | 2 | 3 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 7.1 Muscular Tissue /lecture | 2 | 1 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 7.2 Muscular Tissue /practical classes | 2 | 6 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 7.3 Muscular Tissue /self-study | 2 | 3 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 8.1 Lymphatics and Lymphoid Tissue /lecture | 2 | 1 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 8.2 Lymphatics and Lymphoid Tissue /practical classes | 2 | 6 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 8.3 Lymphatics and Lymphoid Tissue /self-study | 2 | 3 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |

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|--|---|---|---|-------------------------------|---------------------------|--------------|
| | 9.1 Nervous Tissue /lecture | 2 | 1 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 9.2 Nervous Tissue /practical classes | 2 | 6 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 9.3 Nervous Tissue /self-study | 2 | 3 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 10.1 Integumentary System /lecture | 2 | 1 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 10.2 Integumentary System /practical classes | 2 | 6 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 10.3 Integumentary System /self-study | 2 | 2 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | Control work /Control / | 2 | 0 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | Control work |

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|--|--|---|---|-------------------------------|-------------------------------|--|
| | Credit | 2 | 0 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 11.1 Cardiovascular System /lecture | 3 | 2 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 11.2 Cardiovascular System /practical classes | 3 | 6 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 11.3 Cardiovascular System /self-study | 3 | 1 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 12.1 Respiratory System /lecture | 3 | 2 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 12.2 Respiratory System /practical classes | 3 | 6 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 12.3 Respiratory System /self-study | 3 | 1 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 13.1 Digestive system I /lecture | 3 | 2 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 13.2 Digestive system I /practical classes | 3 | 6 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 13.3 Digestive system I /self-study | 3 | 1 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |

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|--|--|---|---|-------------------------------|-------------------------------|--|
| | 14.1 Digestive system II /lecture | 3 | 2 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 14.2 Digestive system II /practical classes | 3 | 6 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 14.3 Digestive system II /self-study | 3 | 1 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 15.1 Urinary system and Male Reproductive System /lecture | 3 | 2 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 15.2 Urinary system and Male Reproductive System /practical classes | 3 | 6 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |

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| | 15.3 Urinary system and Male Reproductive System /self-study | 3 | 1 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 16.1 Female Reproductive System /lecture | 3 | 2 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 16.2 Female Reproductive System /practical classes | 3 | 6 | GPC-5.1 GPC-5.2 GPC-5.6 | LL1, L2, L31, L2, L3 E1 E2 E3 E4 | |
| | 16.3 Female Reproductive System /self-study | 3 | 1 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 17.1 Sense Organs /lecture | 3 | 2 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 17.2 Sense Organs /practical classes | 3 | 6 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 17.3 Sense Organs /self-study | 3 | 1 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 18.1 Embryology /lecture | 3 | 2 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 18.2 Embryology /practical classes | 3 | 6 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | 18.3 Embryology /self-study | 3 | 1 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |
| | Control work /Control / | 3 | 0 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | Control work |
| | 19 Exam | 3 | 36 | GPC-5.1 GPC-5.2 GPC-5.6 | L1, L2, L3 E1 E2 E3 E4 | |

History of Medicine

| 1. COURSE OBJECTIVES | |
|----------------------|--|
| 1.1 | The purpose of the discipline "History of Medicine" is to study the history, patterns and logic of the development of healing, medicine and medical activities of the peoples of the world throughout the history of mankind in close connection with history, philosophy, achievements of natural science and culture. Teaching students an objective analysis of historical phenomena, achievements and prospects for the development of medicine and healthcare, educating students of high moral qualities: love for their profession, loyalty to duty, feelings of humanism and patriotism. |

| 2. COURSE OVERVIEW | |
|-----------------------------|--|
| Course code (in curriculum) | Б1.Б.50 |
| 2.1 | Assumed background: - English language |
| 2.2 | Post-requisite courses and practice: |
| | Pharmacology |
| | Immunology and Allergology |
| | General surgery |
| | Infectious diseases |
| | Outpatient therapy |
| | Internal illnesses |
| | Hospital therapy |
| | Obstetrics |

3. COMPETENCIES UPON COMPLETION OF THE COURSE (MODULE)

UC-5.1: Comprehends and interprets the history of Russia in the context of world historical development
 UC-4.2
 UC-5.2: Takes into account in social and professional communication the socio-cultural traditions of various social groups, ethnic groups and confessions, including world religions, philosophical and ethical teachings

Knowledge:

- the main stages and patterns of development of the world historical process;
- outstanding figures in medicine and health care, outstanding medical discoveries, the impact of humanistic ideas on medicine;
- the most important milestones in the history of Russia, the place and role of Russia in the history of mankind and in the modern world;
- general patterns of the world-historical process of formation and development of healing and medicine in various countries of the world from ancient times to our time;
- socio-cultural traditions of various social groups, ethnic groups, confessions, including world religions, philosophical and ethical teachings

Abilities:

- analyze the features of social interaction, taking into account historical, national, cultural and religious characteristics;
- to express professional information competently and in an accessible way in the process of intercultural interaction;
- analyze historical events and processes, logically correctly and clearly build oral and written speech;
- take into account in social and professional communication the socio-cultural traditions of various social groups, ethnic groups, confessions, including world religions, philosophical and ethical teachings;
- analyze and evaluate historical information, formulate reasoned judgments regarding the history of Russia, justify one's own civic position, conduct a dialogue

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics/Class type | Term / Academic year | Academic hours | Competences | Literature | Interactive | Notes |
|------------|--|----------------------|----------------|---------------------|---|-------------|-------|
| 1.1 | Topic 1 : Medicine in the Ancient World /Lec/ | 1 | 1 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E3 | | |
| 1.2 | Topic 1 : Medicine in the Ancient World | 1 | 6 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 | | |
| | (Ancient Sumer, Ancient Egypt, Ancient Greece, Ancient Rome) /Pr/ | | | | L2.3 L3.1 L3.2 L3.3 E3 | | |
| 1.3 | Topic 1 : Medicine in the Ancient World (Ancient China, Antient India, Ancient Rus) /SW/ | 1 | 0.5 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E3 | | |
| 1.4 | Topic 2 : Medicine in the Middle Ages /Lec/ | 1 | 1 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 | | |
| 1.5 | Topic 2 : Medicine in the Middle Europe and Asia /Pr/ | 1 | 6 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E3 | | |
| 1.6 | Topic 2 : Medicine in the Middle Europe and Asia /Sw/ | 1 | 0.5 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E3 | | |
| 1.7 | Topic 3 : Epidemics in the Ancient World /Lec/ | 1 | 1 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |
| 1.8 | Topic 3 : Epidemics in the Ancient World /Pr/ | 1 | 4 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E3 | | |
| 1.9 | Topic 3 : Epidemics in the Ancient World /Sw/ | 1 | 0.5 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E3 | | |

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| 1.10 | Topic 4: Development of Medicine in the Renaissance /Lec/ | 1 | 1 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 Э1 Э2 E3 | | |
| 1.11 | Topic 4: Development of Medicine in the Renaissance (Europe) /Pr/ | 1 | 4 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |
| 1.12 | Topic 4: Development of Medicine in the Renaissance (Asia) /Sw/ | 1 | 0.5 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |
| 1.13 | Topic 5 : Health and Medicine in 17 -18 centuries /Lec/ | 1 | 2 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |
| 1.14 | Topic 5 : Health and Medicine in 17 -18 centuries /Pr/ | 1 | 4 | UC -5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |
| 1.15 | Topic 5 : Health and Medicine in 17 -18 centuries /Sw/ | 1 | 1 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |
| 1.16 | Topic 6: Development of Medicine in the 19th century /Lec/ | 1 | 2 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |
| 1.17 | Topic 6: Development of Medicine in the 19th century in Europe /Pr/ | 1 | 6 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E3 | | |
| 1.18 | Topic 6: Development of Medicine in the 19th century in Asia /Sw/ | 1 | 1 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |
| 1.19 | Topic 7 : Medical Achievements in the 20th century /Lec/ | 1 | 2 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |

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| 1.20 | Topic 7 : Medical Achievments in the 20th century /Pr/ | 1 | 6 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |
| 1.21 | Topic 7 : Medical Achievments in the 20th century /Sw/ | 1 | 1 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |
| 1.22 | Topic 8 : The Most Influential Physicians in History /Lec/ | 1 | 2 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |
| 1.23 | Topic 8 : The Most Influential Physicians in History /Pr/ | 1 | 4 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |
| 1.24 | Topic 8 : The Most Influential Physicians in History /Sw/ | 1 | 1 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |
| 1.25 | Topic 9 : Great Medical Discoveries /Lec/ | 1 | 2 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |
| 1.26 | Topic 9: Great Medical Discoveries /Pr/ | 1 | 4 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |
| 1.27 | Topic 9 : Great Medical Discoveries /Sw/ | 1 | 1 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |
| 1.28 | Topic 10: Public Health Organizations and Development of Public Medicine /Lec/ | 1 | 2 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |
| 1.29 | Topic 10: Public Health Organizations and Development of Public Medicine /Pr/ | 1 | 4 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |

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| 1.30 | Topic 10: Public Health Organizations and Development of Public Medicine /Sw/ | 1 | 1 | UC -5.1 UC - 5.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 L3.2 L3.3 E1 E2 E3 | | |
| 1.31 | Credit | 2 | 0 | | | | |

MODULE OF GENERAL PROFESSIONAL DISCIPLINES

| 1. COURSE AIMS | |
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| 1.1 | The objective of the course "Human anatomy" is to acquire deep knowledge of anatomy and topography of organs and tissues of the human body as a whole, its constituent systems of organs and tissues on the basis of modern achievements of macro - and microscopic anatomy, physiology, biology, taking into account the requirements of the clinic, practical medicine; the ability to use this knowledge in the subsequent study of other fundamental and clinical disciplines, as well as future practice of the doctor. The aim is to study the shape and structure of the human body, the consideration of the laws of this structure in connection with the functions performed and the influence of the environment. |
| 2. COURSE OVERVIEW | |
| Course code (in curriculum) | Б1.О.04 |
| 2.1 | Requirements for the preliminary training of the student: |
| 2.1.1 | Biology |
| 2.2 | Disciplines and practices for which this discipline (module) is necessary as a prior: |
| 2.2.1 | Histology, embryology, cytology |
| 2.2.2 | Physical Education and sports |
| 2.2.3 | Normal physiology |
| 2.2.4 | Pharmacology |
| 2.2.5 | Pathologic anatomy |
| 2.2.6 | Ophthalmology |
| 2.2.7 | Neurology, medical genetics, neurosurgery |
| 2.2.8 | Otorhinolaryngology |
| 2.2.9 | Forensic Medicine |
| 2.2.10 | Stomatology |
| 2.2.11 | Propedeutics of internal medicine |
| 2.2.12 | Topographic anatomy, operative surgery |
| 2.2.13 | Obstetrics |
| 2.2.14 | General surgery |
| 2.2.15 | Traumatology, orthopaedics |
| 2.2.16 | Infection diseases |
| 2.2.17 | Paediatrics |
| 3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE) | |
| GPC-5.1: Knows the histological structure of organ tissues - knows how to differentiate them microscopically; the anatomy of the human body - the macroscopic structure and topography of organs and body parts; human physiology - the mechanisms of homeostasis regulation and the functional systems of the body in the normal condition | |

By the end of the course students must:

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| 3.1 | Know: |
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| 3.1.1 | Methods of anatomical studies and anatomical terms (Russian and Latin). |
| 3.1.2 | Anatomy of organs and systems, details of their structure, their main functions. |
| 3.1.3 | Interconnection of organs with each other, their projection on the surface of the body. |
| 3.1.4 | The main stages of organ development (organogenesis). |
| 3.1.5 | The main variants for the structure and malformations of organs. |
| 3.2 | be able to: |
| 3.2.1 | Use basic anatomical instruments (forceps, scalpel, etc). |
| 3.2.2 | Dissect: joints, muscles, blood vessels, nerves. |
| 3.2.3 | Palpate the basic bone formations with a view to their topographic characteristics. |
| 3.2.4 | Palpate the main superficial arteries and find the place of their pressing to the bone formations. |
| 3.2.5 | Palpate the main groups of lymph nodes. |
| 3.2.6 | Demonstrate and correctly name the movements in the main joints of the human body. |
| 3.2.7 | Find and palpate the main muscular marks of the human body. |
| 3.2.8 | Determine the main anthropometric points and lines to describe the constitutional features of the body structure, to determine the boundaries of organs. |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Notes |
|------------|---|----------------------|----------------|-------------|---|-------|
| | Unit 1. Osteology is the study of bones; arthrology is the study of bones joints. | | | | | |
| 1.1 | Introductory lecture: subject, goals and methods of studying anatomy, its connection with related disciplines. Basic structure of the human body. Osteology is the study of bones. Skeleton functions. The chemical structure of the bone. Classification of bones. /General arthrology. Types of bone connections. Classification of joints. Biomechanic of movements Anatomy, development and age characteristics of the skull. | 1 | 12 | GPC-5.1 | L1.2, 1.3, L1.4, L2.1, L2.3, L2.7, L3.1, E1, E2, E3 | |
| 1.2 | Anatomic nomenclature. Planes, the axes of the body. The structure of the rib. Chestbone. /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 1.3 | Bones of free upper limb: Humerus, Radius, Ulna and hand bones | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 1.5 | Pelvis bones. The pelvis as a whole. Sex differences of the pelvis. The size of the pelvis (large and small). Bones of the free lower limb: Femur, Shin bones, Patella, Bones of the foot. /Practice / | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |

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| 1.6 | General arthrosyndesmology. The connection between the vertebrae and the skull. Vertebral column as a whole /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 1.7 | Connection of the ribs to the vertebrae, the sternum, between each other. Thorax /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 1.8 | Joints of the upper limb belt and the shoulder joint. Elbow joint, wrist joint, hand joints. /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 1.9 | Connection of pelvic bones. Hip joint. Knee-joint. /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 1.10 | Connection of the bones of the lower leg. Vaults of the foot /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 1.11 | Final class on osteology. /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 1.12 | General overview of the skull. Skull bones: frontal, parietal, occipital /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 1.13 | Ethmoid and sphenoid bone, their structure. The temporal bone and its components. Channels of the temporal bone. /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |

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| 1.14 | Bones of the facial skull (upper and lower jaws, malar bone, teardrop, nasal bones, nose opener), their structure. /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 1.15 | Inner skull base. Outer skull base. Fossa of the skull /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 1.16 | Structure of the orbit, nasal cavity. Bone basis of the oral cavity. Individual features of the skull. Joint of the skull bones. Temporomandibular joint /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 1.17 | The final class on the skull. /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 1.18 | Preparation for discussion and test. Mastering practical skills /Selfstudy/ | 1 | 22 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| | Unit 2. Myology is the study the muscles. | | | | | |
| 2.1 | Anatomy, development and age characteristics of the muscles. Muscle classification. Topographic formations of muscles in the | 1 | 4 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 2.2 | Muscles and fascia of the back, abdomen and thorax. The structure of the sheaths of the rectus abdominis muscle. White line of the abdomen. The inguinal canal. /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |

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| 2.3 | Muscles of neck, their functional anatomy. Fascia of neck. The topography of the triangles of the neck /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 2.4 | Muscles of the head, their functional anatomy. Fascia of the head /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 2.5 | Muscles of the shoulder girdle and shoulder, their functional anatomy. Structure of the Axilla. Shoulder topography /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 2.6 | Functional anatomy of the muscles of the forearm and hand. Forearm topography. Synovial sheaths of the hand tendons. Fasciae and topography of the upper limb. /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 2.7 | Muscles of the hip and thigh, their fasciae. Topography of the thigh. Femoral canal. /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 2.8 | Muscles and fasciae of the shin and foot, their functional anatomy. Topography of the popliteal fossa, shin and foot /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 2.9 | The final class on the myology. /Practice/ | 1 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 2.10 | Preparation for discussion and test. Mastering practical skills /Selfstudy/ | 1 | 22 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |

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| 2.11 | Control /Control/ | 1 | 0 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4. | Essay presentation |
| 2.12 | Credit/Credit/ | 1 | 0 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4. | Oral quiz, practical skills checking |
| | Unit 3. Splanchnology (digestive system). | | | | | |
| 3.1 | Structure and development of internal organs. Functional anatomy of the digestive system. Functional anatomy and topography of the peritoneum in human ontogenesis. /Lec/ | 2 | 4 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 3.2 | Anatomy of the digestive system: oral cavity. Lips, cheeks, hard and soft palate, pharynx, tongue. Teeth, large and small salivary glands. Pharynx. Lymphoid pharyngeal ring. /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 3.3 | Esophagus. Anatomy of the stomach. Spleen. Anatomy of the small and large intestine. /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |

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| 3.4 | Functional anatomy of the liver and pancreas. Peritoneum. Derivatives of the peritoneum. /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 3.5 | Topography of the peritoneum. /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 3.6 | The final class on the digestive system. /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 3.7 | Preparation for discussion and test. Mastering practical skills /Selfstudy/ | 2 | 10 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| | Unit 4. Splanchnology (respiratory system). | | | | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 4.1 | Functional anatomy of the respiratory system. /Lec/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 4.2 | The respiratory system. The nasal cavity. Paranasal sinuses. Larynx: topography, cartilage, joints, ligaments. Larynx: muscles, elastic cone, laryngeal cavity. Voice apparatus /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 4.3 | Trachea, bronchus, tracheobronchial tree, lungs. Pleura, mediastinum. The borders of the lungs and pleura. /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 4.4 | The final class on the respiratory system. /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 4.5 | Preparation for discussion and test. Mastering practical skills /Selfstudy/ | 2 | 6 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| | Unit 5. Splanchnology (urinary system) | | | | | |
| 5.1 | Functional anatomy of the urinary system. Functional anatomy of the reproductive apparatus /Lec/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |

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| 5.2 | Overview of the urinary system. The structure of the kidneys, ureters, bladder. Male genital organs: testicle, epididymis, scrotum, vas deferens, seminal vesicles. Prostate. The ejaculatory ducts. Penis. Bulbourethral glands. Male urethra /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 5.3 | Female genitals: uterus, fallopian tubes. Ovary. Vagina. External female genitals. Female urethra. Breast. The perineum: muscle and fascia. /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 5.4 | The final class on the urinary system. /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 5.5 | Preparation for discussion and test. Mastering practical skills /Selfstudy/ | 2 | 6 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |

| | Unit 6. Neurology (Central Nervous System) | | | | | |
|------|--|---|---|---------|---------------------------------------|--|
| 6.1 | Introduction to the study of the nervous system. Embryogenesis of the nervous system. Functional anatomy of the spinal cord. The telencephalon. Cyto- and myeloarchitectonics of the cerebral cortex. Localization of functions in the cortex of the hemispheres /Lec/ | 2 | 8 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 6.2 | Overview of the nervous system. The external structure of the spinal cord. The internal structure of the spinal cord. /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 6.3 | Cerebrum development, cerebral vesicles. Overview of the cerebrum, the output of 12 pairs of cranial nerves on the basis of the brain and from the skull. /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 6.4 | Medulla oblongata. Pons. Cerebellum. /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 6.5 | Midbrain. Isthmus rhombencephali. Fourth ventricle. Rhomboid fossa, relief. The nuclei of the brain nerves, their localization /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 6.6 | Interbrain (Diencephalon). Third ventricle. /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 6.7 | Cerebral hemispheres. The grooves and convolutions of the dorsolateral and basal surfaces of the hemispheres of the cerebrum /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 6.8 | Grooves and convolutions of the medial surface of the hemispheres. Lateral ventricles. /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 6.9 | Basal ganglia, the white substance of the hemispheres of the cerebrum. The internal capsule, the fornix, the olfactory area (rhinencephalon). /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 6.10 | Cerebrum shells. Place of formation and outflow pathways of cerebrospinal fluid. /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 6.11 | Pathways of the spinal cord and cerebrum. Afferent pathways. /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 6.12 | Efferent pathways. Extrapyramidal system. /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |

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| 6.13 | The final class on the central nervous system. /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 6.14 | The final class on the 2nd semester. /Practice/ | 2 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 6.15 | Preparation for tests. Writing of essays /Practice/ | 2 | 22 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 6.16 | Control /Control/ | 2 | 0 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4. | essay presentation |
| 6.17 | Credit /Credit/ | 2 | 0 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4. | Oral examination, practical skills testing |
| | Unit 7. Angiology, the study of the vessels | | | | | |
| 7.1 | Functional anatomy of the heart. Functional anatomy of the arterial system. Collateral circulation. Functional anatomy of the venous system. Functional anatomy of the lymphatic system./Lec/ | 3 | 8 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 7.2 | The heart. External and internal structure of the heart. Heart wall structure. Heart chambers and valve apparatus of the heart. Pericardium. The conducting system and innervation of the heart /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 7.3 | The Mediastinum. Topography, borders of the heart. Places listening valves of the heart. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 7.4 | Aorta and its branches. General, external, internal carotid arteries. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 7.5 | Subclavial, axillary, brachial arteries. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 7.6 | Arteries of the forearm and hand. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 7.7 | Thoracic and abdominal aorta, its branches. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |

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| 7.8 | General, external, internal iliac arteries. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 7.9 | Femoral and popliteal arteries. Artery of the shin and foot. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 7.10 | System of the superior vena cava, its inflows and anastomoses. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 7.11 | Cava-caval and portacaval anastomoses. Fetal blood circulation. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 7.12 | The lymphatic system of the head, neck, chest, upper limb, lower limb, pelvis. Lymphatic ducts, trunks, vessels, nodes. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 7.13 | The final class on angiology. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 7.14 | Preparation for discussion and test. Mastering practical skills /Selfstudy/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| | Unit 8. Neurology (peripheral nervous system) | | | | | |
| 8.1 | Peripheral nervous system. Spinal nerves. /Lec/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 8.2 | Peripheral nervous system. Spinal nerves. Cervical plexus. Brachial plexus, its short branches. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 8.3 | Long branches of the brachial plexus, their topography, area of innervation. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 8.4 | Intercostal nerves. Topography and areas of innervation of the branches of the lumbar plexus. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 8.5 | Topography and areas of innervation of the branches of the sacral plexus. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 8.6 | The final class on the peripheral nervous system. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 8.7 | Preparation for discussion and test. Mastering practical skills /Selfstudy/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |

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| | Unit 9. Neurology (The Cranial Nerves) | | | | | |
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| 9.1 | Peripheral nervous system. Cranial nerves. Vegetative nervous system Features of the autonomic innervation of individual internal organs /Lec/ | 3 | 6 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 9.2 | Cranial Nerves III, IV,VI and 1st branch of trigeminal nerve /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 9.3 | The second, third branches of the trigeminal nerve, the areas of their innervation. Parasympathetic nodes located along the branches of the trigeminal nerve /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 9.4 | VII, IX pairs of cranial nerves, their branches, areas of innervation. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4. | |
| 9.5 | X, XI, XII pairs of cranial nerves, their branches, areas of innervation. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 9.6 | The sympathetic part of the autonomic nervous system. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4, E1, E2, E3 | |
| 9.7 | Parasympathetic part of the autonomic nervous system. /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4., E1, E2, E3 | |
| 9.8 | Final lesson on cranial nerves and the autonomic nervous system /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4., E1, E2, E3 | |
| 9.9 | Preparation for discussion and test. Mastering practical skills /Selfstudy/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4., E1, E2, E3 | |
| | Unit 10. Sense organs. | | | | | |
| 10.1 | Functional anatomy of the sense organs. Visual pathway. Auditory pathway. Organs of smell and taste. /Lec/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4., E1, E2, E3 | |
| 10.2 | Preparation for tests. Writing of essays /Practice/ | 3 | 2 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4., E1, E2, E3 | |
| 10.3 | Control /Control/ | 3 | 0 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4. | essay presentation |
| 10.4 | Exam / Exam / | 3 | 36 | GPC-5.1 | L1.1., L1.2., L1.3., L1.4. | oral exam, practical skills test. |

Human genetics

| 1. COURSE OBJECTIVES | |
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| 1.1 | Purpose: To form students' understanding of the molecular and cellular foundations of genetics, its physiological and ontogenetic aspects, the doctrine of heredity and variability in families and populations, evolutionary and ecological genetics. |
| 1.2 | To know in the field of human genetics. |
| 1.3 | To solve genetic problems. |
| 1.4 | To have skills of cytogenetic, biochemical and prenatal diagnostics of hereditary diseases, carrying out preventive measures, identification of high-risk groups among the population of their prevention and gene therapy |
| 2. COURSE OVERVIEW | |
| Course code (in curriculum) | Б1.О.04 |
| 2.1 | Assumed background: |
| 2.1.1 | Biology (school course) |
| 2.2 | Post-requisite courses and practice: |
| 2.2.1 | Neurology, medical genetics, neurosurgery |
| 2.2.2 | Propaedeutics of internal diseases |
| 2.2.3 | Obstetrics |
| 3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE) | |
| GPC-4.2: Knows instrumental and morphological criteria for diagnosing diseases and conducting clinical interpretation of the results of instrumental examination methods | |
| GPC-4.3: Able to apply knowledge and skills in conducting a diagnostic search for diseases using medical equipment (products) to establish a diagnosis | |
| GPC-5.2: Knows the structure of the cell, the phases of its division, the theoretical principles of genetics and the biology of insects and helminths, their role in the etiology of human diseases | |
| GPC-7.2: Able to prescribe modern treatment regimens based on approved current Clinical Recommendations | |
| PC-1.1: Demonstrates knowledge in etiology, pathogenesis, diagnostic criteria (clinical - subjective, physical, laboratory, instrumental, identifies the patient's common pathological conditions, symptoms, disease syndromes and diagnoses nosological forms according to the International Statistical Classification of Diseases and Related Health Problems, X - XI revisions | |
| PC-9.1: Analyzes medical information | |
| PC-9.2: Provides evidence -based health information | |
| PC-10.1: Participates in applying new methods and techniques aimed at protecting the public health | |
| By the end of the course students must | |
| 3.1 | know: |
| 3.1.1 | Rules of safety and work in medical and biological laboratories; the laws of genetics, its significance for medicine, the laws of heredity and variability in individual development as a basis for understanding the pathogenesis and etiology of hereditary and multifactorial human diseases; the main pathological conditions, syndromes and symptoms of genetic diseases, as well as methods of their treatment; new methods and techniques in the field of human genetics. |
| 3.2 | be able to: |

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| 3.2.1 | Use new methods and techniques aimed at protecting the health of citizens; solve typical tasks on the following topics: organization of hereditary material; regulation of gene expression; cytoplasmic heredity; patterns of inheritance; genetics of populations; analyze pedigrees, make a forecast of the development of a hereditary disease in proband and his relatives; assess morpho-functional, physiological conditions and pathological processes in genetic diseases, to identify families and groups of people with an increased risk of developing a particular disease with a hereditary predisposition; describe the morphological changes of the studied macroscopic, microscopic preparations and electronograms; provide publicly available medical information. |
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4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic | Academic hours | Competences | Literature | Notes |
|------------|--|-----------------|----------------|-----------------|----------------|-------|
| | Module 1. Patterns of inheritance | | | | | |
| 1.1 | History and significance of human genetics /Lecture/ | 2 | 2 | GPC-5.2 PC-10.1 | L1.1 L2.1 L3.1 | |

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| 1.2 | Structure and functions of genetic material /Lecture/ | 2 | 2 | GPC-5.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 1.3 | Replication of DNA and chromosomes /Lecture/ | 2 | 2 | GPC-5.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 1.4 | DNA repair. Molecular mechanisms of genetic recombination /Lecture/ | 2 | 2 | GPC-5.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 1.5 | Regulation of gene activity /Lecture/ | 2 | 2 | GPC-5.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 1.6 | Mendelism (hybridological method, the laws of inheritance of G. Mendel's traits, the discreteness of heredity) /Practice/ | 2 | 2 | GPC-5.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 1.7 | The chromosomal theory of heredity /Practice/ | 2 | 2 | GPC-5.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 1.8 | Structure and functions of genetic material /Practice/ | 2 | 2 | GPC-5.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 1.9 | Multilevel organization of the genome /Practice/ | 2 | 2 | GPC-5.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 1.10 | Interaction of allelic and non-allelic genes /Practice/ | 2 | 2 | GPC-5.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 1.11 | Gene coupling and crossing-over. Genetics of sex /Practice/ | 2 | 2 | GPC-5.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 1.12 | Preparation for an oral survey, tests. Solving genetic problems /Self-control/ | 2 | 4 | GPC-5.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| | Module 2. Variability | | | | | |
| 2.1 | Genotype and phenotype /Lecture/ | 2 | 2 | GPC-4.3 GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 2.2 | Molecular mechanisms of mutagenesis /Lecture/ | 2 | 2 | GPC-4.3 GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | L1.1 L2.1 L3.1 | |

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| 2.3 | Variation of the manifestation of hereditary traits in the individual development of organisms. Modification and reaction rate /Practice/ | 2 | 2 | GPC-4.3 GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 2.4 | Theoretical foundations of mutational variability /Practice/ | 2 | 2 | GPC-4.3 GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 2.5 | Spontaneous mutation process. Mutagenesis inhibitors. Detection of mutagens /Practice/ | 2 | 2 | GPC-4.3 GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 2.6 | Non-chromosomal inheritance /Practice/ | 2 | 2 | GPC-4.3 GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 2.7 | Preparation for an oral survey, tests. Solving genetic problems. Writing research papers /Self-control/ | 2 | 4 | GPC-4.3 GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| Module 3. The genetic basis of evolution | | | | | | |
| 3.1 | Genetics and ontogenesis /Practice/ | 2 | 2 | GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | L1.1 L2.1 L3.1 | |

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|--------------------------------------|---|---|---|--|----------------|--|
| 3.2 | Genes controlling embryonic induction /Practice/ | 2 | 2 | GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 3.3 | The genetic foundations of evolution. Population genetics /Practice/ | 2 | 2 | GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 3.4 | Synthetic theory of evolution. Genetics and problems of evolutionary theory. Evolution of the human genome /Practice/ | 2 | 2 | GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 3.5 | Preparation for an oral survey, tests. Solving genetic problems. Writing research papers /Self-control/ | 2 | 4 | GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| Module 4. Hereditary diseases | | | | | | |
| 4.1 | Heredity and human pathology /Lecture/ | 2 | 2 | GPC-4.2 GPC-4.3 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 4.2 | Chromosomal abnormalities and associated syndromes /Practice/ | 2 | 2 | GPC-4.2 GPC-4.3 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 4.3 | Monogenic human diseases /Practice/ | 2 | 2 | GPC-4.2 GPC-4.3 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | L1.1 L2.1 L3.1 | |

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|------|--|---|---|---|----------------|---|
| 4.4 | Diseases with non-traditional types of inheritance (diseases inherited linked to sex, mitochondrial) /Practice/ | 2 | 2 | GPC-4.2 GPC-4.3 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 4.5 | Diseases with non-traditional types of inheritance (genomic imprinting(DGI), expansion of trinucleotide repeats(DETR), prion diseases (PD)) /Practice/ | 2 | 1 | GPC-4.2 GPC-4.3 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 4.6 | General characteristics and classification of hereditary metabolic diseases(amino acids (aminoacidopathy), carbohydrates) /Practice/ | 2 | 2 | GPC-4.2 GPC-4.3 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 4.7 | Hereditary metabolic diseases (lipids, erythron, lysosomal and peroxisomal) /Practice/ | 2 | 1 | GPC-4.2 GPC-4.3 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 4.8 | Genetics of widespread diseases. Prevention of hereditary pathology. Treatment of hereditary diseases /Practice/ | 2 | 2 | GPC-4.2 GPC-4.3 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 4.9 | Preparation for an oral survey, tests. Writing research papers /Self-control/ | 2 | 4 | GPC-4.2 GPC-4.3 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | L1.1 L2.1 L3.1 | |
| 4.10 | Control work / Control./ | 2 | 0 | GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | L1.1 L2.1 L3.1 | protection of abstracts |
| 4.11 | Interview on credit questions / Credit/ | 2 | 0 | GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | L1.1 L2.1 L3.1 | interview on theoretical issues, solving genetic problems |

Immunology and allergology

1. GOALS OF DISCIPLINE MASTERING

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| 1.1 | to give students a system of knowledge about the mechanisms of the body's defense and methods for assessing them in normal and pathological conditions, to reveal the concept of diseases of the immune system and to develop practical skills for assessing morphofunctional, physiological conditions and pathological processes in the human body. |
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2. PLACE OF DISCIPLINE IN THE STRUCTURE OF PLO

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| Cycle (section) OOP: | B1.O.04 |
| 2.1 Requirements for preliminary preparation of the student: | |
| | human anatomy |
| | Biochemistry |
| | Chemistry |
| | Microbiology , virology |
| | Normal physiology |
| | Biology |
| | human anatomy |
| | Biochemistry |
| | Chemistry |
| | Microbiology , virology |
| | Normal physiology |
| | Biology |
| 2.2 Disciplines and practices for which mastering this discipline (module) is necessary as a prerequisite: | |
| | Epidemiology |
| | Dermatovenereology |
| | Neurology , medical genetics , neurosurgery |
| | Ophthalmology |
| | Obstetrics |
| | Pediatrics , children's infections |
| | Hospital therapy (5 course) |
| | Endocrinology |
| | Infectious illnesses |
| | Polyclinic therapy |
| | Oncology , radiation therapy |
| | Pathological syndromes in clinical medicine |
| | Epidemiology |
| | Dermatovenereology |
| | Neurology , medical genetics , neurosurgery |
| | Ophthalmology |
| | Obstetrics |
| | Pediatrics , children's infections |
| | Hospital therapy (5 course) |
| | Endocrinology |
| | Infectious illnesses |
| | Polyclinic therapy |
| | Oncology , radiation therapy |
| | Pathological syndromes in clinical medicine |

3. STUDENT COMPETENCIES FORMED AS A RESULT OF MASTERING A DISCIPLINE (MODULE)

GPC-5.1: Demonstrates knowledge and understanding in the sections of fundamental medicine - anatomical, histological structures (anatomy of the human body, structure of organ tissues and their microscopic differentiation), physiological processes (human physiology, mechanisms of regulation of homeostasis, normal functional systems of the body).

GPC-5.8: Demonstrates an understanding of the mechanisms of development of general pathological processes, knowledge of the pathogenesis of various human diseases and pathological conditions, the ability to identify the leading links of pathogenesis in their relationship in a specific disease or pathological condition and, on this basis, the ability to justify effective pharmacotherapy.

GPC-5.9: Demonstrates knowledge of the theoretical foundations of immunology, allergology, understanding of immune defense mechanisms, types of immunological reactions and their role in the pathogenesis of human diseases.

GPC-5.10: Demonstrates knowledge of the etiology and pathogenesis of diseases, which is necessary to assess the physiological state and pathological processes for the purpose of diagnosis, treatment and prevention of diseases.

PC-8.2: Maintains medical documentation, including in electronic form

PC-5.2: Provide treatment to various categories of patients with diseases on an outpatient basis, in hospitals and high-tech medical care (HTMC) centers using medications, medical devices and nutritional therapy, taking into account the clinical picture, in accordance with current procedures, standards of medical care assistance, clinical recommendations (treatment protocols).

PC-5.3: Prescribes non-drug treatment methods, palliative and personalized medical care to the patient

PC-5.4: Demonstrates knowledge of the side effects of drugs, methods of their administration, knowledge of the duration of their use and evaluates the effectiveness and safety of pharmacotherapy, nutritional therapy and the use of non-drug treatment, nutritional therapy for palliative care.

PC-3.3: Conducts early and differential diagnosis of diseases

PC-2.1: Assess the condition of a patient requiring urgent or emergency medical care, diagnose a condition that poses a threat to the patient's life, including a state of clinical death.

PC-1.1: Demonstrates knowledge of etiology, pathogenesis, diagnostic criteria (clinical - subjective, physical, laboratory, instrumental), identifies the patient's main pathological conditions, symptoms, disease syndromes and diagnoses nosological forms in accordance with the International Statistical Classification of Diseases and Related Health Problems, X – XI revisions.

PC-1.2: Conducts differential diagnostics, assesses the prognosis (short-, medium- and long-term) of the course of the disease, identifies acute complications and complications of chronic diseases

As a result of mastering the discipline, the student

must

| 3.1 Know : | |
|-------------------|---|
| 3.1.1 | about the specifics of the subject and the objectives of the discipline of immunology and allergology; |
| 3.1.2 | about the role, place and connection with other sciences in the system of biological and medical disciplines; |
| 3.1.3 | the main historical stages in the development of immunology and allergology; |
| 3.1.4 | about the prospects for the development of science and new directions in the study of immunology; |
| 3.1.5 | basic concepts used in allergology and immunology. |
| 3.1.6 | about the body's defenses (innate and adaptive defense factors); |
| 3.1.7 | about the properties of antigens and antibodies, classes of immunoglobulins; |
| 3.1.8 | about forms immune response ; |
| 3.1.9 | about immunopathological, morphofunctional, physiological conditions, mechanisms of their development; |
| 3.1.10 | about immunodeficiencies of primary and secondary genesis, mechanisms and causes of their development, differential diagnosis of nosological forms, treatment features; |
| 3.1.11 | about modern methods for assessing the main diseases of the human immune system; |
| 3.1.12 | about the types and indications for the use of immunotropic drugs; |

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| 3.1.13 | about immunotropic drugs (classification, pharmacokinetics and pharmacodynamics , application features); |
| 3.1.14 | about allergen-specific immunotherapy ; |
| 3.1.15 | about immunoprophylaxis and immunorehabilitation ; |
| 3.1.16 | principles of organizing allergy and immunology services. |
| 3.2 | Be able to : |
| 3.2.1 | assess morphofunctional, physiological states and pathological processes in the human body to solve professional problems; |
| 3.2.2 | correctly interpret and apply the basic concepts of immunology when studying biomedical and medical literature and when working together with medical specialists. |
| 3.2.3 | justify the need for clinical and immunological examination; |
| 3.2.4 | interpret the results of assessing the immune status of the 1st level; |
| 3.2.5 | carry out differential diagnosis of diseases of the immune system; |
| 3.2.6 | evaluate and interpret the results of clinical and immunological examination; |
| 3.2.7 | assess the importance of immunogenetic factors in the pathogenesis and diagnosis of immune-mediated human diseases, during organ and tissue transplantation; |
| 3.2.8 | characterize and evaluate the levels of organization of the human immune system, evaluate the mediator role of cytokines; |
| 3.2.9 | assess the immune response after active immunization in humans; |
| 3.2.10 | determine the “risk group” for immunopathology (immunodeficiency , autoimmune, allergic, immunoproliferative diseases); |
| 3.2.11 | - justify the need to prescribe immunocorrective drugs. |

4. STRUCTURE AND CONTENT OF THE DISCIPLINE (MODULE)

| Code classes | Name of sections and topics /type of lesson/ | Semester/ Course | Hours | Competent - tions | Literature | Note |
|--------------|---|------------------|-------|---|---|------|
| | Section 1. Section 1. The doctrine of immunity. Age characteristics formation of the immune system. Mechanisms of specific and nonspecific resistance. Theories immunity | | | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | | |
| 1.1 | Types of immunity. Hereditary immunity. Mechanisms of nonspecific resistance. Relationship between complementary and mononuclear phagocytic systems with specific defense mechanisms. / Lek / | 7 | 2 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.1 L2.2 L2.3 L2.4 L2.5 L2.6L3.1 L3.2 L3.3 E1 E2 E3 | |
| 1.2 | Immune system: organs (central, peripheral), cells (T-, B-lymphocytes, natural killer cells, macrophages, plasma cells). / Lek / | 7 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 1.3 | Properties of substances of antigenic nature. Antigen structure. Valence and heterogeneity of antigens. Characteristics by origin and type of immune response evoked /Lek/ | 7 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |

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| 1.4 | Basic principles of the immune system. Specific and nonspecific in the immune system / Etc / | 7 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 1.5 | Basic principles of the immune system. Specific and nonspecific in the immune system. / Wed / | 7 | 2 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 1.6 | Age peculiarities immunity / Etc / | 7 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |

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|------|--|---|---|---|---|--|
| 1.7 | Age peculiarities immunity / Wed / | 7 | 2 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 1.8 | Inflammation is an effector function of the immune system. / Etc / | 7 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 1.9 | Inflammation is an effector function of the immune system. / Wed / | 7 | 2 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 1.10 | Phases of the inflammatory process. / Etc / | 7 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |

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| 1.11 | Phases of the inflammatory process. /Wed/ | 7 | 2 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 1.12 | Components immune systems / Etc / | 7 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 1.13 | Components immune systems / Wed / | 7 | 2 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 1.14 | The concept of antigen and its laboratory diagnostics / Etc / | 7 | 6 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 1.15 | The concept of antigen and its laboratory diagnostics /Wed/ | 7 | 2 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| | Section 2. Section 2. Immune system. Cellular and humoral specific immunity. Mediators of immunity. Antigens and antibodies. Laboratory diagnostics of cellular and humoral immunity. | | | | | |
| 2.1 | Humoral specific immunity, cell interaction. Antibodies: structure and chemical composition. Classes immunoglobulins. / Lek / | 7 | 2 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |

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| 2.2 | Patterns of immunogenesis. Primary and secondary immune response /Lek/ | 7 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 2.3 | Place of formation and transport of immune system cells / Etc / | 7 | 6 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 2.4 | Place of formation and transport of cells of the immune system / Wed / | 7 | 1 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 2.5 | Regulation of the formation and functioning of cells of the immune system / Etc / | 7 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 2.6 | Regulation of the formation and functioning of cells of the immune system / Wed / | 7 | 2 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 2.7 | Analysis of nucleated blood cells. / Etc / | 7 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 2.8 | Analysis of nucleated blood cells. /Wed/ | 7 | 1 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |

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| 2.9 | Methods for determining lymphocyte activity / Etc / | 8 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 2.10 | Methods for determining lymphocyte activity / Wed / | 8 | 1 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 2.11 | Assessment of the functional activity of neutrophils. / Etc / | 8 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 2.12 | Assessment of the functional activity of neutrophils. /Wed/ | 8 | 1 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 2.13 | Methods for laboratory activity of antigens. / Etc / | 8 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 2.14 | Methods for laboratory activity of antigens. /Wed/ | 8 | 1 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 2.15 | Methods for laboratory diagnosis of serum immunoglobulins. / Etc / | 8 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |

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|------|---|---|---|---|---|--|
| 2.16 | Methods for laboratory diagnosis of serum immunoglobulins. / Wed / | 8 | 1 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| | Section 3. Section 3. The concept of norm and pathology in the functioning of the immune system. The concept of immune status and methods for assessing it. Characteristics of medicinal substances based on antigens and antibodies. Vaccine prevention . | | | | | |
| 3.1 | Cellular mechanisms of specific immunity. The role of cells in antitumor, antiviral, transplantation immunity /Lek/ | 8 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 3.2 | The concept of immunopathology. Allergies of immediate and delayed type. Autoimmune conditions . Immunocomplex conditions . / Lek / | 8 | 6 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 3.3 | Immunodeficiencies: primary and secondary. Clinical manifestations of IDS. / Lek / | 8 | 6 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 3.4 | Insufficiency of the immune system. / Etc / | 8 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 3.5 | Insufficiency of the immune system. /Wed/ | 8 | 2 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |

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| 3.6 | The concept of normal functioning of the immune system / Etc / | 8 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 3.7 | The concept of normal functioning of the immune system / Wed / | 8 | 2 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 3.8 | Study and write down level 1 and 2 tests to assess a person's immune status. / Etc / | 8 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 3.9 | Study and write down level 1 and 2 tests to assess a person's immune status. / Wed / | 8 | 2 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 3.10 | Study the classification of drugs based on antibodies. / Etc / | 8 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 3.11 | Study the classification of drugs based on antibodies. / Wed / | 8 | 2 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 3.12 | Study the classification of drugs based on antigens. / Etc / | 8 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |

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| 3.13 | Study the classification of drugs based on antigens. /Wed/ | 8 | 2 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 3.14 | Study and write down the calendar of compulsory vaccinations in Russia. / Etc / | 8 | 4 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 3.15 | Study and write down the calendar of compulsory vaccinations in Russia. / Wed / | 8 | 2 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | |
| 3.16 | Control work /Control / | 7 | 0 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | Control work |
| 3.17 | Control work /Control / | 8 | 0 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | Control work |
| 3.18 | Credit | 7 | 0 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | Credit task |
| 3.19 | Credit | 8 | 0 | GPC-5.1 GPC-5.8 GPC-5.9 GPC-5.10 PC-8.2, PC-5.2 PC-5.3, PC-5.4 PC-3.3, PC-2. PC-1.1, PC-1.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6L2.2 L2.3 L2.4L3.1 L3.2 L3.3 E1 E2 E3 | Credit task |

Individual sports

1. COURSE OBJECTIVES

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|-----|--|
| 1.1 | The aim of the course is to acquire practical experience of applying a variety of means and methods of physical culture and sport to preserve and strengthen health, maintain a proper level of physical fitness as a condition for ensuring full social and professional activity. |
|-----|--|

2. COURSE OVERVIEW

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|-----------------------------|---|
| Course code (in curriculum) | Б1.О.03.ДВ.01 |
| 2.1 | Assumed background: Basic level of knowledge in high school subjects "Physical Education", "Basics of Life Safety" |
| 2.2 | Post-requisite courses and practice: |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

UC-7.3 - Maintains the proper level of physical fitness to ensure full-fledged social and professional activity, regularly engaging in physical exercises

By the end of the course student must:

| | |
|-------|--|
| 3.1 | Know: |
| 3.1.1 | the basics of exercise technique and methods of their application to maintain a proper level of physical fitness |
| 3.2 | Be able to: |
| 3.2.1 | apply physical exercises in the process of regular exercise in various types of motor activities |
| 3.3 | Have skills of: |
| 3.3.1 | maintaining an adequate level of physical fitness to ensure full social and professional activity |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics/Class type | Term / Academic year | Academic hours | Competences | Literature | Interactive |
|---|--|----------------------|----------------|-------------|--|-------------|
| Section 1. Sports orientation stage | | | | | | |
| 1.1 | Propaedeutics in sports, types of physical activity / pr / | 2 | 40 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 1.2 | General physical training / pr / | 2 | 8 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 1.3 | General physical training / Self-study / | 2 | 8 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 1.4 | Credit | 2 | 0 | UC-7.3 | | |
| Section 2. Stage of sport specialisation | | | | | | |
| 2.1 | The history of the emergence and current state of development of the sport / Self-study / | 3 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.2 | Technical and tactical training by sport / pr / | 3 | 32 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.3 | General and special physical training for the type of sport / pr / | 3 | 12 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |

| | | | | | | |
|-----|---|---|----|--------|--|--|
| 2.4 | Integral training by sport /pr/ | 3 | 16 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.5 | Structure and content of a training session in a sport discipline /pr/ | 3 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.6 | Fundamentals of refereeing competitions in a sport /pr/ | 3 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.7 | Fundamentals of refereeing competitions in a sport /Self-study/ | 3 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.8 | Credit | 3 | 0 | UC-7.3 | | |

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|--|--|---|----|--------|--|--|
| 2.9 | Technical and tactical training by sport /pr/ | 4 | 32 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.10 | General and special physical training for the type of sport /pr/ | 4 | 12 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.11 | Integral training by sport /pr/ | 4 | 16 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.12 | Structure and content of a training session in a sport discipline /pr/ | 4 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.13 | Structure and content of a training session in a sport discipline /Self-study/ | 4 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.14 | General and special physical training for the type of sport /pr/ | 4 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.15 | General and special physical training for the type of sport /Self-study/ | 4 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.16 | Credit | 4 | 0 | UC-7.3 | | |
| Section 3. Sports improvement stage | | | | | | |
| 3.1 | Technical and tactical training by sport /pr/ | 5 | 22 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 3.2 | Specialised physical training /pr/ | 5 | 12 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 3.3 | General physical training /pr/ | 5 | 12 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 3.4 | Integral training by sport /pr/ | 5 | 14 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 3.5 | Organization and methodology of competitions in a sport. Refereeing of competitions in a sport /pr/ | 5 | 4 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 3.6 | Organization and methodology of competitions in a sport. Refereeing of competitions in a sport /Self-study/ | 5 | 4 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 3.7 | Credit | 5 | 0 | UC-7.3 | | |

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| 3.8 | Technical and tactical training by sport /pr/ | 6 | 22 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 |
| 3.9 | Special physical training by sport /pr/ | 6 | 8 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 |
| 3.10 | General physical training /pr/ | 6 | 8 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 |
| 3.11 | Integral training by sport /pr/ | 6 | 16 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 |
| 3.12 | Organization and methodology of competitions in a sport. Refereeing of competitions in a sport /pr/ | 6 | 4 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 |
| 3.13 | Organization and methods of conducting a training session in a type of sport /pr/ | 6 | 4 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 |
| 3.14 | Requirements for planning and control of independent physical culture and sports activities of different target orientation /pr/ | 6 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 |
| 3.15 | Requirements for planning and control of independent physical culture and sports activities of different target orientation /Self-study/ | 6 | 4 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 |
| 3.16 | Credit | 6 | 0 | UC-7.3 | |

Intellectual sports

1. COURSE OBJECTIVES

- 1.1 **The aim of the course** is to acquire practical experience of applying a variety of means and methods of physical culture and sport to preserve and strengthen health, maintain a proper level of physical fitness as a condition for ensuring full social and professional activity.

2. COURSE OVERVIEW

Course code (in curriculum) | Б1.О.03.ДВ.01

2.1 **Assumed background:** Basic level of knowledge in high school subjects "Physical

2.2 Education", "Basics of Life Safety" **Post-requisite courses and practice:**

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

UC-7.3 - Maintains the proper level of physical fitness to ensure full-fledged social and professional activity, regularly engaging in physical exercises

By the end of the course student must:

3.1 Know:

3.1.1 the basics of exercise technique and methods of their application to maintain a proper level of physical fitness

3.2 Be able to:

3.2.1 apply physical exercises in the process of regular exercise in various types of motor activities

3.3 Have skills of:

3.3.1 maintaining an adequate level of physical fitness to ensure full social and professional activity

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics/Class type | Term / Academic year | Academic hours | Competences | Literature | Interactive |
|---|---|-----------------------------|-----------------------|--------------------|--|--------------------|
| Section 1. Initial training phase | | | | | | |
| 1.1 | Technical and tactical training by sport /pr/ | 2 | 24 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 1.2 | Integral training by sport /pr/ | 2 | 18 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 1.3 | Fundamentals of refereeing competitions in a sport /pr/ | 2 | 6 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 1.4 | Fundamentals of refereeing competitions in a sport /Self-study/ | 2 | 8 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 1.5 | Credit | 2 | 0 | UC-7.3 | | |
| Section 2. Stage of sport specialisation | | | | | | |
| 2.1 | Technical and tactical training by sport /pr/ | 3 | 30 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.2 | Integral training by sport /pr/ | 3 | 30 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.3 | Organization and methods of conducting a training session in a type of sport /pr/ | 3 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.4 | Organization and methodology of competitions in the sport /pr/ | 3 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.5 | Organization and methodology of competitions in the sport /Self-study/ | 3 | 4 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.6 | Credit | 3 | 0 | UC-7.3 | | |
| 2.7 | Technical and tactical training by sport /pr/ | 4 | 30 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.8 | Integral training by sport /pr/ | 4 | 30 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.9 | Organization and methods of conducting a training session in a type of sport /pr/ | 4 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.10 | Organization and methods of conducting a training session in a type of sport /Self-study/ | 4 | 4 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.11 | Organization and methodology of competitions in the sport /pr/ | 4 | 2 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 | |
| 2.12 | Credit | 4 | 0 | UC-7.3 | | |
| Section 3. Sports improvement stage | | | | | | |

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|------|--|---|----|--------|--|
| 3.1 | Technical and tactical training by sport /pr/ | 5 | 26 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 |
| 3.2 | Integral training by sport /pr/ | 5 | 26 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 |
| 3.3 | Requirements for planning and control of independent physical culture and sports activities of different target orientation /pr/ | 5 | 12 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 |
| 3.4 | Requirements for planning and control of independent physical culture and sports activities of different target orientation /Self-study/ | 5 | 4 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 |
| 3.5 | Credit | 5 | 0 | UC-7.3 | |
| 3.6 | Technical and tactical training by sport /pr/ | 6 | 26 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 |
| 3.7 | Integral training by sport /pr/ | 6 | 26 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 |
| 3.8 | Requirements for planning and control of independent physical culture and sports activities of different target orientation /pr/ | 6 | 12 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 |
| 3.9 | Requirements for planning and control of independent physical culture and sports activities of different target orientation /Self-study/ | 6 | 4 | UC-7.3 | 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3. E1 E2 E3 E4 E5 |
| 3.10 | Credit | 6 | 0 | UC-7.3 | |

Introduction to specialty. Ethics and Deontology (Bioethics) Syllabus

1. COURSE OBJECTIVES

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|-----|--|
| 1.1 | The aim of the Bioethics course in higher medical schools is to study the basic rules of biomedical ethics. |
| 1.2 | The objectives are: <ul style="list-style-type: none"> - to maintain confidentiality (medical confidentiality); - to show tact and sensitivity when dealing with patients and relatives of sick people; - to evaluate the degree of risk for subjects during an experiment or research and prevent unacceptable risk; - to uphold the moral dignity and purity of the medical profession; - to apply ethical principles of conducting experiments on animals; to protect patients' rights to information, freedom of choice and freedom of action, as well as his/her privacy, which is the basis of patient's human dignity. |

2. COURSE OVERVIEW

| | |
|--------------------------------|-------------------|
| Course code (in curriculum) | Б1.О.04.01 |
| 2.1 Assumed background: | |
| 2.1.1 | History of Russia |
| 2.1.2 | Latin |

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|-------|---|
| 2.2 | Post-requisite courses and practice: |
| 2.2.1 | Psychology and Pedagogics |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

UC-6.1: Determines the tasks of self-development and professional growth, distributes them into long-, medium- and short-term with the relevance and determination of the necessary resources for their implementation

UC-6.2: Evaluates the requirements of the labor market and educational services for professional growth

GPC-1.1: Knows the legislation of the Russian Federation on the rights and obligations of citizens in the field of healthcare (Constitution of the Russian Federation as amended in 2020, No. 323-FL) and is able to implement legal norms, ethical and deontological principles of professional activity

GPC-1.2: Knows the legislation of the Russian Federation on the legal basis of medical activity (Labor Code of the Russian Federation, No. 326-FL No. 323-FL) and is able to form the doctor-patient relationship within the legal framework

GPC-1.3: Able to apply ethical and deontological principles in professional activity

By the end of the course students must:

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| 3.1 | Know: |
| | <ul style="list-style-type: none"> - the methods and techniques of the philosophical analysis of the problems; - the forms and methods of scientific knowledge, and their evolution; - the medical systems and medical schools; - the studies of a healthy lifestyle, doctor-patient relationship - the norms of foreign law, information law, the basic principles and provisions of constitutional, civil, labor, family, administrative and criminal law; - the moral and ethical norms, rules and principles of professional medical behavior, the rights of the patient and the doctor, the ethical foundations of modern medical legislation; - the duties, rights, a social status of a doctor; - the basic ethical documents of international organizations, accountable and international professional medical associations. |
| 3.2 | Be able to: |
| | <ul style="list-style-type: none"> - analyze and assess the social situation in Russia and abroad competently and independently, and make decision about further activities based on the results of the analysis; - form and maintain working relationships with other team members; - orientate in the existing labor acts in order to apply the norms of labor legislation in specific practical situations; |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Notes |
|---|--|----------------------|----------------|--------------------------------|--|-------|
| Section 1. Theoretical foundations of ethics and deontology. Basic ethical theories, principles and rules of ethics and deontology | | | | | | |
| 1.1 | Introduction to professional activity /Lec/ | 1 | 2 | UC-6.1 UC-6.2 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.2 | Introduction to professional activity (Terms and concepts. Subject, objectives and methods of the discipline) /Pr/ | 1 | 2 | UC-6.1 UC-6.2 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |

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| 1.3 | Introduction to professional activity (Terms and concepts. Subject, objectives and methods of the discipline) /Self. study/ | 1 | 2 | UC-6.1 UC-6.2 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.4 | System of medical education in Russia and abroad /Lec/ | 1 | 2 | UC-6.1 UC-6.2 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.5 | Educational activities of students in medical universities. Determination of professional suitability for studying at universities /Pr/ | 1 | 4 | UC-6.1 UC-6.2 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.6 | Educational activities of students in medical universities. Determination of professional suitability for studying at universities /Self. study/ | 1 | 4 | UC-6.1 UC-6.2 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.7 | Healthy lifestyle and hygiene of mental work of a doctor (student) /Lec/ | 1 | 2 | UC-6.1 UC-6.2 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.8 | Healthy lifestyle and hygiene of mental work of a doctor (student) /Pr/ | 1 | 2 | UC-6.1 UC-6.2 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.9 | Healthy lifestyle and hygiene of mental work of a doctor (student) /Self. study/ | 1 | 2 | UC-6.1 UC-6.2 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.10 | The personality of the doctor and issues of his professional suitability. Modern ideas about the social status of a doctor /Lec/ | 1 | 2 | UC-6.1 UC-6.2 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |

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|------|---|---|---|--------------------------------|--|--|
| 1.11 | Personality and professional portrait of a doctor. Social responsibility of a doctor. Social status of the doctor /Pr/ | 1 | 4 | UC-6.1 UC-6.2 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.12 | Personality and professional portrait of a doctor. Social responsibility of a doctor. Social status of the doctor /Self. study/ | 1 | 4 | UC-6.1 UC-6.2 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |

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|---|---|---|---|-------------------------------|--|--|
| 1.13 | Building a career emotional syndrome burnout /Lec/ | 1 | 2 | UC-6.1 UC-6.2 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.14 | Building a career emotional syndrome burnout /Pr/ | 1 | 2 | UC-6.1 UC-6.2 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.15 | Building a career emotional syndrome burnout /Self. study/ | 1 | 2 | UC-6.1 UC-6.2 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| Section 2. Ethics and deontology (bioethics) | | | | | | |
| 2.1 | Concepts of ethics and deontology. Medical ethics. Theoretical foundations of biomedical ethics. /Lec/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.2 | Concepts of ethics and deontology. Medical ethics. Theoretical foundations of biomedical ethics /Pr/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.3 | Concepts of ethics and deontology. Medical ethics. Theoretical foundations of biomedical ethics /Self. study/ | 1 | 4 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.4 | Bioethics as a modern form of medical ethics (1. Ethics - morality - ethics. 2. The relationship between morality and law. Factors in the formation of bioethics) /Lec/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.5 | The Nuremberg Code and the Declaration of Helsinki. Ethical committees /Pr/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.6 | The Nuremberg Code and the Declaration of Helsinki. Ethical committees /Self. study/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.7 | Ethical theories, principles and rules of ethics and deontology /Lec/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |

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| 2.8 | Ethical theories, principles and rules of ethics and deontology /Pr/ | 1 | 4 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.9 | Ethical theories, principles and rules of ethics and deontology /Self. study/ | 1 | 4 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.10 | Basic models of relationships between doctors and patients /Pr/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.11 | Patients' rights. Patient-doctor relationship models. Rights and moral obligations of doctors /Lec/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.12 | Patients' rights. Rights and moral obligations of doctors /Pr/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.13 | Patients' rights. Patient-doctor relationship models. Rights and moral obligations of doctors /Self. study/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.14 | Moral and ethical problems of experiments on humans and animals /Lec/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.15 | Moral principles of animal experimentation. Moral principles of conducting experiments involving humans /Pr/ | 1 | 4 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.16 | Moral principles of animal experimentation. Moral principles of conducting experiments involving humans /Self. study/ | 1 | 4 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.17 | Bioethics as the doctrine of preserving life and ensuring the preservation of human health /Lec/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |

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| 2.18 | Bioethics as the doctrine of preserving life and providing guarantees for preserving human health /Pr/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.19 | Bioethics as the doctrine of preserving life and providing guarantees for preserving human health /Self. study/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.20 | The problem of death and dying in biomedical ethics. The problem of euthanasia and the ethics of palliative care /Lec/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.21 | The problem of death and dying in biomedical ethics. The problem of euthanasia and the ethics of palliative care /Pr/ | 1 | 4 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.22 | The problem of death and dying in biomedical ethics. The problem of euthanasia and the ethics of palliative care /Self. study/ | 1 | 4 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.23 | Ethical problems of transplantology /Lec/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.24 | Ethical problems of transplantology /Pr/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.25 | Ethical problems of transplantology /Self. study/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.26 | Moral and ethical problems of interference in reproduction /Lec/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.27 | Moral and ethical problems of interference in reproduction. /Pr/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.28 | Moral and ethical problems of interference in reproduction /Self. study/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |

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| 2.29 | Moral problems of medical genetics /Lec/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.30 | Ethical problems of medical genetics /Pr/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.31 | Ethical problems of medical genetics /Self. study/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.32 | Ethics in psychiatry and psychotherapy /Lec/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.33 | Moral and ethical problems of psychiatry /Pr/ | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.34 | Epidemiology. AIDS - moral and ethical problems / Pr / | 1 | 2 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.35 | Moral and ethical problems of psychiatry. Epidemiology. AIDS - moral and ethical problems /Self. study/ | 1 | 4 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.36 | Contr. work / Test / | 1 | 0 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 2.37 | Test /Credit/ | 1 | 0 | GPC-1.1 GPC-1.2 GPC-1.3 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |

Latin

1. COURSE OBJECTIVES

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|-----|---|
| 1.1 | <p>The aim of the course of Latin language in higher medical schools is to acquire knowledge of the medical terminology in the Latin language, its grammatical structure and lexical corpus needed to read, understand the pharmaceutical terminology in the professional literature and practice.</p> <p>The objectives of studying the course "Latin" are:</p> <ul style="list-style-type: none"> - to study general and specific rules of pronunciation, reading and translating Latin medical terms and structures; - to form students' skills in understanding and producing Latin medical prescriptions . |
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| 2. COURSE OVERVIEW | |
|--|---|
| Course code (in curriculum) | Б1.Б.50 |
| 2.1 | Requirements for preliminary preparation of the student: |
| 2.1.1 | History of medicine |
| 2.2 | Post-requisite courses and practice: |
| 2.2.1 | Anatomy |
| 2.2.2 | Pharmacology |
| 2.2.3 | Clinical Pharmacology |
| 2.2.4 | Biochemistry |
| 2.2.5 | Histology, Embryology, Cytology, |
| 2.2.6 | Hominal Physiology |
| 2.2.7 | Microbiology, Virology |
| 2.2.8 | Clinical Anatomy |
| 2.2.9 | General Surgery, X-Ray Diagnostics |
| 2.2.10 | Immunology |
| 2.2.11 | Faculty Therapy, Professional Diseases |
| 2.2.12 | Obstetrics and Gynecology |
| 2.2.13 | Ophthalmology |
| 2.2.14 | Pathologic Anatomy |
| 2.2.15 | Clinical Pathologic Anatomy |
| 2.2.16 | Neurology, Medical Genetics, Neurosurgery |
| 2.2.17 | Faculty Surgery, Urology |
| 2.2.18 | Hospital Surgery, Paediatric Surgery |
| 2.2.19 | Hospital Therapy, Endocrinology |
| 2.2.20 | Oncology, X-Ray Therapy |
| 2.2.21 | Traumatology and Orthopaedics |
| 2.2.22 | Clinical cytology and biochemistry |
| 3. COMPETENCIES UPON COMPLETION OF THE COURSE (MODULE) | |
| UC-4.1 Chooses the style of communication in the State language of the Russian Federation in accordance with the purpose and conditions of communication | |
| UC-4.2 Presents the results of academic activity in the State language of the Russian Federation and a foreign language (oral and written business communication) | |

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| UC-4.3 Translates the official and professional texts from a foreign language into Russian and from Russian into a foreign language for the purpose of business communication |
| Know: |

| - basic medical and pharmaceutical terms in the Latin Language, their grammatical forms | | | | | | | |
|--|--|----------------------|----------------|----------------------------|--------------------------------------|-------------|-------|
| - standard professional information, bibliographic resources, medical and biological terminology | | | | | | | |
| Be able to: | | | | | | | |
| - use medical and pharmaceutical terms in the Latin Language, change their grammatical form in producing medical prescriptions | | | | | | | |
| - use standard professional information, bibliographic resources, medical and biological terminology | | | | | | | |
| 4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE) | | | | | | | |
| Class Code | Topics/Class type | Term / Academic year | Academic hours | Competences | Literature | Interactive | Notes |
| 1 | Section I Grammar of the Latin language | | | | | | |
| 1.1 | Phonetics. Accent rules, word stressing /Lec/ | 1 | 2 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.1.1 | Phonetics. Accent rules, word stressing /Pr/ | 1 | 4 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.1.2 | Phonetics. Accent rules, word stressing /self-study/ | 1 | 4 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.2 | Latin Noun /Lec/ | 1 | 2 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.2.1 | Latin Noun /Pr/ | 1 | 6 | UC-4.1 UC-4.2 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.2.2 | Latin Noun /self-study/ | 1 | 4 | UC-4.1 UC-4.2 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.3 | Latin Adjective /Lec/ | 1 | 2 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.3.1 | Latin Adjective /Pr/ | 1 | 6 | UC-4.1 UC-4.2 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.3.2 | Latin Adjective /self-study/ | 1 | 2 | UC-4.1 UC-4.2 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.4 | Latin Verb /Lec/ | 1 | 2 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.4.1 | Latin Verb /Pr/ | 1 | 4 | UC-4.1 UC-4.2 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.4.2 | Latin Verb /self-study/ | 1 | 2 | UC-4.1 UC-4.2 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.5 | Latin Numeral /Lec/ | 1 | 2 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.5.1 | Latin Numeral /Pr/ | 1 | 4 | UC-4.1 UC-4.2 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.5.2 | Latin Numeral /self-study/ | 1 | 4 | UC-4.1 UC-4.2 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.6 | Prefixes in the anatomical terminology /Lec/ | 1 | 2 | UC-4.1 UC-4.2 UC4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |

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|-------|---|---|---|----------------------------|--------------------------------------|--|--------------|
| 1.6.1 | Prefixes in the anatomical terminology /Pr/ | 1 | 4 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.6.2 | Prefixes in the anatomical terminology /self-study/ | 1 | 2 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.7 | Pronouns. Adverb /Lec/ | 1 | 2 | UC-4.1 UC-4.2 UC4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.7.1 | Pronouns. Adverb /Pr/ | 1 | 4 | UC-4.1 UC-4.2 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.7.2 | Pronouns. Adverb /self-study/ | | 2 | UC-4.1 UC-4.2 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.8 | Prepositions, Conjunctions /Lec/ | 1 | 2 | | | | |
| 1.8.1 | Control work/ | 1 | 0 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | Control work |
| 1.8.2 | Prepositions, Conjunctions, /self-study/ | 1 | 2 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 1.9 | Credit | 1 | 0 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | Credit |
| 2 | Section II. Medical Terminology | | | UC-4.1 UC-4.2 | | | |
| 2.1.1 | Clinical terminology /Lec/ | 2 | 4 | UC-4.1 UC-4.2 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 2.1.2 | Clinical terminology /Pr/ | 2 | 8 | UC-4.1 UC-4.2 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 2.1.3 | Clinical terminology/self-study/ | 2 | 4 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 2.2 | Latin Pharmaceutical terminology /Lec/ | 2 | 2 | UC-4.1 UC-4.2 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 2.2.1 | Latin Pharmaceutical terminology/Pr/ | 2 | 4 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 2.2.2 | Latin Pharmaceutical terminology /self- | 2 | 4 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 2.3 | Pharmaceutical forms /Lec/ | 2 | 2 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 2.3.1 | Pharmaceutical forms /Pr/ | 2 | 4 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |

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|-------|---|---|---|----------------------------|--------------------------------------|--|--|
| 2.3.1 | Pharmaceutical forms /self- study/ | 2 | 2 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 2.4 | Latin and Greek components of drug names /Lec/ | 2 | 2 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 2.4.1 | Latin and Greek components of drug names /Pr/ | 2 | 4 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |

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|-------|---|---|---|----------------------------|--------------------------------------|--|--------------|
| 2.4.2 | Latin and Greek components of drug names /self- study/ | 2 | 4 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 2.5 | Writing a prescription /Lec/ | 2 | 4 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 2.5.1 | Writing a prescription /Pr/ | 2 | 6 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 2.5.2 | Writing a prescription /self- study/ | 2 | 4 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 2.6 | Acids, oxides and salts /Lec/ | 2 | 2 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 2.6.1 | Acids, oxides and salts /Pr/ | 2 | 6 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 2.6.2 | Acids, oxides and salts /self- study/ | 2 | 3 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | |
| 2.6.3 | Acids, oxides and salts /Pr/ Control work | 2 | 0 | UC-4.1 UC-4.2 UC-4.3 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | Control work |
| 2.7 | Credit | 2 | 0 | UC-4.1 UC-4.2 | L 1.1 L 2.1 L 2.2 L 3.1 E 1 E2 E3 | | Credit |

Life safety

1. COURSE OBJECTIVES

- | | |
|-----|---|
| 1.1 | The course aim is to form among the students the professional safety culture which is understood as mastering universal competencies by a personality to provide safety in the field of professional activity and to successfully solve professional tasks which consider safety issues to be a priority. |
|-----|---|

2. COURSE OVERVIEW

| | |
|------------------------------|---------|
| Course code (in curriculum): | B1.O.01 |
|------------------------------|---------|

2.1 Assumed background:

| | |
|-------|----------------------|
| 2.1.1 | Physics, Mathematics |
|-------|----------------------|

| | |
|-------|-----------|
| 2.1.2 | Chemistry |
|-------|-----------|

| | |
|------------|---|
| 2.1.3 | Human anatomy |
| 2.1.4 | Biology |
| 2.2 | Post-requisite courses and practice: |
| 2.2.1 | Disaster Medicine |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

UC-8.1: Identifies harmful and dangerous factors of the environment

UC-8.2: Selects means of protection against the effects of harmful and dangerous factors in the framework of the activity

UC-8.3: Provides safe conditions for life and work

UC-8.4: Explains the rules of behavior in case of emergencies of natural and man-made origin

UC-8.5: Provides first aid

By the end of the course students must:

| | |
|------------|--|
| 3.1 | Know: |
| 3.1.1 | the main techno-sphere hazards, their properties and features, the impact character of harmful and dangerous factors on human beings and natural environment, methods of protection from them applied to their professional sphere |
| 3.2 | Be able to: |
| 3.2.1 | identify the main hazards of human natural environment, estimate the risks of their realization, choose methods of protection from them applied to their professional sphere and techniques of providing comfortable conditions of life activity |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Class Code | Class Code | Class Code | Class Code | Class Code | Class Code |
|------------|---|------------|------------|------------|------------|------------|
| | Section 1. Introduction to Life safety | | | | | |

| | | | | | | |
|-----|---|---|---|----------------------|------------------------------------|--|
| 1.1 | Introduction to safety /Lecture/ | 2 | 4 | UC-8.1 | L1.1 L1.2 L2.1 E1 E2 | |
| 1.2 | Assessment of exposure to harmful substances contained in the air /Pr/ | 2 | 2 | UC-8.1 | L1.1 L1.2 L3.1 L3.3 E1 E2 | |
| 1.3 | The concept of the safety of human life. Basic terms and definitions. /Self-study/ | 2 | 4 | UC-8.1 | L1.1 L1.2 L2.1 E1 E2 | |
| | Section 2. Human beings and technosphere | | | | | |
| 2.1 | Human beings and technosphere /Lecture/ | 2 | 4 | UC-8.1 UC-8.2 UC-8.3 | L1.1 L1.2 L2.1 E1 E2 E4 | |
| 2.2 | Investigation and accounting of accidents at work /Pr/ | 2 | 2 | UC-8.1 UC-8.2 UC-8.3 | L1.1 L1.2 L3.1 L3.3 E1 E2 E4 | |
| 2.3 | Structural elements of the technosphere from the standpoint of the technosphere as a natural and artificial phenomenon | 2 | 2 | UC-8.1 UC-8.2 UC-8.3 | L1.1 L1.2 L2.1 E1 E2 E4 | |
| | /SelfSection-study/ 3. Identification and impact of harmful and dangerous factors of the environment on human beings | | | | | |

| | | | | | | |
|-----|--|---|---|----------------------|--------------------------------|--|
| 3.1 | Identification and impact of harmful and dangerous factors of the environment on human beings /Lecture/ | 2 | 4 | UC-8.2 UC-8.3 UC-8.4 | L1.1 L1.2 L2.1 E1 E2 E3 E4 | |
| 3.2 | Evacuation of people in case of fire /Pr/ | 2 | 2 | UC-8.2 UC-8.3 UC-8.4 | L1.1 L1.2 L3.1 L3.3 E1 E2 E3 | |
| 3.3 | Classification of dangerous and harmful factors. /Self-study/ | 2 | 2 | UC-8.2 UC-8.3 UC-8.4 | L1.1 L1.2 L2.1 E1 E2 E3 E4 | |
| | Section 4. Protection of human beings and environment from harmful and dangerous factors of natural, anthropogenic and technogenic origin | | | | | |
| 4.1 | Protection of human beings and environment from harmful and dangerous factors of natural, anthropogenic and technogenic origin /Lecture/ | 2 | 4 | UC-8.1 UC-8.5 | L1.1 L1.2 L2.1 L3.2 E1 E2 | |
| 4.2 | Colour signal and safety signs. /Pr/ | 2 | 2 | UC-8.1 UC-8.5 | L1.1 L1.2 L3.1 L3.2 L3.3 E1 E2 | |
| 4.3 | The main causes of domestic and workplace injuries. /Self-study/ | 2 | 2 | UC-8.1 UC-8.5 | L1.1 L1.2 L2.1 L3.2 E1 E2 | |
| | Section 5. Providing a comfortable environment for human life and activities | | | | | |
| 5.1 | Providing a comfortable environment for human life and activities /Lecture/ | 2 | 4 | UC-8.1 UC-8.2 UC-8.3 | L1.1 L1.2 L2.1 L3.1 L3.3 | |
| 5.2 | Means of personal respiratory protection. /Pr/ | 2 | 2 | UC-8.1 UC-8.2 UC-8.3 | L2.1 L3.1 L3.3 | |
| 5.3 | Motivation of activity. /Self-study/ | 2 | 2 | UC-8.1 UC-8.2 UC-8.3 | L1.1 L1.2 L2.1 | |
| | Section 6. Psychophysiological and ergonomic safety basics | | | | | |

| | | | | | |
|-----|---|---|---|------------------------------------|---|
| 6.1 | Psychophysiological and ergonomic safety basics /Lecture/ | 2 | 4 | UC-8.1 UC-8.2 UC-8.3 | L1.1 L1.2 L2.1 L3.1 L3.3 |
| 6.2 | Assessment of compliance of the workplace with sanitary and hygienic standards /Pr/ | 2 | 2 | UC-8.1 UC-8.2 UC-8.3 | L2.1 L3.1 L3.3 |
| 6.3 | Mental processes and conditions /Self-study/ | 2 | 2 | UC-8.1 UC-8.2 UC-8.3 | L1.2 Л1.1 L2.1 |
| | Section 7. Emergency and protection methods in terms of their implementation | | | | |
| 7.1 | Emergency and protection methods in terms of their implementation /Lecture/ | 2 | 4 | UC-8.1 UC-8.2 UC-8.4 | L1.1 L1.2 L2.1 |
| 7.2 | Hygienic assessment of working conditions on industrial dust /Pr/ | 2 | 2 | UC-8.1 UC-8.2 UC-8.3 | L2.1 L3.3 L3.1 |
| 7.3 | General information about emergency situations. /Self-study/ | 2 | 2 | UC-8.1 UC-8.2 UC-8.4 | L1.1 L1.2 L2.1 |
| | Section 8. Life safety management | | | | |
| 8.1 | Life safety management /Lecture/ | 2 | 4 | UC-8.1 UC-8.2 UC-8.3 UC-8.4 | L1.1 L1.2 L2.1 L3.1 |
| 8.2 | Calculation of the required air exchange in general ventilation /Pr/ | 2 | 2 | UC-8.1 UC-8.2 UC-8.3 UC-8.4 | L2.1 L3.3 L3.1 |
| 8.3 | General aspects of management. /Self-study/ | 2 | 4 | UC-8.1 UC-8.3 UC-8.4 | L2.1 L3.1 L3.3 |
| 8.4 | /Test/ | 2 | 2 | UC-8.1 UC-8.2 UC-8.3 UC-8.4 UC-8.5 | L1.1 L1.2 L2.1 L3.1 L3.2 L3.3 E1 E2 E3 E4 |
| 8.5 | / Credit/mark/ | 2 | 2 | UC-8.1 UC-8.2 UC-8.3 UC-8.4 UC-8.5 | L1.1 L1.2 L2.1 L3.1 L3.2 L3.3 E1 E2 E3 E4 |

Medical Informatics

1. OBJECTIVES OF MASTERING THE DISCIPLINE

| | |
|-----|---|
| 1.1 | Study of information technologies, methods of creating models used to solve standard problems of professional activity, analyzing and presenting medical information, conducting statistical analysis of medical information in compliance with the basic requirements of information security. |
|-----|---|

2. PLACE OF THE DISCIPLINE IN THE STRUCTURE OF THE EDUCATIONAL PROGRAM

| | |
|---|------------------------------|
| AOP cycle (section): | B1.O.04. |
| 2.1 Requirements for the preliminary training of the learner: | |
| 2.1.1 | School course "Informatics" |
| 2.1.2 | Physics, math |
| 2.2 Disciplines and practices for which the mastering of this discipline (module) is necessary as a precursor: | |
| 2.2.1 | Basics of project activities |

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| 2.2.2 | Educational practice, research work (obtaining primary skills of research work) |
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| 3. COMPETENCIES OF THE STUDENT, FORMED AS A RESULT OF MASTERING THE DISCIPLINE (MODULE) | |
| OPK-10.1: Demonstrates knowledge of the mathematical foundations of medical statistics to solve their professional problems | |

OPK-11.3: Demonstrates readiness to analyze and publicly present medical information based on evidence-based medicine

PC-11.1: Able to utilize digital technologies and information tools to meet personal, educational and professional needs

PC-11.2: Able to set problems and develop solution algorithms using programming tools

PC-11.3: Able to use mathematical methods and models to solve professional problems and develop new approaches

As a result of mastering the discipline, the student must

| | |
|------------|--|
| 3.1 | Know: |
| 3.1.1 | Basic methods of analyzing and publicly presenting medical information based on evidence-based medicine. |
| 3.1.2 | Mathematical foundations of medical statistics for solving professional problems. |
| 3.1.3 | Current digital technology and information tools to meet personal, educational, and professional needs. |
| 3.1.4 | Methods of solving problems and creating algorithms for their solution using programming tools |
| 3.1.5 | Methods of creating mathematical models for solving professional problems |
| 3.2 | Skill: |
| 3.2.1 | Analyze experimental data and carry out their statistical processing. |

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|-------|--|
| 3.2.2 | Use the Internet to search for scientific information. |
| 3.2.3 | Analyze scientific medical information. |
| 3.2.4 | Utilize information technology to prepare a public presentation of it. |
| 3.2.5 | Use algorithmic and programming techniques to solve problems. |
| 3.2.6 | Use mathematical methods to create models to solve problems. |

| 4. STRUCTURE AND CONTENT OF THE DISCIPLINE (MODULE) | | | | | | |
|--|---|--------------------------|--------------|---------------------|-------------------|-------------|
| Class code | Name of sections and topics /type of lesson/ | Semester / Course | Hours | Competitions | Literature | Note |

| | | | | | | |
|-----|--|---|---|---|---------------------------------------|--|
| | Section 1: Introduction to medical informatics. General characteristics of the processes of collection, storage and processing of information used to solve the tasks of professional activity | | | | | |
| 1.1 | Concepts of medical informatics, medical information, types and features of medical information. Coding of information. /Lec/. | 2 | 2 | PK-11.1 PK-11.3 | L1.1L2.1L3.1 E1 E2 E3 E4 | |
| 1.2 | Analog and digital medical data. Coding of black and white and color medical images. Number systems. Measuring the amount of information in different coding systems. /Pr/. | 2 | 4 | PK-11.1 PK-11.3 | L1.2L2.1L3.2. E1 E2 E3 E4 | |
| 1.3 | Working with the Task Manager. Explorer program. The concept of a directory (folder), file (document). Creating a directory tree. Mouse control techniques. Copying, moving, deleting files. /Pr/. | 2 | 2 | PK-11.1 PK-11.3 | L1.2 L2.1 L3.1 L3.2 E1 E2 E3 E4 | |
| | Section 2: Basic information about hardware and software used for storing, transforming and transmitting information. Basic technologies of information transformation | | | | | |
| 2.1 | Hardware basics. /Lec/. | 2 | 2 | PK-11.1 PK-11.3 | L1.2L2.1L3.2. E1 E2 E3 E4 | |
| 2.2 | Word program. Word processor settings, creating, editing and formatting a document. Tables, lists, footnotes. Hyperlinks. Columns, table of contents. /Pr/. | 2 | 3 | OPK-10.1 OPK-11.3 PK-11.1 PK-11.3 | L2.1L3.2 E1 E2 E3 E4 | |
| 2.3 | Abstracting scientific articles: assess the problem that the authors study, note the methods of mathematical (statistical) analysis that are used in scientific articles. Abstract to draw up in the program Word. /Pr/. | 2 | 3 | OPK-11.3 PK-11.1 PK11.3 | L1.2L2.1L3.2. E1 E2 E3 E4 | |
| 2.4 | Preparation for a public presentation on the topic: "Methods of analysis used in scientific articles published in the Bulletin of SURGU. Medicine" /Cp/. | 2 | 7 | OPK-11.3 PK-11.3 | L1.2L2.1 E1 E2 E3 E4 | |
| 2.5 | Software Fundamentals, OS. /Lec/. | 2 | 2 | PC-11.3 | E1 E2 E3 E4 | |
| 2.6 | A study of the history of the development of medicine. The technology of using a text editor. /Pr/. | 2 | 3 | OPK-10.1 OPK-11.3 PK-11.3 | L1.2L2.1L3.2. E1 E2 E3 E4 | |
| 2.7 | Excel. Data filling, primary data processing using formulas. /Pr/. | 2 | 3 | OPK-10.1 PK-11.1 PK-11.3 | L1.1L2.1L3.2. E1 E2 E3 E4 | |

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|--|--|---|---|---|------------------------------|--|
| 2.8 | Excel. Filling in data that obeys a certain distribution law. Working with Excel as a database. Sorting, filtering. /Pr/. | 2 | 3 | OPK-10.1 PK-11.3 | L1.1L2.1L3.2. E1 E2 E3 E4 | |
| Section 3: Data visualization and processing. The concept of statistical processing. | | | | | | |
| 3.1 | Basic concepts of mathematical statistics, general population, sampling. Laws of distribution. Parametric and nonparametric criteria. /Lec/. | 2 | 4 | OPK-10.1 PK-11.3 | L1.2L2.1L3.2. E1 E2 E3 E4 | |
| 3.2 | Visualization as a tool for primary data analysis. /Pr/. | 2 | 2 | OPK-10.1 PK-11.1 PK 11.3 | L1.1L2.1L3.2. E1 E2 E3 E4 | |
| 3.3 | Data processing using distribution histogram. /Pr/. | 2 | 2 | PK-11.1 PK- 11.3 | L1.1L2.1L3.1 E1 E2 E3 E4 | |
| 3.4 | Basic sampling characteristics. Using the Analysis Package and functions in Excel. /Pr/. | 2 | 2 | OPK-10.1 PK-11.1 PK 11.3 | L1.1L2.1L3.2. E1 E2 E3 E4 | |
| 3.5 | Properties of the normal law of distribution. Checking the distribution for obedience to the normal law of distribution /Pr/ | 2 | 2 | OPK-10.1 PK-11.2 PK11.3 | L1.1L2.1L3.2. E1 E2 E3 E4 | |
| 3.6 | Problem statement and development of a solution algorithm. /Cp/. | 2 | 2 | OPK-10.1 PK-11.2 PK11.3 | L2.1L3.2 E1 E2 E3 E4 | |
| Section 4: Medical information systems.Mathematical modeling. | | | | | | |
| 4.1 | Medical Information Systems. Information protection in MIS. /Lec/. | 2 | 2 | PK-11.1 PK- 11.3 | L1.1L2.1L3.1 E1 E2 E3 E4 | |
| 4.2 | National standard "Electronic medical history". Classification of "EIB" and "EPMH" systems. Preparation of medical documentation. /Pr/. | 2 | 2 | OPK-10.1 PK-11.1 PK 11.3 | L1.1L2.1L3.2. E1 E2 E3 E4 | |
| 4.3 | Modeling of biological processes. /Pr/. | 2 | 2 | OPK-10.1 OPK-11.3 PK-11.3 | L1.1L2.1L3.2. E1 E2 E3 E4 | |
| 4.4 | Searching for information on the site of the federal electronic medical library /Cp/ | 2 | 5 | PC-11.3 | L1.1L3.2 E1 E2 E3 E4 | |
| 4.5 | Determination of reliability of differences. Null hypothesis, level of significance, Student's criterion. /Pr/. | 2 | 3 | OPK-10.1 OPK-11.3 PK-11.1 PK11.2 PK- 11.3 | L1.1L2.1 E1 E2 E3 E4 | |
| Section 5: Telecommunication technologies and Internet resources and their use in medicine. Modern information threats. | | | | | | |

| | | | | | | |
|-----|---|---|----|--|-------------------------------|-------------------------|
| 5.1 | Local and global computer networks. Protocols, architecture of networks. Basic services of the Internet /Lecture/ | 2 | 2 | PK-11.1 PK-11.3 | L1.1L2.1L3.2. E1 E2 E3 E4 | |
| 5.2 | Search for information in the global network by topic /Pr/ | 2 | 2 | PK-11.1 PK-11.3 | L1.1L2.1L3.2. E1 E2 E3 E4 | |
| 5.3 | Correlation analysis. Solving problems of medical and biological topics with the preliminary development of the algorithm of the solution. /Pr/ | 2 | 4 | OPK-11.3 PK-11.3 | L1.2L2.1L3.2. E1 E2 E3 E4 | |
| 5.4 | Preparation for public presentation of the results of work /Cf/ | 2 | 3 | OPK-11.3 PK-11.1 PK11.3 | L1.2L2.1L3.2. E1 E2 E3 E4 | |
| 5.5 | Information protection. Information trace. /Lec/ | 2 | 2 | OPK-10.1 PK-11.3 | L1.1L2.1L3.2. E1 E2 E3 E4 | |
| 5.6 | Solving problems of medical and biological topics. Development of the algorithm. /Pr/. | 2 | 3 | PK-11.2 PK-11.3 | L1.1L2.1L3.1 E1 E2 E3 E4 | |
| 5.7 | Regression Analysis. /Pr/. | 2 | 3 | OPK-10.1 PK-11.3 | L1.2L2.1L3.2. | |
| 5.8 | Final control work /Counter.rab.rab./ | 2 | 0 | OPK-10.1 OPK-11.3 PK-11.1 PK11.2 PK-11.3 | L1.1 L1.2L2.1L3.2 E1 E2 E3 E4 | Assignment for the test |
| 5.9 | /Example/. | 2 | 27 | OPK-10.1 OPK-11.3 PK-11.1 PK11.2 PK-11.3 | L1.1 L1.2 L2.1 L3.1 L3.2 | Examination task |

Physical Education and Sports

1. COURSE OBJECTIVES

| | |
|-----|--|
| 1.1 | The aim of the course is to develop students' competence in the directed use of various means and methods of physical culture and sport to preserve and strengthen health, to maintain an appropriate level of physical fitness as a condition for full social and professional activity. |
|-----|--|

2. COURSE OVERVIEW

| | |
|-----------------------------|---|
| Course code (in curriculum) | B1.O.03 |
| 2.1 | Assumed background: Basic level of knowledge in high school subjects "Physical Education", "Basics of Life Safety" |
| 2.2 | Post-requisite courses and practice: |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

| |
|--|
| UC-7.1 - Understands the role of physical culture and sports in modern society, in human life, in preparing for social and professional activities, the importance of physical activity in a healthy lifestyle and the basics of its planning to maintain the proper level of physical fitness |
|--|

UC-7.2 - Uses self-control methods to determine the state of health, the level of physical development and physical fitness in accordance with the normative indicators

UC-7.3 - Maintains the proper level of physical fitness to ensure full -fledged social and professional activity, regularly engaging in physical exercises

By the end of the course student must:

| |
|--|
| Know: |
| role of physical education and sports in modern society, in human life, in preparing for social and professional activities; the importance of physical activity in a healthy lifestyle and the basics of its planning to maintain the proper level of physical fitness; self-control methods to determine the state of health, the level of physical development and physical fitness in accordance with the normative indicators; how to use the physical fitness to ensure the social and professional activity, regularly engaging in physical exercises |
| Be able to: |
| understand the role of physical education and sports in modern society, in human life, in preparing for social and professional activities; understand the importance of physical activity in a healthy lifestyle and the basics of its planning to maintain the proper level of physical fitness; use self-control methods to determine the state of health, the level of physical development and physical fitness in accordance with the normative indicators; maintain the proper level of physical fitness to ensure full-fledged social and professional activity, regularly engaging in physical exercises. |
| Have skills of: |
| maintaining an adequate level of physical fitness to ensure meaningful social and occupational activities. |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics/Class type | Term / Academic year | Academic hours | Competences | Literature | Interactive |
|------------|--|----------------------|----------------|-------------|---|-------------|
| | Section 1. Physical education and sports in the system of higher education. The basics of a healthy and safe lifestyle | | | | | |
| 1.1 | Physical education and sports in general cultural and professional training, ensuring the health of future specialists /lecture/ | 1 | 2 | UC-7.1 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| 1.2 | The basics of a healthy and safe lifestyle. Physical education, sports and recreational activities as a factor of ensuring health /lecture/ | 1 | 4 | UC-7.1 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| 1.3 | Ergonomic requirements to ensuring work of students. Health of academic safety /lecture/ | 1 | 2 | UC-7.1 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| | Section 2. Self-control of those engaged in physical culture and sports | | | | | |
| 2.1 | Methods of self-control and assessment of physical development /pr/ | 1 | 2 | UC-7.2 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| 2.2 | Methods of self-control and assessment of physical development / Self-study/ | 1 | 1 | UC-7.2 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| 2.3 | Methods for self-control and assessing the functional state of the cardiorespiratory system /pr/ | 1 | 2 | UC-7.2 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |

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|---|---|---|----|------------------|---|--|
| 2.4 | Methods for self-control and assessing the functional state of the cardiorespiratory system /Self-study/ | 1 | 1 | UC-7.2 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| 2.5 | Methods for self-control and assessment of physical performance /pr/ | 1 | 2 | UC-7.2 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| 2.6 | Methods for self-control and assessment of physical performance /Self-study/ | 1 | 1 | UC-7.2 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| Section 3. Physical activity of students | | | | | | |
| 3.1 | The basics of exercise technique in different types of physical activity /pr/ | 1 | 18 | UC-7.3 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| 3.2 | The basics of exercise technique in different types of physical activity /Selfstudy/ | 1 | 1 | UC-7.3 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| Section 4. Application of means and methods of physical education and sports to maintain the proper level of physical and mental performance | | | | | | |
| 4.1 | Means and methods of physical education. Techniques for composing sets of physical exercises with different target orientations /lecture/ | 2 | 2 | UC-7.1 UC-7.3 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| 4.2 | Means and methods of physical education. Techniques for composing sets of physical exercises with different target orientations /pr/ | 2 | 2 | UC-7.1 UC-7.3 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| 4.3 | Means and methods of physical education. Techniques for composing sets of physical exercises with different target orientations /Self-study/ | 2 | 1 | UC-7.1 UC-7.3 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| 4.4 | Methods of self-assessment of mental performance, well-being and mood. The use of means of physical culture for the directed correction of fatigue and fatigue /lecture/ | 2 | 2 | UC-7.2 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| 4.5 | Methods of self-assessment of mental performance, well-being and mood. The use of means of physical culture for the directed correction of fatigue and fatigue /pr/ | 2 | 2 | UC-7.2 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| 4.6 | Methods of self-assessment of mental performance, well-being and mood. The use of means of physical culture for the directed correction of fatigue and fatigue /Self-study/ | 2 | 1 | UC-7.2 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| 4.7 | Means and methods of diagnosis and prevention of posture disorders /pr/ | 2 | 1 | UC-7.2 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| 4.8 | Means and methods of prevention of fatigue of the visual analyzer and the development of myopia /pr/ | 2 | 1 | UC-7.2 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| Section 5. Sport and physical activity of students | | | | | | |
| 5.1 | Sports. Individual choice of sports, types of physical activity types /lecture/ | 2 | 2 | UC-7.1 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| 5.2 | The content of physical exercises in various types of physical activity /pr/ | 2 | 18 | UC-7.3 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |

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|---|--|---|---|-------------------------|---|--|
| 5.3 | Fundamentals of planning independent physical activity of various target orientation /Self-study/ | 2 | 1 | UC-7.1 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| Section 6. Professionally applied physical training of a student | | | | | | |
| 6.1 | Professionally applied physical training/lecture/ | 2 | 2 | UC-7.1 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| 6.2 | Physical culture and sports in the professional activities of specialists of different profiles /Self-study/ | 2 | 1 | UC-7.1 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |
| 6.3 | Credit | 2 | 0 | UC-7.1 UC-7.2 UC-7.3 | 1.1, 1.2, 2.1, 2.2, 2.3, E1 E2 E3 E4 E5 | |

Physics, Mathematics

| 1. COURSE OBJECTIVES | |
|----------------------|---|
| 1.1 | The aim of the course is to provide the basic knowledge and techniques used in physics and mathematics and which are needed to analyze physical problems in the research and development environment. |
| 1.2 | The objectives of the course are to: |
| 1.3 | - Develop a conceptual understanding of the core concepts of physics. |
| 1.4 | - Convince the student of the importance of differential and integral calculus in science and technology. |
| 1.5 | - Give students hands-on experience with some of the experimental basis of modern physics. |
| 1.6 | - Teach the student to use physical equipment to carry out various measurements. |
| 1.7 | - Acquaint with the basic error analysis of experimental data. |

| 2. COURSE OVERVIEW | |
|---|---|
| Course code (in curriculum) | Б1.О.01 |
| 2.1 Assumed background: | |
| 2.1.1 | The course has minimal prerequisites, consisting of high school physics, algebra, plane geometry, and some trigonometry. |
| 2.2 Post-requisite courses and practice: | |
| 2.2.1 | Physics, Mathematics is related to Chemistry, Biology, Life Safety course. This course is also essential for understanding X-Ray Diagnostics, Physiology and a number of other courses. |

| 3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE) | |
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| GPC-4.1 Demonstrates knowledge of the basics of instrumental methods of diagnostics, understanding of physical principles of equipment operation for practical application - diagnostics and differential diagnostics of human diseases and their application in professional activity | |

By the end of the course students must

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|------------------------|---|
| 3.1 know: | |
| 3.1.1 | The basic principles and concepts underlying a broad range of fundamental areas of physics. |
| 3.1.2 | The basic laws of physics, physical phenomena and patterns that underlie the processes occurring in nature. |
| 3.1.3 | The physical basis of the functioning of the measuring equipment. |
| 3.1.4 | |
| 3.2 be able to: | |
| 3.2.1 | Plan and execute an experiment or research, critically analyze the results and draw valid conclusions. |
| 3.2.2 | Demonstrate their knowledge of physics in a laboratory environment. |

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| 3.2.3 | Evaluate the level of uncertainty in their results, understand the significance of error analysis and be able to compare these results with expected outcomes and theoretical predictions. |
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| 4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE) | | | | | | |
|--|---|-----------------|----------------|-------------|--------------------|-------|
| Class Code | Topics /Class type | Term / Academic | Academic hours | Competences | Literature | Notes |
| | Section 1. Vectors. Functions. | | | | | |
| 1.1 | Review of Vectors. Operations on vectors. Functions. Representations of functions. Limit of a function. Function of several variables /Lec/ | 1 | 2 | GPC-4.1 | 1.2 E3 | |
| 1.2 | Problem solving: Vectors, Functions and Function limits /Lab/ | 1 | 4 | GPC-4.1 | 1.2 2.5 2.6 3.5 E3 | |
| 1.3 | Homework assignment: Vectors, Functions and Function limits | 1 | 3 | GPC-4.1 | 1.2 E3 | |
| | /SelfSection-study/ 2. Derivative of a function | | | | | |
| 2.1 | Derivative of the function. Applications of Derivatives /Lec/ | 1 | 2 | GPC-4.1 | 1.2 E3 | |

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|-----|---|---|---|---------|-------------------------------|--|
| 2.2 | Problem solving: Derivative of a function /Lab/ | 1 | 4 | GPC-4.1 | 1.2 2.5 2.6 3.5 E3 | |
| 2.3 | Homework assignment: Derivative of a function /Self-study/ | 1 | 3 | GPC-4.1 | 1.2 E3 | |
| | Section 3. Integral of a function | | | | | |
| 3.1 | Integral of a function. Applications of Integrals /Lec/ | 1 | 2 | GPC-4.1 | 1.2 E3 | |
| 3.2 | Problem solving: Integral of a function /Lab/ | 1 | 4 | GPC-4.1 | 1.2 2.5 2.6 3.5 E3 | |
| 3.3 | Homework assignment: Derivative and Integral of a function /Self-study/ | 1 | 3 | GPC-4.1 | 1.2 E3 | |
| | Section 4. Mechanics | | | | | |
| 4.1 | Motion in two and three dimensions. Force and motion /Lec/ | 1 | 2 | GPC-4.1 | 1.1 1.2 2.1 2.2 2.4 E1 E2 | |
| 4.2 | Measurement of linear dimensions and volumes of bodies of regular geometric shape /Lab/ | 1 | 4 | GPC-4.1 | 1.1 1.2 2.1 2.2 2.4 3.2 E1 E2 | |
| 4.3 | Measurement of free fall acceleration using simple gravity pendulum /Lab/ | 1 | 4 | GPC-4.1 | 1.1 1.2 2.1 2.2 2.4 3.2 E1 E2 | |
| 4.4 | Laboratory reports /Self-study/ | 1 | 3 | GPC-4.1 | 1.1 1.2 2.1 2.2 2.4 E1 E2 | |
| | Section 5. Thermodynamics and molecular physics | | | | | |
| 5.1 | Temperature, heat, and the first law of the thermodynamics /Lec/ | 1 | 2 | GPC-4.1 | 1.1 1.2 2.2 2.4 E1 E2 | |

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|---|---|---|---|---------|---------------------------------|--|
| 5.2 | Measurement of viscosity of liquids /Lab/ | 1 | 4 | GPC-4.1 | 1.1 1.2 2.2 2.4 3.1 E1 E2 | |
| 5.3 | Laboratory reports /Self-study/ | 1 | 3 | GPC-4.1 | 1.1 1.2 2.2 2.4 E1 E2 | |
| Section 6. Electricity and magnetism | | | | | | |
| 6.1 | Electric charge. Electric fields. Electric potential. Magnetic fields /Lec/ | 1 | 2 | GPC-4.1 | 1.1 1.2 2.2 2.4 E1 E2 | |
| 6.2 | Ohm's Law /Lab/ | 1 | 4 | GPC-4.1 | 1.1 1.2 2.2 2.4 3.4 E1 E2 | |
| 6.3 | Laboratory reports /Self-study/ | 1 | 3 | GPC-4.1 | 1.1 1.2 2.2 2.4 E1 E2 | |
| Section 7. Optics | | | | | | |
| 7.1 | Electromagnetic waves. Interference. Diffraction. Polarization /Lec/ | 1 | 2 | GPC-4.1 | 1.1 1.2 2.2 2.4 E1 E2 | |

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| | | | | | | |
|-----------------------------------|--|---|---|---------|---------------------------------|--|
| 7.2 | Polarization of light /Lab/ | 1 | 4 | GPC-4.1 | 1.1 1.2 2.2 2.4 3.3 E1 E2 | |
| 7.3 | Laboratory reports /Self-study/ | 1 | 3 | GPC-4.1 | 1.1 1.2 2.2 2.4 E1 E2 | |
| Section 8. Nuclear physics | | | | | | |
| 8.1 | Nuclear physics. Radioactive decay. Measuring radiation dosage /Lec/ | 1 | 2 | GPC-4.1 | 1.1 1.2 2.2 2.3 2.4 E1 E2 | |
| 8.2 | Medical use of X Rays. Magnetic moments in an external magnetic field. Magnetic resonance imaging /Self-study/ | 1 | 3 | GPC-4.1 | 1.1 1.2 2.2 2.3 2.4 E1 E2 | |
| Section 9. | | | | | | |
| 9.1 | /Test/ | 1 | 0 | GPC-4.1 | 1.2 1.1 2.2 2.4 E1 E2 | |
| 9.2 | /Credit / | 1 | 0 | GPC-4.1 | 1.2 1.1 2.2 2.4 E1 E2 | |

Adaptive and age-related physiology

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| 1.1 | to form a system of knowledge and ideas among students about the functioning of the human body as a whole, its systems, organs, tissues and cells, about the basic laws of functioning and mechanisms of regulation of vital activity, about the influence of environmental factors on the body's functions, as well as the skills necessary for a doctor to make a preliminary diagnosis and provide qualified medical care to patients at the pre-hospital stage.; |
| | to develop professional competencies in the preparation of a specialist by forming modern natural science knowledge in the field of general and private physiology on the basis of a systematic approach, ideas about the vital activity of the human body as an open self-regulating system that ensures adaptive interaction of the body with the external environment. |
| 2. COURSE OVERVIEW | |
| Course code (in curriculum) | B1.O.04.11 |
| 2.1 | Assumed background: |
| 2.1.1 | Biology |
| 2.1.2 | Human anatomy |
| 2.2 | Post-requisite courses and practice: |
| 2.2.1 | Homimal physiology |
| 2.2.2 | Pathophysiology |
| 2.2.3 | Human Genetics |
| 2.2.4 | Physiological Basics of Human Adaptation in the North |
| 3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE) | |
| GPC-5.1: Knows the histological structure of organ tissues - knows how to differentiate them microscopically; the anatomy of the human body - the macroscopic structure and topography of organs and body parts; human physiology - the mechanisms of homeostasis regulation and the functional systems of the body in the normal condition | |
| GPC-5.9: Demonstrates knowledge of the theoretical foundations of immunology, allergology, understanding of immune defence mechanisms, types of immunological reactions and their role in the pathogenesis of human diseases | |

By the end of the course students must:

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| 3.1 | Know: |
| 3.1.1 | basic concepts used in age physiology |
| 3.1.2 | basic concepts of the neurobiology and neurophysiology fields |
| 3.1.3 | possibilities of application of end-to-end technologies in biomedical research |
| 3.1.4 | mechanisms of functioning of physiological systems |
| 3.1.5 | regularities of functioning and mechanisms of regulation of the activity of cells, tissues, organs, systems of a healthy organism, considered from the standpoint of general physiology, private physiology and integrative human activity |
| 3.1.6 | the essence of research methods for various functions of a healthy body, which are widely used in practical medicine |
| 3.1.7 | ways of working with electronic databases of physiological indicators |
| 3.1.8 | the possibilities of using Internet things in the management of patients of different ages |
| 3.1.9 | methodology of the study of the adult and child population health in order to preserve, strengthen and restore it |
| 3.1.10 | methodology to determine the impact of environmental factors on the health of the population or its individual groups |
| 3.1.11 | forms and methods of organization of hygienic education and upbringing of the population; the main problems and directions of modern public health and international policy in this area |
| 3.2 | be able to: |
| 3.2.1 | correctly interpret and apply the basic concepts of hominal physiology when studying biomedical and medical literature and when working with medical specialists together |
| 3.2.2 | explain the principle of the most important methods of studying the functions of a healthy body |
| 3.2.3 | independently perform laboratory work, conduct experiments on experimental animals, protect the protocol of the study, solve test tasks and situational tasks, prepare scientific reports, etc. |
| 3.2.4 | explain the informational value of various indicators (constants) and the mechanisms of regulation of the activity of cells, tissues, organs, systems and the whole organism |
| 3.2.5 | evaluate and explain the basic laws of the formation and regulation of physiological functions of the body when achieving an adaptive result |
| 3.2.6 | evaluate and explain the general principles of state, activity and significance of the leading functional systems of the body |
| 3.2.7 | to evaluate and explain the patterns of formation and regulation of the main forms of behaviour of the organism, depending on the conditions of its existence |
| 3.2.8 | evaluate and explain the age-related features of the physiological systems of the body |

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| 3.2.9 | use hardware and software complexes to assess the functional state and age characteristics of the body |
| 3.2.10 | use information about the health of adults and children in the activities of medical organizations |
| 3.2.11 | analyse information about the health status of the population; compile a list of measures aimed to improve the quality and effectiveness of preventive assistance to the population in the formation of a healthy lifestyle |

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| 3.2.12 | interpret the results of laboratory and radiological research methods |
| 3.2.13 | use medical equipment, computer technology in their professional activities; use methods of primary and secondary prevention (based on evidence-based medicine), preventing the development of diseases |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Notes |
|------------|--|----------------------|----------------|---------------------|-------------------------------------|-------|
| | Unit 1. Ontogenesis | | | | | |
| 1.1 | Patterns of ontogenesis /Lecture/ | 4 | 2 | GPC-5.1; GPC-5.9 | L1.2 L1.3L2.4L3.1 E1E2E3E4E5 | |
| 1.2 | Patterns of ontogenesis /Practice/ | 4 | 2 | GPC-5.1; GPC-5.9 | L1.2 L2.18L3. 1 | |
| 1.3 | The patterns of ontogenesis. Maturation of human body systems /Practice/ | 4 | 2 | GPC-5.1; GPC-5.9 | L1.2 L1.2L2.18L3. 1 | |
| 1.4 | Neural network technologies as end-to-end technologies in the study of age-related features of the organism at various stages of ontogenesis. /Self-study/ | 4 | 2 | GPC-5.1; GPC-5.9 | L2.18L3. 1 E1E2E3E4E5 | |
| | Unit 2. Age-related and adaptive features of the nervous system | | | | | |
| 2.1 | Age-related and adaptive features of the nervous system at different stages of ontogenesis. Age-related features of the central nervous system /Lecture/ | 4 | 2 | GPC-5.1; GPC-5.9 | L1.2L2.4 L2.19L3.1 E1E2E3E4E5 | |
| 2.2 | Investigation of tendon reflexes. Study of motor functions of the cerebellum /Practice/ | 4 | 2 | GPC-5.1; GPC-5.9 | L1.2 L2.2 L2.4L3.1 | |
| 2.3 | Features of regulatory processes. Systemogenesis. /Practice/ | 4 | 2 | GPC-5.1; GPC-5.9 | L2.13 L2.18L3.1 | |
| 2.4 | Private nervous system. The possibilities of neurobiology and neurophysiology in the study of the properties of the human nervous system using information and end-to-end technologies at various stages of ontogenesis / Self-study / | 4 | 2 | GPC-5.1; GPC-5.9 | L2.13 L2.16L3.1 E1E2E3E4E5 | |
| 2.5 | Age-related aspects of the physiology of higher nervous activity. Age-related features of the peripheral nervous system /Lecture/ | 4 | 2 | | L1.1L2.4 L2.16L3.1 E1E2E3E4E5 | |

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|-----|---|---|---|--|----------------------------|--|
| 2.6 | Physiology of higher nervous activity. Properties of nervous processes. Information processing speed /Practice/ | 4 | 2 | | L1.1 L1.3L2.9 L2.12L3.1 | |
| | Unit 3. Age-related and adaptive features of the musculoskeletal system | | | | | |

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|-----|---|---|---|---------------------|---|--|
| 3.1 | Morphofunctional features of the musculoskeletal system at different stages of ontogenesis /Lecture/ | 4 | 2 | GPC-5.1; GPC-5.9 | L1.1L2.1 L2.17L3.1 E1E2E3E4E5 | |
| 3.2 | Age-related features of movement and musculoskeletal system / Practice/ | 4 | 2 | GPC-5.1; GPC-5.9 | L2.1 L2.11L3.1 | |
| 3.3 | Neural network technologies as end-to-end technologies in the study of age-related features of the organism at ontogenesis various stages /Self-study/ | 4 | 4 | GPC-5.1; GPC-5.9 | L1.1L2.6 L2.13L3.1 E1E2E3E4E5 | |
| 3.4 | Features of the musculoskeletal system at different stages of ontogenesis. Influence of the level of motor activity on the functional state of the musculoskeletal system /Selfstudy/ | 4 | 2 | GPC-5.1; GPC-5.9 | L1.2L2.3L3.1 | |
| | Unit 4. Age-related and adaptive features of the | | | | | |
| 4.1 | cardiovascular system Morphofunctional features of the cardiovascular system at different stages of ontogenesis /Lecture/ | 4 | 2 | GPC-5.1; GPC-5.9 | L2.5L3.2 E1E2E3E4E5 | |
| 4.2 | Study of the properties of the cardiovascular system. Features of adaptation of the cardiovascular system to the effects of various factors /Practice/ | 4 | 4 | GPC-5.1; GPC-5.9 | L2.14L3. 1 | |
| 4.3 | Cardiovascular system at different stages of ontogenesis /Self-study/ | 4 | 2 | GPC-5.1; GPC-5.9 | L2.5 L2.10L3.4 E1E2E3E4E5 | |
| | Unit 5. Blood. Age and adaptive features | | | | | |
| 5.1 | Age and adaptive features of blood /Lecture/ | 4 | 1 | GPC-5.1; GPC-5.9 | L2.15L3. 4 | |
| 5.2 | Age features of white and red blood /Practice/ | 4 | 2 | GPC-5.1; GPC-5.9 | L1.2L2.10L3. 4 | |
| 5.3 | Age-related features of the immune system /Self-study/ | 4 | 2 | GPC-5.1; GPC-5.9 | L2.8L3.4 E1E2E3E4E5 | |
| | Unit 6. Age and adaptive features of the respiratory system | | | | | |
| 6.1 | Age-related features of the respiratory system /Lecture/ | 4 | 2 | GPC-5.1; GPC-5.9 | L2.4L3.4 | |
| 6.2 | Methods for determining the main indicators of respiration /Practice/ | 4 | 4 | GPC-5.1; GPC-5.9 | L2.8L3.1 | |

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|-----|---|---|---|---------------------|----------------------------|--|
| 6.3 | Age-related features of the respiratory system /Self-study/ | 4 | 2 | GPC-5.1; GPC-5.9 | L1.1L2.3L3.2 E1E2E3E4E5 | |
| | Unit 7. Age-related and adaptive features of the digestive system and metabolism | | | | | |
| 7.1 | Age-related and adaptive features of the digestive system and metabolism /Lecture/ | 4 | 1 | GPC-5.1; GPC-5.9 | L2.4L3.2 E1E2E3E4E5 | |

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|------|--|---|---|---------------------|-----------------------------|-------------------|
| 7.2 | Age-related features of the digestive system /Practice/ | 4 | 2 | GPC-5.1; GPC-5.9 | L2.7L3.4 | |
| 7.3 | Age-related features of metabolism. Preparation of food ration for different ages /Practice/ | 4 | 2 | GPC-5.1; GPC-5.9 | L2.7L3.1 | |
| 7.4 | Metabolism and nutrition at different stages of ontogenesis /Self-study/ | 4 | 2 | GPC-5.1; GPC-5.9 | L2.10L3. 4 E1E2E3E4E5 | |
| | Unit 8. Age-related and adaptive features of the excretory and reproductive systems | | | | | |
| 8.1 | Age and adaptive features of the excretory and reproductive systems /Practice/ | 4 | 2 | GPC-5.1; GPC-5.9 | L1.2 L1.3L2.10L3. 3 | |
| 8.2 | The sexual formula /Practice/ | 4 | 2 | GPC-5.1; GPC-5.9 | L2.10L3.1 | |
| 8.3 | The use of end-to-end and information technologies for the study of age-related and adaptive properties of the respiratory system /Self-study/ | 4 | 2 | GPC-5.1; GPC-5.9 | L2.10L3. 4 E1E2E3E4E5 | |
| | Unit 9. Age-related and adaptive features of the endocrine system | | | | | |
| 9.1 | Age-related and adaptive features of the endocrine system /Lecture/ | 4 | 2 | GPC-5.1; GPC-5.9 | L2.4L3.1 L3.4 E1E2E3E4E5 | |
| 9.2 | Features of the endocrine system at different stages of ontogenesis /Practice/ | 4 | 2 | GPC-5.1; GPC-5.9 | L1.2L2.10L3. 4 | |
| 9.3 | Features of endocrine regulation during puberty, peri- and postmenopause /Selfstudy/ | 4 | 2 | GPC-5.1; GPC-5.9 | L2.8L3.4 E1E2E3E4E5 | |
| | Unit 10. Final lesson | | | | | |
| 10.1 | Control work | 4 | 0 | GPC-5.1; GPC-5.9 | L2.2 L2.4 | Abstract |
| 10.2 | Credit /Test/ | 4 | 0 | GPC-5.1; GPC-5.9 | L2.2 L2.4 E1E2E3E4E5 | Oral quiz Test |

Biochemistry

| 1. COURSE OBJECTIVES | |
|---|---|
| 1.1 | The aim of the course is to form knowledge about the chemical nature of substances of living organisms, their transformations, the connection of these transformations with the activity of organs and tissues, the basic patterns of metabolic processes and the consequences of their violation; determination of health state and human adaptation at the molecular, cellular and organ levels of the whole body; the ability to analyze results data of biochemical studies and use the gained knowledge to explain the nature of measurable changes in human and to make the diagnosis of the disease. |
| 1.2 | The objectives: <input type="checkbox"/> the acquisition of knowledge about the chemical nature of substances that make up living organisms, their transformations, the connection of these transformations with the activity of organs and tissues, the regulation of metabolic processes and the consequences of their violation; <input type="checkbox"/> developing students' skills in using laboratory equipment and reagents in compliance with safety regulations, analyzing the data obtained from biochemical research results and using the knowledge gained to explain the nature of changes occurring in the human body and diagnosing the disease; <input type="checkbox"/> formation of skills of analytical work with information (educational, scientific, regulatory and reference books and other sources), with information technology, diagnostic research methods |
| 2. COURSE OVERVIEW | |
| Course code (in curriculum) | B1.O.04.07 |
| 2.1 | Assumed background: |
| | Human Anatomy Histology, Embryology, Cytology Biology Chemistry |
| 2.2 | Post-requisite courses and practice: |
| | Hygiene X-Ray Diagnostics Pathophysiology Clinical Pathophysiology Pharmacology |
| 3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE) | |
| GPC-5.4 Demonstrates knowledge of the classification and structure of biochemical compounds, mechanisms of biochemical processes in the body, and understands their importance in maintaining homeostasis, metabolism, and pathogenesis of human disease; | |
| GPC-5.8 Demonstrates understanding of mechanisms of development of general pathological processes, knowledge of issues of pathogenesis of various human diseases and pathological conditions, ability to identify the leading links of pathogenesis in their relationship in a particular disease or pathological condition and on this basis the ability to justify effective pharmacotherapy; | |
| By the end of the course students must: | |
| 3.1 | know: |
| 3.1.1 | general patterns of the origin and development of life, human anthropogenesis and ontogenesis; |
| 3.1.2 | safety regulations in biochemical laboratories; the structure and chemical properties of the main classes of biologically important organic compounds; |
| 3.1.3 | structure and biochemical properties of the main classes of biologically important compounds: proteins, nucleic acids, carbohydrates, lipids, vitamins; |
| 3.1.4 | basics of enzymatic catalysis; basics of bioenergy; |

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| 3.1.5 | role of cell membranes and their transport systems in the metabolism in the human body; main metabolic pathways; transformation of biologically important compounds: carbohydrates, lipids, amino acids and nucleotides; |
| 3.1.6 | main mechanisms of metabolic transformations; chemical and biological essence of the processes occurring at the molecular and cellular levels in the human body; mechanisms leading to changes in the composition of components of the body biological matrix; |
| 3.1.7 | main instruments and equipment used in the course of biochemical studies of biological material; biochemical methods of laboratory research in ambulatory and inpatient patients; characteristics used in the biochemical diagnosis of biological material; rules for obtaining, transporting and storing samples of biological material; pre-analytical preparation of biological material; accepted units for expressing the results of clinical and biochemical studies; physiological causes of changes in diagnostically significant biochemical parameters. |
| 3.2 | be able to: |
| 3.2.1 | classify chemical compounds, based on their structural formula; use biochemical laboratory equipment; substantiate the necessary set of biochemical parameters for assessing the status of the patient; |
| 3.2.2 | solve case problems; |
| 3.2.3 | find pathognomonic relations between changes in the content of individual components of human biological fluids and diseases of individual organs and systems, search the effectiveness of treatment, make the prognosis of the disease; |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Interactive |
|---|--|----------------------|----------------|------------------|--------------------------------------|-------------|
| Section 1. Protein Chemistry | | | | | | |
| 1.1 | Amino acid composition of proteins. Peptides /Practice/ | 3 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 1.2 | Physical and chemical properties of proteins /Practice/ | 3 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 1.3 | Final class of the section "Protein Chemistry"/Practice/ | 3 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 1.4 | Protein chemistry/Self-study/ | 3 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; | |
| Section 2. Enzymes Coenzymes and prosthetic groups | | | | | | |
| 2.1 | Structural Organization of Enzymes /Practice/ | 3 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 2.2 | Mechanism of enzymes action /Practice/ | 3 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 2.3 | Regulation of enzyme reactions /Practice/ | 3 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 2.4 | Final class of the section "Enzymes" /Practice/ | 3 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |

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| 2.5 | Basics of enzyme catalysis /Self-study/ | 3 | 6 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| Section 3. Nucleic acids and matrix synthesis | | | | | | |
| 3.1 | DNA structure and function. Polymerase chain reaction /Practice/ | 3 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 3.2 | RNA structure and functions /Practice/ | 3 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 3.3 | Protein synthesis and its regulation /Practice/ | 3 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 3.4 | Final class of the section "Nucleic acids and matrix syntheses" /Practice/ | 3 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 3.5 | Nucleic acids and matrix synthesis /Self-study/ | 3 | 6 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| Section 4. Biological oxidation | | | | | | |

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|-----|---|---|---|------------------|---|--|
| 4.1 | Introduction to biochemistry. The role of biochemistry in the preparation of a doctor. Introduction to metabolism. /Lecture/ | 3 | 2 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 4.2 | General pathway of catabolism. Cycle of three carboxylic acids /Lecture/ | 3 | 2 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 4.3 | Biochemical plan of the of biological membranes structure. Transmembrane substances transfer /Lecture/ | 3 | 2 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 4.4 | Tissue breathing. METZ. Substrate and oxidative phosphorylation. Free oxidation and heat generation /Lecture/ | 3 | 2 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 4.5 | Introduction to metabolism. General path of catabolism. Three carboxylic acid cycle and its regulation /Practice/ | 3 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 4.6 | Mitochondrial electron transport chains. Ways of formation of ATP. Biomembranes /Practice/ | 3 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 4.7 | Final class of the section "Biological oxidation /Practice/ | 3 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |

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|-----|--|---|---|------------------|--------------------------------------|--|
| 4.8 | Biological oxidation /Self-study/ | 3 | 6 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| | Section 5. Basics of Neuro-Endocrine Metabolism Regulation | | | | | |
| 5.1 | Basics of the neuro-endocrine regulation of metabolism. Mechanisms of the hormones activity /Practice/ | 3 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 5.2 | Final class of the section "Fundamentals of neuro-endocrine regulation of metabolism" /Practice/ | 3 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 5.3 | Basics of neuro-endocrine regulation of metabolism /Self-study/ | 3 | 6 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 5.4 | Control /Control/ | 3 | 0 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| | Section 6. Carbohydrate exchange | | | | | |
| 6.1 | Anaerobic carbohydrate metabolism. Glycogen exchange /Lecture/ | 3 | 2 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 6.2 | Aerobic carbohydrate conversion. Dichotomic dissociation of carbohydrates /Lecture/ | 3 | 2 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |

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|-----|--|---|---|------------------|--------------------------------------|--|
| 6.3 | Gluconeogenesis, the pentose pathway of carbohydrate conversion. /Lecture/ | 3 | 2 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 6.4 | Exchange and function of carbohydrates. Glycogen exchange /Practice/ | 4 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 6.5 | Aerobic carbohydrate metabolism /Practice/ | 4 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 6.6 | Final class of the section "Carbohydrate metabolism" /Practice/ | 4 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 6.7 | Regulation of carbohydrate metabolism /Self-study/ | 4 | 6 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| | Section 7. Lipid metabolism | | | | | |
| 7.1 | Blood lipids. Lipoprotein exchange /Lecture/ | 3 | 2 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |

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|---|--|---|---|------------------|--------------------------------------|--|
| 7.2 | Lipid digestion and absorption. Blood lipids / Practice / | 4 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 7.3 | Fatty acid oxidation /Lecture/ | 4 | 2 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 7.4 | Ketogenesis. Cholesterol exchange /Lecture/ | 4 | 2 | GPC-5.4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 7.5 | Synthesis of fatty acids /Practice/ | 4 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 7.6 | Fatty acid metabolism /Practice/ | 4 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 7.7 | Tissue lipid metabolism /Practice/ | 4 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 7.8 | Final class of the section "Lipid metabolism" /Practice/ | 4 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 7.9 | Lipid metabolism /Self-study/ | 4 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| Section 8. Amino acid metabolism | | | | | | |
| 8.1 | General pathway for amino acid catabolism. Amino acids deamination /Lecture/ | 4 | 2 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |

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| 8.2 | Ammonia exchange. Mechanisms of toxicity / Lecture / | 4 | 2 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 8.3 | Sources and consumption of amino acids in the tissues /Practice/ | 4 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 8.4 | Sources and ways of ammonia neutralization /Practice/ | 4 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 8.5 | Specific amino acid metabolism Pathways /Practice/ | 4 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 8.6 | Final class of the section "Amino acid metabolism" /Practice/ | 4 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |

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|------|--|---|----|------------------|--------------------------------------|--|
| 8.7 | Amino acid metabolism /Self-study/ | 4 | 6 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| | Section 9. Biochemistry of special tissues | | | | | |
| 9.1 | Haemoglobin disorder. Exchange of bile pigments /Lecture/ | 4 | 2 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 9.2 | Detoxifying liver function /Lecture/ | 4 | 2 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 9.3 | Biochemistry of haemostasis. Vascular and platelet haemostasis /Lecture/ | 4 | 2 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 9.4 | Biochemistry of special tissues /Lecture/ | 4 | 2 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 9.6 | Liver biochemistry /Practice/ | 4 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 9.7 | Blood biochemistry /Practice/ | 4 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 9.8 | Water-electrolyte and salt exchange. Urine /Practice/ | 4 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 9.9 | Biochemistry of the extracellular matrix /Practice/ | 4 | 4 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 9.10 | Biochemistry of special tissues /Self-study/ | 4 | 3 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 9.11 | Control /Control/ | 4 | 0 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1; E1; E2; E3; E4; E5 | |
| 9.12 | /Exam / | 4 | 45 | GPC-5-4, GPC-5.8 | L1.1; L1.2; L2.1 | |

Fundamentals of project activities in healthcare

1. GOALS OF DISCIPLINE MASTERING

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| 1.1 | The general goal of mastering the academic discipline is aimed at developing in students the fundamentals of project activities in healthcare, necessary in future professional activities as a doctor. |
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| 1.2 | Specific goals are aimed at developing the following abilities: |
| 1.3 | the ability to carry out a critical analysis of problem situations based on a systematic approach, to develop an action strategy; |
| 1.4 | ability to manage a project at all stages of its life cycle; |
| 1.5 | the ability to organize and manage the work of a team, developing a team strategy to achieve the goal. |

| 2. PLACE OF DISCIPLINE IN THE STRUCTURE OF PLO | |
|---|---|
| Cycle (section) OOP: | B1.O.04 |
| 2.1 | Requirements for preliminary preparation of the student: |
| | History of medicine |
| | Medical informatics |
| | Introduction to professional activities. Ethics and deontology (bioethics) |
| | Psychology and pedagogy |
| 2.2 | Disciplines and practices for which mastering this discipline (module) is necessary as a prerequisite: |
| | Public health and healthcare. Health Economics |

3. STUDENT COMPETENCIES FORMED AS A RESULT OF MASTERING A DISCIPLINE (MODULE)

UC-1.1: Analyzes the problem, highlighting its basic components

UC-1.2: Identifies and ranks information required to solve a given problem

UC-1.3: Searches for information to solve a given problem using various types of requests

UC-2.1: Formulates a problem whose solution is directly related to achieving the project goal

UC-2.2: Determines the connections between the assigned tasks and the expected results of their solution

UC-2.3: Analyzes the project implementation schedule as a whole and chooses a way to solve the assigned tasks

UC-2.4: Within the framework of the assigned tasks, determines the available resources and limitations, current legal norms

UC-2.5: Evaluates the solution of assigned tasks in the area of his responsibility in accordance with the planned results of control, if necessary, adjusts the methods of solving problems

UC-3.1: Defines his role in the team based on the strategy of cooperation to achieve the goal

UC-3.2: When implementing your role in the team, takes into account the behavioral characteristics of other team members

UC-3.3: Analyzes the possible consequences of personal actions and plans their actions to achieve a given result

As a result of mastering the discipline, the student must

| | |
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| 3.1 | Know: |
| | how to analyze problems, highlighting their basic components; |
| | how to identify and rank information required to solve a given problem; |
| | how to search for information to solve a given problem using various types of requests; |
| | methods of formulating a problem, the solution of which is directly related to achieving the project goal; |
| | how to determine the connection between assigned tasks and the expected results of their solution; |
| | how to analyze the project implementation schedule as a whole and choose a method for solving assigned tasks; |
| | how to set goals that determine available resources and limitations, and current legal norms; |

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| | how to evaluate the solution of assigned tasks in your area of responsibility in accordance with the planned control results, if necessary, adjusting the methods of solving problems; |
| | how to define your role in a team, based on the strategy of cooperation to achieve your goal; |
| | how to implement your role in a team, taking into account the behavior of other team members; |
| | methods for analyzing the possible consequences of personal actions and planning your actions to achieve a given result. |
| 3.2 | Be able to: |

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| | be able to analyze a problem, highlighting its basic components; |
| | be able to identify and rank the information required to solve a given problem; |
| | be able to search for information to solve a given problem using various types of requests; |
| | be able to formulate a problem, the solution of which is directly related to achieving the project goal; |
| | be able to identify connections between assigned tasks and the expected results of their solution; |
| | be able to analyze the project schedule as a whole and choose a way to solve the tasks; |
| | be able, within the framework of the assigned tasks, to determine the available resources and limitations, the current legal norms; |
| | be able to evaluate the solution of assigned tasks in the area of one's responsibility in accordance with the planned results of control, and, if necessary, adjust the methods of solving problems; |
| | be able to determine your role in the team based on the strategy of cooperation to achieve the goal; |
| | be able to take into account the behavioral characteristics of other team members when implementing your role in the team; |
| | be able to analyze the possible consequences of personal actions and plan your actions to achieve a given result. |

4. STRUCTURE AND CONTENT OF THE DISCIPLINE (MODULE)

| Activity code | Name of sections and topics /type of lesson/ | Semester/ Course | Hours | Competent tions | Literature | Note |
|---------------|---|------------------|-------|---|----------------------------------|------|
| | Section 1. Theoretical foundations of project activities | | | | | |
| 1.1 | Theoretical foundations of project activities /Lek/ | 3 | 2 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| 1.2 | Project activities in healthcare of the Russian Federation. NATIONAL PROJECTS OF THE RF "HEALTH CARE" and "DEMOGRAPHY" /Pr/ | 3 | 4 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| 1.3 | Project activities in healthcare of the Russian Federation. NATIONAL PROJECTS OF THE RF "HEALTH CARE" and "DEMOGRAPHY" /Wed/ | 3 | 6 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| | Section 2. Technology of project activities | | | | | |
| 2.1 | National project "Demography": Federal project "Strengthening Public Health" Federal project "Development and implementation of a program for systemic support and improving the quality of life of older citizens "Older Generation" /Etc/ | 3 | 4 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |

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|-----|--|---|---|---|----------------------------------|--|
| 2.2 | Technology of project activities: project life cycle, its main stages /Lek/ | 3 | 2 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| 2.3 | National project "Demography": Federal project "Strengthening Public Health" Federal project "Development and implementation of a program for systemic support and improving the quality of life of older citizens "Older Generation" /Wed/ | 3 | 6 | UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC- 2.5 UC-3.1 UC-3.2 UC-3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| | Section 3. Development and management of institutional subsystems of the project | | | | | |

| | | | | | | |
|-----|---|---|---|---|----------------------------------|--|
| 3.1 | Development and management of institutional subsystems of the project: Project time management, Project cost management, Project quality management. /Lek/ | 3 | 2 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| 3.2 | National project "HEALTH": Federal project "Development of the primary health care system." Federal project "Providing medical organizations of the healthcare system with qualified personnel." /Etc/ | 3 | 4 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| 3.3 | National project "HEALTH": Federal project "Development of the primary health care system." Federal project "Providing medical organizations of the healthcare system with qualified personnel." /Wed/ | 3 | 8 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| | Section 4. Development and management of institutional subsystems of the project | | | | | |
| 4.1 | Development and management of institutional subsystems of the project: Project team management, Project communications management, Project risk management /Lek/ | 3 | 2 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| 4.2 | National project "HEALTH": Federal project "Fighting Cancer". Federal project "Combating Cardiovascular Diseases" /Etc/ | 3 | 4 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| 4.3 | National project "HEALTH": Federal project "Fighting Cancer". Federal project "Combating Cardiovascular Diseases" /Wed/ | 3 | 8 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| | Section 5. | | | | | |

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|-----|---|---|---|---|---|--|
| 5.1 | Project monitoring and impact assessment /Lek/ | 3 | 2 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| 5.2 | National project "HEALTH": Federal project "Development of children's healthcare, including the creation of a modern infrastructure for providing medical care to children." Federal project "Development of a network of national medical research centers and introduction of innovative medical technologies" /Etc/ | 3 | 4 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |

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| 5.3 | National project "HEALTH": Federal project "Development of children's healthcare, including the creation of a modern infrastructure for providing medical care to children." Federal project "Development of a network of national medical research centers and introduction of innovative medical technologies" /Wed/ | 3 | 8 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| Section 6: Change Control and Project Completion | | | | | | |
| 6.1 | Change management and project completion /Lek/ | 3 | 2 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| 6.2 | National project "HEALTH": Federal project "Development of export of medical services" Federal project "Creation of a unified digital circuit in healthcare based on a unified state information system in the field of healthcare (Uniform State Health Information System)" /Etc/ | 3 | 4 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| 6.3 | National project "HEALTH": Federal project "Development of export of medical services" Federal project "Creation of a unified digital circuit in healthcare based on a unified state information system in the field of healthcare (Uniform State Health Information System)" /Wed/ | 3 | 8 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| Section 7. Development of a project in the field of Public | | | | | | |

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|-----|--|---|---|---|----------------------------------|--------------|
| 7.1 | Health Development of a project in the field of Public Health /Lek/ | 3 | 2 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| 7.2 | Development of a project in the field of Public Health /Pr/ | 3 | 4 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| 7.3 | Development of a project in the field of Public Health /Wed/ | 3 | 8 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| | Section 8. Preparation of projects in the field of Public Health | | | | | |
| 8.1 | Preparation of projects in the field of Public Health for protection /Lek/ | 3 | 2 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| 8.2 | Protection of projects in the field of Public health /Pr/ | 3 | 4 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| 8.3 | Protection of projects in the field of Public health /Wed/ | 3 | 8 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | |
| 8.4 | Project presentation (team work) /Control work/ | 3 | 0 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | Control work |
| 8.5 | Credit | 3 | 0 | UC-1.1 UC- 1.2 UC-1.3 UC-2.1 UC- 2.2 UC-2.3 UC-2.4 UC-2.5 UC-3.1 UC-3.2 UC- 3.3 | L1.1L2.1 L2.2L3.1 E1 E2 E3 E4 E5 | Credit |

Hygiene

| 1. COURSE OBJECTIVES | |
|----------------------|---|
| 1.1 | Elaboration of conscious understanding among students of higher medical schools that human health strongly depends on the environment, living conditions, work activities, etc. This is a necessary prerequisite for their active participation in carrying out scientifically-based and effective therapeutic measures, preventing diseases and promoting a healthy lifestyle. |
| 1.2 | To elaborate understanding that it is necessary to consider human health as a category that is formed under the influence of a complex interconnected spectrum of natural, anthropogenic and social factors. |
| 1.3 | To provide students with information for mastering the methodology of preventive medicine |
| 1.4 | To master hygienic knowledge and skills to assess the impact of environmental factors on human health and population |

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| 1.5 | To prevent diseases among the population through preventive and anti-epidemic measures |
| 1.6 | To train patients to follow basic hygiene measures to prevent diseases and promote health |
| 1.7 | To provide favorable conditions for patients' staying and medical personnel working in medical organizations |
| 1.8 | To form motivation among the population, patients and their family members aimed at preserving and promotion their health |

2. COURSE OVERVIEW

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| Course code (in curriculum) | Б1.О.04 |
| 2.1 Assumed background: | |
| 2.1.1 | Biology |
| 2.1.2 | Physics |
| 2.1.3 | Mathematics |
| 2.1.4 | Chemistry |
| 2.1.5 | Medical Informatics |
| 2.2 Post-requisite courses and practice: | |
| 2.2.1 | Biochemistry |
| 2.2.2 | Epidemiology |
| 2.2.3 | Adaptive and Age Physiology |
| 2.2.4 | Human Physiology |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

GPC-2.2 Knows the strategy of the state in the field of promoting a healthy lifestyle (Order of the Ministry of Health of the Russian Federation No. 8 of 01/15/2020) in the prevention of non-communicable diseases, the formation of a healthy lifestyle, sanitary and hygienic education of the population

GPC -2.3: Demonstrates knowledge in implementing a set of measures aimed at preserving and strengthening health, including the formation of a healthy lifestyle, preventing the occurrence (or) spread of diseases, their early diagnosis, identifying the causes of their occurrence and development, as well as aimed at eliminating the harmful effects on health. human health environmental factors

By the end of the course students must

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| 3.1 know: | |
| 3.1.1 | -Possibilities to use methods of analysis and synthesis of the results obtained, their interpretation in various professional situations |
| 3.1.2 | -Possibilities for self-development, self-education and self-realization in the educational process |
| 3.1.3 | -Forming a healthy lifestyle and its hygiene basics |
| 3.1.4 | -Prevention of emergence and (or) spread of diseases, their early diagnosis, identification of the causes and conditions of their emergence and development |
| 3.1.5 | -Harmful effect on human health of environmental factors |
| 3.1.6 | -Fundamentals of the human interaction with the environment, the role of hygiene in the scientific development of the problem of health promotion, increasing labour efficiency, prolonging the active life, the essence of primary and secondary prevention |
| 3.1.7 | -Hygienic characteristics of various environmental factors, the mechanisms of their effects and diagnostically significant forms of manifestation of effects at the pre-nosological level |
| 3.1.8 | -The basics of evidence-based medicine in establishing causal relationships between changes in health state and influence of environmental factors |
| 3.1.9 | -Hygiene measures for t prevention of hospital-acquired infections and optimization of the conditions of inpatient care |
| 3.2 be able to: | |
| 3.2.1 | -Use abstract thinking, analysis and synthesis methods in solving problems |
| 3.2.2 | -Use creativity in preparing business games |
| 3.2.3 | -Work independently with educational, scientific, normative and reference literature, to conduct a search, to turn the obtained data into a means for solving professional tasks |
| 3.2.4 | -Identify causes and conditions of emergence and spread of diseases |

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| 3.2.5 | -Develop a set of measures aimed at eliminating the harmful influence of environmental factors, preserving and promoting health |
| 3.2.6 | -Assess the likelihood (identify and characterize the danger) of adverse effects of natural, social and anthropogenic environmental factors in the specific conditions of human activity |
| 3.2.7 | -Justify the need for adequate treatment and preventive measures according to the hygienic characteristics of working conditions and early changes in health and efficiency, as well as in case of occupational poisoning (occupational diseases) |
| 3.2.8 | -Make recommendations for water, air, sun quenching and adaptation to adverse climatic and geographical factors while working, traveling, leisure activities, residence changing |

| 4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE) | | | | | | |
|--|--|----------------------|----------------|--------------------|------------------------------|-------|
| Class Code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Notes |
| Module 1. Health and environment | | | | | | |
| 1.1 | The content and objectives of Hygiene. Hygienics as a complex of medical knowledge, history of Hygiene. Methodology /Lecture/ | 4 | 2 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 1.2 | Water and public health /Lecture/ | 4 | 2 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 1.3 | Climate and health. Prevention of diseases associated with the impact of adverse weather conditions. Problems of adaptation and acclimatization. Principles of hygienic regulation /Lecture/ | 4 | 2 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 1.4 | Microclimate of indoor premises. Air physical properties. Hygiene requirements for ventilation and heating /Practice/ | 4 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 1.5 | The main indicators of natural lighting. Hygienic requirements for artificial lighting /Practice/ | 4 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 1.6 | Hygienic assessment of drinking water and water sources /Practice/ | 4 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 1.7 | Methods to improve the quality of drinking water. Endemic diseases. Sanitary protection of reservoirs /Practice/ | 4 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 1.8 | Soil hygiene and sanitary cleaning of populated areas /Practice/ | 4 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 1.9 | Hygienic problems of cities. Hygiene of residential and public buildings /Practice/ | 4 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 1.10 | Hygienic problems of cities. Hygiene of residential and public buildings /Self-study/ | 4 | 3 | | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| Module 2. Hygiene of medical institutions | | | | | | |
| 2.1 | Hygienic requirements for health care facilities. Hygienic measures to ensure optimal conditions for patients in medical institutions /Lecture/ | 4 | 2 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |

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| 2.2 | Hygienic characteristics of the air environment the influence of physical and biological factors on the human body. Technogenic pollution of the atmospheric air and its effect on the human body. Air protection /Lecture/ | 4 | 2 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 2.3 | Hygienic requirements for the placement and planning of medical institutions /Practice/ | 4 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 2.4 | Hygiene requirements for equipment in medical institutions /Practice/ | 4 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 2.5 | The system of sanitary and hygienic measures to create a protective regime and favorable conditions for inpatient care /Practice/ | 4 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 2.6 | Hygienic aspects to prevent hospital-acquired infections /Practice/ | 4 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 2.7 | Hygienic aspects to prevent hospital-acquired infections /Self-study/ | 4 | 2 | | L1.1 L1.2 E1 E2 E3 E4 | |
| | Module 3. Nutrition and human health | | | | | |
| 3.1 | Nutrition as a health factor. Modern basics of nutrition. Food products, their sanitary and hygienic characteristics | 4 | 2 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 3.2 | /Food poisoning, its classification. Lecture/ Prevention issues /Lecture/ | 4 | 2 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 3.3 | Nutrition as a social and hygienic problem. A nutritional and biological role of essential nutrients /Practice/ | 4 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 3.4 | Diet. Methods for adequate nutrition assessment /Practice/ | 4 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 3.5 | Hygienic characteristics, sanitary and hygienic examination of food products. Classification according to their origin, purpose and quality /Practice/ | 4 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 3.6 | Food quality and safety. Sanitary and hygienic expertise /Practice/ | 4 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 3.7 | Food poisoning: classification, prevention /Practice/ | 4 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 3.8 | Business game «Investigation and prevention of food poisoning» /Practice/ | 4 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 3.9 | Assessment of nutritional status /Self-study/ | 4 | 3 | | L1.1 L1.2 E1 E2 E3 E4 | |
| | Module 4. Radiation hygiene | | | | | |
| 4.1 | Organization of a radiation safety system in the radiological hospital departments /Lecture/ | 4 | 2 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 4.2 | Control | 4 | 0 | GPC-2.2 GPC-2.3 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 4.3 | Credit | 4 | 0 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| | Module 5. Hygiene of children and adolescents | | | | | |
| 5.1 | The main problems of hygiene of children and adolescents. Patterns of child growth and development as the basis for valuing environmental factors /Lecture/ | 5 | 2 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |

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| 5.2 | Physical development as an indicator of a child's health. Methods for assessing physical development. Assessment of the level of biological development using complex methods /Lecture/ | 5 | 2 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
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| 5.3 | Health status of children, adolescents and adults. Individual health indicators. Health groups /Lecture/ | 5 | 2 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 5.4 | Hygienic requirements for the placement, planning and equipment of pre-school and school institutions /Practice/ | 5 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 5.5 | Employment types and their regulation according to anatomical and physiological development characteristics. Professional medical consultation and professional selection of adolescents /Practice/ | 5 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 5.6 | Age and morpho-functional features of the child's body. Health protection of children and adolescents in Russia, in the Khanty- Mansiysk Autonomous Okrug-Ugra. Methods for assessing the physical development of children and adolescents /Practice/ | 5 | 3 | GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 5.7 | Assessment methods of the physical development of children and adolescents /Practice/ | 5 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 5.8 | Assessment criteria of the individual health. Assessment factors of the health state of children and adolescents /Practice/ | 5 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 5.9 | The indicators characterizing the health state. Health groups. Principles of active rehabilitation of children in school /Practice/ | 5 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 5.10 | The concept of "daily routine" and its physiological basis. Principles of creating daily routine. Hygienic requirements for timetable /Practice/ | 5 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| | Module 6. Occupational hygiene and worker health protection | | | | | |
| 6.1 | Fundamentals of the labour physiology. The physiological basis of fatigue, its prevention /Lecture/ | 5 | 2 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 6.2 | Hygienic characteristics of the main occupational hazards /Lecture/ | 5 | 2 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 6.3 | Some issues of occupational health in the oil and gas extraction and their processing. Hygiene measures for the prevention of occupational diseases /Lecture/ | 5 | 2 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 6.4 | Fundamentals of legislation on the protection of labor of women and adolescents. Regulatory indicators and documents in hygiene. Organization of preliminary and periodic medical examinations /Lecture/ | 5 | 2 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 6.5 | Hygienic foundations of a healthy lifestyle. Personal hygiene. Prevention of bad habits /Lecture/ | 5 | 1 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |

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| 6.6 | Physiological and hygienic criteria for assessing the labour severity and intensity. Justification of rational work and rest regimes /Practice/ | 5 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 6.7 | Harmful and dangerous factors of the production environment. Hygienic assessment of occupational hazards (noise, vibration, industrial dust, industrial poisons) /Practice/ | 5 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 6.8 | Working conditions, occupational diseases and poisoning. The effect of working conditions on the labour burden at industrial enterprises. Methods for studying the health state. Organization and procedure for conducting preliminary and periodic medical examinations /Practice/ | 5 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 6.9 | Requirements for sanitary devices at the enterprise. Therapeutic and prophylactic nutrition of workers /Practice/ | 5 | 2 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 6.10 | General principles of recreational activities in the workplace /Practice/ | 5 | 2 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 6.11 | Job aspects of a doctor in the workshop. Compilation of the set of hygienic, preventive and health measures at work. Business game /Practice/ | 5 | 2 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 6.12 | The biological effect of ionizing radiation. Dosimetry control. Ensuring radiation safety in medical institutions /Practice/ | 5 | 2 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 6.13 | Occupational hygiene and worker health protection /Self-study/ | 5 | 2 | | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| | Module 7. Military Hygiene | | | | | |
| 7.1 | Organizational basics of sanitary and epidemiological supervision of food and water supply of troops in field conditions /Lecture/ | 5 | 1 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 7.2 | Organizational fundamentals of sanitary and epidemiological surveillance of personnel nutrition /Practice/ | 5 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 7.3 | Medical monitoring of working conditions in individual combat arms. Hygiene of the field placement of personnel. Military conditions. Complex of hygienic, preventive and health-improving measures for work in barracks, training camps, field dwellings /Practice/ | 5 | 4 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 7.4 | Military Hygiene /Self-study/ | 5 | 2 | | L1.1 L1.2 E1 E2 E3 E4E3 E4 | |
| | Module 8. Complex of hygienic, preventive and health measures in manufacturing | | | | | |
| 8.1 | Complex of hygienic, preventive and health measures in manufacturing /Practice/ | 5 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |
| 8.2 | Hygienic requirements for school textbooks, children's books /Practice/ | 5 | 3 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 | |

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| 8.3 | /Self-study/ | 5 | 4 | GPC-2.2 GPC-2.3 | L1.1 L1.2 E1 E2 E3 E4 |
| 8.3 | Control | 5 | 0 | GPC-2.2 GPC-2.3 | L1.1 L1.2L2.1 E1 E2 E3 E4 |
| 8.4 | Exam | 5 | 36 | GPC-2.2 GPC-2.3 | L1.1 L1.2L2.1 E1 E2 E3 E4 |

Internal Diseases Propaedeutics

1. COURSE OBJECTIVES

The **aim** of the course of Internal Diseases Propaedeutics is to study clinical research methods: survey, examination, palpation, percussion, auscultation of the patient; to study additional research methods (laboratory and instrumental), with subsequent interpretation of the obtained data; to master the skills of analyzing and synthesizing patient complaints, their anamnesis data, examination results, laboratory, instrumental, pathoanatomic and other studies in order to recognize the condition or establish the presence or absence of the disease and determine the patient's main pathological conditions, symptoms, disease syndromes, nosological forms in accordance with the International Statistical Classification of Diseases and Health-related Problems, XI revision.

2. COURSE OVERVIEW

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|---|---|
| Course Code (in curriculum) | B1.O.04 |
| 2.1 Assumed background: | |
| 2.1.1 | Introduction to Speciality. Ethics and Deontology (Bioethics) |
| 2.1.2 | Professional Image |
| 2.2 Post-requisite courses and practice: | |
| 2.1.1 | Pathologic Syndromes in Clinical Medicine |
| 2.1.2 | Faculty Therapy |
| 2.1.3 | Infectious Diseases |
| 2.1.4 | Outpatient Therapy |
| 2.1.5 | Obstetrics |
| 2.1.6 | Phthisiatry |
| 2.1.7 | Professional Practice, Physician Assistant |
| 2.1.8 | Hospital Therapy (5th year of education) |
| 2.1.9 | Hospital Therapy (6 th year of education) |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

PC-1.1: Demonstrates knowledge in etiology, pathogenesis, diagnostic criteria (clinical - subjective, physical, laboratory instrumental, identifies the patient's common pathological conditions, symptoms, disease syndromes and diagnoses nosological forms according to the International Statistical Classification of Diseases and Related Health Problems, X - XI revisions

PC-1.2: Carries out diagnostics, evaluates the prognosis (short-, medium- and long-term course) of the disease, identifies acute complications and complications of chronic diseases

PC-2.1: Assesses the condition of a patient requiring emergency or urgent medical care, E950, including a state of clinical death

PC-3.1: Examines the patient (handle the patient's complaints, anamnesis, physical data based on the examination results determines the necessary examination plan, evaluates the parameters of laboratory, instrumental, pathological and anatomical and other methods in order to diagnose diseases, assesses the prognosis (short-, medium-, long-term) of its course and outcome)

PC-3.2: Makes an initial and clinical diagnosis in accordance with the International Statistical Classification of Diseases and Health Problems X - XI revisions and current clinical classifications

PC-8.2: Keeps medical records, including the electronic format

By the end of the course students must:

| | |
|------------|--|
| 3.1 | Know: |
| 3.1.1 | aetiology, pathogenesis, diagnostic criteria (clinical – subjective, physical, laboratory, instrumental); |
| 3.1.2 | methods for determining the patient's main pathological conditions, symptoms, disease syndromes ; |
| 3.1.3 | principles of diagnostics of the main nosological forms; |
| 3.1.4 | how to work in accordance with the International Statistical Classification of Diseases and Related Health Problems, X-XI revisions; |
| 3.1.5 | rules of examination of the patient (collection and analysis of patient complaints, data of his anamnesis, physical data) according to the results of the examination, appointment of the examination plan, parameters of laboratory, instrumental, pathologic-anatomical and other research methods for the diagnostics of diseases, prognosis (short -, medium -, long-term) of its course and outcomes; |
| 3.1.6 | principles of early and differential diagnostics of diseases; |
| 3.1.7 | rules for routing and managing patients on the basis of current legislation (standards, procedures for providing medical care, clinical recommendations); |
| 3.2 | Be able to: |
| 3.2.1 | determine the patient's main pathological conditions, symptoms, syndromes of diseases; |
| 3.2.2 | perform differential diagnostics, evaluate the prognosis (short -, medium - and long-term) of the course of the disease, identify acute complications and complications of chronic diseases; |
| 3.2.3 | assess the condition of a patient requiring medical care in urgent or emergency forms, to diagnose a condition that poses a threat to the patient's life, including a state of clinical death; |

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|------------|---|
| 3.2.4 | conduct an examination of the patient (collection and analysis of patient complaints, his anamnesis data, physical data), based on the results of the examination, determine the necessary examination plan, evaluate the parameters of laboratory, instrumental, pathologic-anatomical and other research methods for the diagnosis of diseases, assess the prognosis (short -, medium -, long-term) of its course and outcomes; |
| 3.2.5 | formulate a preliminary and clinical diagnosis in accordance with the International Statistical Classification of Diseases and Related Health Problems X-XI revisions and current clinical classifications; |
| 3.2.6 | carry out early and differential diagnosis of diseases; |
| 3.2.7. | provide treatment to various categories of patients with diseases in outpatient settings, in hospitals and centres of high-tech medical care (VMP) with the use of medicines, medical devices and therapeutic nutrition, taking into account the clinical picture, in accordance with current procedures, standards of medical care, clinical recommendations (treatment protocols); |
| 3.2.8 | maintain medical records, including in electronic form; |
| 3.3 | Have skills of: |
| 3.3.1 | knowledge about the aetiology, pathogenesis, diagnostic criteria (clinical – subjective, physical, laboratory, instrumental), about the main pathological conditions, symptoms, syndromes of diseases and diagnosis of nosological forms |
| 3.3.2 | Working in accordance with the International Statistical Classification of Diseases and Related Health Problems, X-XI revisions; |
| 3.3.3 | the principles of differential diagnosis, assessment of the prognosis (short-, medium - and long-term) of the course of the disease, detection of acute complications and complications of chronic diseases; |
| 3.3.4 | examination of the patient (collects and analyses the patient's complaints, his anamnesis, physical data), according to the results of the examination, determining the necessary examination plan, evaluating the parameters of laboratory, instrumental, pathologic-anatomical and other research methods for the diagnosis of diseases, evaluating the prognoses (short -, medium -, long-term) of its course and outcomes; |
| 3.3.5 | the formulation of a preliminary and clinical diagnosis in accordance with the International Statistical Classification of Diseases and Related Health Problems X-XI revisions and current clinical classifications; |
| 3.3.6 | knowledge of early and differential diagnosis of diseases; |
| 3.3.7 | knowledge on determining the routing and management of patients on the basis of current legislation (standards, procedures for providing medical care, Clinical recommendations), on the basic principles of treating various categories of patients with diseases in outpatient settings, in hospitals and high-tech medical care centres (VMP); |
| 3.3.8 | maintaining medical records, including in electronic form; |
| 3.3.9 | determining the purpose of organizing a plan, a report on the work of medical personnel, conducting internal quality control and safety of medical activities within the scope of official duties, monitoring the performance of duties by secondary and junior medical personnel and other medical workers of their official duties, presenting the results of the analysis; |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topic /Class type | Term/Academic | Academic hours | Competences | Literature | Interactive | Notes |
|-------------------|---|----------------------|-----------------------|-----------------------|-------------------|--------------------|--------------|
| | Section 1. Clinical methods of examination of patients. Methods of research in diseases of the respiratory system and cardiovascular system. | year | | | | | |
| 1.1 | The subject and tasks of Internal Diseases Propaedeutics. Methodology of diagnostics. The scheme of the medical history. Survey of patients with respiratory diseases. The main complaints in the pathology of the respiratory organs, their diagnostic significance. /Lec/ | 3 | 2 | PC-1.1 PC-3.1 PC- 8.2 | L1.1L1.2 L1.3 | 0 | |
| 1.2 | Clinical methods of examination. The scheme of the medical history. General examination. Examination rules. The importance of an examination in the clinic of internal diseases. Survey of patients with respiratory diseases. Characteristics of shortness of breath, cough, chest pains. /Pr/ | 3 | 3 | PC-1.1 PC-3.1 PC- 8.2 | L1.1L1.2 L1.3 ∅1 | 0 | |

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|------|--|---|---|-----------------------|---------------|---|--|
| 1.3 | Examination and palpation of the chest. Percussion of the lungs. The history of the development of percussion as a research method. Physical bases of the method of comparative and topographic percussion of the lungs. General rules and techniques of percussion. /Lec/ | 3 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 1.4 | Examination of the chest. Pathological forms of the chest. Palpation of the chest. Surface orientation palpation, elasticity check, determination of vocal tremor. /Pr/ | 3 | 3 | PC-1.1 PC-3.1 PC- 2.1 | L1.1L1.2 L1.3 | 0 | |
| 1.5 | The scheme of the medical history. General examination. Survey of patients with respiratory diseases. The main complaints in the pathology of the respiratory organs, their diagnostic significance. /Self-study/ | 3 | 2 | PC- 3.1 PC-8.2 | L1.1L1.2 L1.3 | 0 | |
| 1.6 | Topographic percussion of the lungs. General rules and techniques of percussion. /Pr/ | 3 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 1.7 | Topographic percussion of the lungs. General rules and techniques of percussion. /Self-study/ | 3 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 1.8 | Auscultation of the lungs. Main and additional respiratory noises, mechanisms of their formation. /Lec/ | 3 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 1.9 | Auscultation of the lungs. Main and additional respiratory noises, mechanisms of their formation. /Pr/ | 3 | 6 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 1.10 | Auscultation of the lungs. Main and additional respiratory noises, mechanisms of their formation. /Self-study/ | 3 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 1.11 | Laboratory and instrumental methods of respiratory examination. /Pr/ | 3 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 1.12 | Clinical syndromes of respiratory diseases. /Lec/ | 3 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 1.13 | Clinical syndromes of respiratory diseases. /Practical classes/ | 3 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 1.14 | Survey, examination of patients with pathology of CVS. Palpation, percussion of the heart. /Lec/ | 3 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 1.15 | Survey, examination of patients with the pathology of the CCC. Complaints of patients with diseases of the cardiovascular system: pain in the heart, shortness of breath, suffocation, palpitations, heart failure, etc. /Pr/ | 3 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | | |
| 1.16 | Survey, examination of patients with pathology of CVS. Palpation of the heart. /Pr/ | 3 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 1.17 | Rules, diagnostic value of percussion in determining the boundaries of relative and absolute dullness of the heart. The diameter of the heart. /Pr/ | 3 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 1.18 | Auscultation of the heart and blood vessels. The noise, the mechanisms of their formation. /Lec/ | 3 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |

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| 1.19 | Auscultation of the heart and blood vessels. The noise, the mechanisms of their formation. /Pr/ | 3 | 6 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 1.20 | Rules, diagnostic value of palpation and percussion of the heart area. /Self-study/ | 3 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |

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|--|---|---|---|---------------|---------------|---|------|
| 1.21 | Additional methods of diagnostics of CVD. Functional load tests. ECG - research methodology. The plan of decoding of ECG. /Lec/ | 3 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 1.22 | Additional methods of diagnostics of CVD. Functional load tests. ECG - research methodology. The plan of decoding of ECG. /Self-study/ | 3 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 1.23 | Clinical syndromes of cardiovascular diseases. /Pr/ | 3 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 1.24 | Clinical syndromes of cardiovascular diseases. /Self-study/ | 3 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 1.25 | /Credit/ | 3 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | Test |
| Section 2. Clinical methods of examination of patients. Methods of research in diseases of the gastrointestinal tract, urinary organs, endocrine system and hematopoietic | | | | | | | |
| 2.1 | systemSurvey, examination of patients with diseases of the digestive system. Abdominal percussion. Abdominal palpation. /Lec/ | 4 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.2 | Survey, examination of patients with diseases of the digestive system. /Pr/ | 4 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.3 | Abdominal percussion. Abdominal palpation. /Pr/ | 4 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.4 | Survey, examination of patients with diseases of the digestive system. Abdominal percussion. Abdominal palpation. /Selfstudy/ | 4 | 4 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.5 | Deep methodical sliding palpation of the abdomen according to the ObraztsovStrazhesco-Vasilenko method. Rules and sequence of the event. /Pr/ | 4 | 6 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.6 | Deep methodical sliding palpation of the abdomen according to the ObraztsovStrazhesco-Vasilenko method. Rules and sequence of the event. /Self-study/ | 4 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.7 | Survey and examination of patients with diseases of the liver and biliary tract. /Lec/ | 4 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.8 | Survey and examination of patients with diseases of the liver and biliary tract. /Pr/ | 4 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.9 | Liver and spleen percussion and palpation technique. /Pr/ | 4 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.10 | Liver and spleen percussion and palpation technique/Self-study/ | 4 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.11 | Laboratory methods of diagnostics of the alimentary system. Instrumental methods of examination of the gastrointestinal tract. /Lec/ | 4 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |

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| 2.12 | Laboratory methods of diagnostics of the alimentary system. Instrumental methods of examination of the gastrointestinal tract. /Pr/ | 4 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 ∅1 | 0 | |
| 2.13 | The main syndromes of diseases of the gastrointestinal tract. /Lec/ | 4 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.14 | The main syndromes of diseases of the gastrointestinal tract. /Pr/ | 4 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |

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|------|---|---|---|----------------------|------------------|---|------|
| 2.15 | The main syndromes of diseases of the gastrointestinal tract. /Pr/ | 4 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.16 | Survey, examination of patients with diseases of the genitourinary tract. Syndromes of renal disease /Lec/ | 4 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.17 | Survey, examination of patients with diseases of the genitourinary tract. Additional methods of examination of the genitourinary organs. /Pr/ | 4 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.18 | Additional methods of examination of the genitourinary organs. /Lec/ | 4 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.19 | Additional methods of examination of the genitourinary organs. /Pr/ | 4 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.20 | Syndromes of renal disease. /Pr/ | 4 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.21 | Examination of patients with diseases of the genitourinary tract. Syndromes of renal disease. /Self-study/ | 4 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.22 | Examination of patients with diseases of blood. /Pr/ | 4 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.23 | Examination of patients with diseases of blood. /Self-study/ | 4 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.24 | Examination of patients with diseases of the endocrine organs. Patient complaints. /Pr/ | 4 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.25 | Examination of patients with diseases of the endocrine organs. Patient complaints. /Selfstudy/ | 4 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.26 | Laboratory and instrumental diagnostics for diseases of the endocrine organs, diseases of the blood system./Pr/ | 4 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 2.27 | /Credit/ | 4 | 3 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | Test |
| | Section 3. Respiratory, cardiovascular diseases | | | | | | |
| 3.1 | Acute and chronic bronchitis. Chronic obstructive pulmonary disease. /Lec/ | 5 | 2 | PC-1.1 PC-3.1 | L1.1L1.2 L1.3 | 0 | |
| 3.2 | Acute and chronic bronchitis. /Pr/ | 5 | 3 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.3 | Chronic obstructive pulmonary disease. /Pr/ | 5 | 3 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.4 | Acute and chronic bronchitis. Chronic obstructive pulmonary disease. /Self-study/ | 5 | 4 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.5 | Pneumonias. Bronchial asthma. /Lec/ | 5 | 2 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.6 | Bronchial asthma. Emphysema. /Pr/ | 5 | 4 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |

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| 3.7 | Pneumonia. Aetiology, clinical picture. Respiratory failure syndrome. /Pr/ | 5 | 3 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.8 | Abscess. Pleurisy (dry and exudative). Aetiology, clinical picture. /Pr/ | 5 | 3 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.9 | Bronchial asthma. Emphysema. /Self-study/ | 5 | 4 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |

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|------|--|---|---|----------------------|---------------|---|------|
| 3.10 | Pneumonia. Aetiology, clinical picture. Respiratory failure syndrome. /Self-study/ | 5 | 4 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.11 | Hypertensive disease. /Lec/ | 5 | 2 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.12 | Hypertensive disease. /Pr/ | 5 | 3 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.13 | Hypertensive disease. /Self-study/ | 5 | 4 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.14 | Coronary heart disease. Aetiology, questions of pathogenesis, classification. Angina, myocardial infarction. /Lec/ | 5 | 2 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.15 | Coronary heart disease. Angina, myocardial infarction. /Pr/ | 5 | 6 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.16 | Coronary heart disease. Angina, myocardial infarction. / Self-study/ | 5 | 8 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.17 | ECG. Disorders of rhythm and conduction. /Lec/ | 5 | 2 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.18 | ECG. Disorders of rhythm and conduction. /Pr/ | 5 | 6 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.19 | ECG. Disorders of rhythm and conduction. /Self-study/ | 5 | 8 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.20 | Chronic heart failure. Aetiology, questions of pathogenesis, classification. /Lec/ | 5 | 2 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.21 | Chronic heart failure. Aetiology, questions of pathogenesis, classification. /Pr/ | 5 | 6 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.22 | Chronic heart failure. Aetiology, questions of pathogenesis, classification. /Self-study/ | 5 | 8 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.23 | Acute rheumatic fever. Chronic rheumatic heart disease. Myocarditis. Pericarditis. /Pr/ | 5 | 6 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.24 | Infective endocarditis. Aortic valve defects /Pr/ | 5 | 3 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.25 | Acute rheumatic fever. Chronic rheumatic heart disease. Myocarditis. Pericarditis. /Self-study/ | 5 | 8 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 3.26 | /Credit/ | 5 | 3 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | Test |

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| | Section 4. Diseases of the alimentary system, genitourinary system, metabolism and endocrine organs, hematopoietic organs. | | | | | | |
| 4.1 | Diseases of the stomach and intestines. Gastritis, gastric ulcer. Chronic enteritis and colitis. /Lecture/ | 6 | 2 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |

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|------|---|---|---|----------------------|------------------|---|--|
| 4.2 | Esophagitis. Gastritis./Pr/ | 6 | 6 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 4.3 | Gastric ulcer. /Pr/ | 6 | 3 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 4.4 | Esophagitis. Gastritis. Gastric ulcer. /Selfstudy/ | 6 | 5 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 4.5 | Enteritis. Syndromes of maldigestion and malabsorption. /Pr/ | 6 | 3 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 4.6 | Diseases of the large intestine. /Pr/ | 6 | 3 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 4.7 | Enteritis. Syndromes of maldigestion and malabsorption. Diseases of the large intestine. /Self-study/ | 6 | 4 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 4.8 | Diseases of the biliary tract. /Lec/ | 6 | 2 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 4.9 | Diseases of the pancreas and biliary tract. Chronic pancreatitis, cholecystitis. /Pr/ | 6 | 3 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 4.10 | Diseases of the pancreas and biliary tract. Chronic pancreatitis, cholecystitis. /Selfstudy/ | 6 | 4 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 4.11 | Liver diseases. Chronic hepatitis. Cirrhosis of the liver/Pr/ | 6 | 3 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 4.12 | Liver diseases. Chronic hepatitis. Cirrhosis of the liver/Self-study/ | 6 | 4 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 4.13 | Renal diseases. /Lec/ | 6 | 2 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 4.14 | Renal disease. Glomerulonephritis. Pyelonephritis. /Pr/ | 6 | 6 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 4.15 | Renal diseases. /Self-study/ | 6 | 4 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 4.16 | Acute and chronic renal failure. Renal colic. /Pr/. | 6 | 3 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |

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|------|--|---|---|----------------------|------------------|---|--|
| 4.17 | Diseases of metabolism and endocrine organs. Diabetes Mellitus. Diseases of the thyroid gland. /Lec/ | 6 | 2 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 4.18 | Diseases of metabolism and endocrine organs. /Pr/ | 6 | 3 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 4.19 | Anemias. Acute and chronic leukaemia. /Lec/ | 6 | 2 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |

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|------|---|---|----|---------------------------------|------------------|---|-------|
| 4.20 | Anaemias. Haemorrhagic syndrome. /Pr/ | 6 | 3 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 4.21 | Urgent conditions in the clinic of internal diseases./ Lec/ | 6 | 2 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 4.22 | Urgent conditions in the clinic of internal diseases./Pr/ | 6 | 3 | PC-1.1 PC-3.1 PC-3.2 | L1.1L1.2 L1.3 | 0 | |
| 4.23 | /Test/ | 6 | 3 | PC-1.1 PC-3.1 PC-3.2 PC- 8.2 | L1.1L1.2 L1.3 | 0 | Test |
| 4.24 | /Exam/ | 6 | 27 | PC-1.1 PC-3.1 PC-3.2 PC- 8.2 | L1.1L1.2 L1.3 | 0 | Exam. |

Law Studies

| 1. COURSE OBJECTIVES | |
|---|---|
| 1.1 | The aim of the course is to form the ability to use the fundamentals of legal knowledge in the sphere of professional activity and to evaluate the solutions of the set tasks, in their area of responsibility in accordance with the planned control results. To study the fundamental vital provisions of the current Constitution of the Russian Federation and the problems of formation of the main branches of the Russian Federation law, resources and limitations, the current legal norms. To acquire basic knowledge, abilities and skills in the main branches of Russian legislation: civil law, labour law, family law affecting the regulation of legal relations, development of legal awareness and formation of legal culture, intolerant attitude towards corruptive behaviour in students. Demonstrates an understanding of the essence of extremism and terrorism, the regulatory framework for countering extremism and terrorism. |
| 2. COURSE OVERVIEW | |
| Course code (in curriculum): | B1.B.04 |
| 2.1 Assumed background: | Philosophy |
| 2.2 Post-requisite courses and practice: | Public health and health care |
| 3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE) | |
| GPC-1.1. Demonstrates knowledge of the legislation of the Russian Federation on the rights and duties of citizens in the field of health care (Constitution of the Russian Federation as amended in 2020, No. 323-FL) and is able to implement legal norms, ethical and deontological principles of professional activity; | |
| GPC-1.2. Demonstrates knowledge of the legislation of the Russian Federation on the legal basis of medical activity (Labor Code of the Russian Federation, No 326-FL, No 323-FL) and is able to form within 9 the legal field of doctor-patient relationships; | |
| GPC-1.3 Realizes ethical and deontological principles in his/her professional activity. | |
| UC-11.1 Demonstrates understanding of the content of corruption as a socio-legal phenomenon and the ability to identify assess and assist in suppressing corrupt behavior; | |
| UC-11.2 Builds social interaction in society based on intolerant attitude towards corrupt behavior. | |
| By the end of the course students must: | |
| 3.1 Know: | |

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| 3.1.1 | Knowledge of the legislation of the Russian Federation on the rights and duties of citizens in the field of health care (Constitution of the Russian Federation as amended in 2020, No. 323-FL) and is able to implement legal norms, ethical and deontological principles of professional activity; |
| 3.1.2 | Knowledge of the legislation of the Russian Federation on the legal basis of medical activity (Labor Code of the Russian Federation, No 326-FL, No 323-FL) and is able to form within 9 the legal field of doctor-patient relationships; |
| 3.1.3 | The ethical and deontological principles in his/her professional activity. |
| 3.1.4 | The content of corruption as a socio-legal phenomenon and the ability to identify assess and assist in suppressing corrupt behavior; |
| 3.1.5 | The social interaction in society based on intolerant attitude towards corrupt behavior. |
| 3.2 | Be able to: |
| 3.2.1 | Use the knowledge of the legislation of the Russian Federation on the rights and duties of citizens in the field of health care (Constitution of the Russian Federation as amended in 2020, No. 323-FL) and is able to implement legal norms, ethical and deontological principles of professional activity; |
| 3.2.2 | Use knowledge of the legislation of the Russian Federation on the legal basis of medical activity (Labor Code of the Russian Federation, No 326-FL, No 323-FL) and is able to form within 9 the legal field of doctor-patient relationships; |
| 3.2.3 | Realizes ethical and deontological principles in his/her professional activity. |
| 3.2.4 | Demonstrates understanding of the content of corruption as a socio-legal phenomenon and the ability to identify assess and assist in suppressing corrupt behavior; |
| 3.2.5 | Builds social interaction in society based on intolerant attitude towards corrupt behavior. |
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4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Interactive | Notes |
|------------|--|----------------------|----------------|---|--|-------------|-------|
| 1.1 | Basic Theory of State and Law /Lecture/ | 2 | 4 | GPC-1.1, GPC-1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E3 | | |
| 1.2 | Basic Theory of State and Law /Practical/ | 2 | 6 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E3 | | |
| 1.3 | Basic Theory of State and Law /Self-study/ | 2 | 4 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E4 | | |
| 1.4 | Basics of constitutional law / Lecture/ | 2 | 4 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L1.6 L2.1 L2.2 E1 E2 E3 | | |
| 1.5 | Basics of constitutional law /Practical/ | 2 | 2 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E3 | | |

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| 1.6 | Basics of constitutional law /Self-study/ | 2 | 4 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E3 | | |
| 1.7 | Basics of administrative law / Lecture/ | 2 | 4 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L1.6 L2.1 L2.2 E1 E2 E3 | | |
| 1.8 | Basics of administrative law /Practical/ | 2 | 6 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E3 | | |
| 1.9 | Basics of administrative law /Self-study/ | 2 | 3 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E3 | | |
| 1.10 | Basics of criminal law /Lecture/ | 2 | 4 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E3 | | |

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| 1.11 | Basics of criminal law /Practical/ | 2 | 6 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E3 | | |
| 1.12 | Basics of criminal law /Self-study/ | 2 | 3 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E3 | | |
| 1.13 | Basics of civil law /Lecture/ | 2 | 4 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E4 | | |
| 1.14 | Basics of civil law /Practical/ | 2 | 6 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E4 | | |
| 1.15 | Basics of civil law /Self-study/ | 2 | 4 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E4 | | |
| 1.16 | Basics of labour law /Lecture/ | 2 | 4 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E4 | | |
| 1.17 | Basics of labour law /Practical/ | 2 | 6 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E4 | | |
| 1.18 | Basics of labour law /Self-study/ | 2 | 2 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E4 | | |
| 1.19 | Basics of family law /Lecture/ | 2 | 2 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E3 | | |
| 1.20 | Basics of family law /Practical/ | 2 | 4 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E3 | | |
| 1.21 | Basics of family law /Self-study/ | 2 | 3 | GPC-1.1, GPC-1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E3 | | |

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| 1.22 | Basics of countering extremism and terrorism/Lecture/ | 2 | 2 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E3 | | |
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| 1.23 | Basics of countering extremism and terrorism /Practical/ | 2 | 4 | GPC-1.1, GPC-1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 E1 E2 E3 | | |
| 1.24 | Basics of countering extremism and terrorism /Selfstudy/ | 2 | 3 | GPC-1.1, GPC-1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 E1 E2 E3 | | |
| 1.25 | The basics of countering corrupt behaviour /Lecture/ | 2 | 4 | GPC-1.1, GPC-1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L3.1 E1 E2 E3 | | |
| 1.26 | The basics of countering corrupt behaviour /Practical/ | 2 | 6 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L3.1 E1 E2 E3 | | |
| 1.27 | The basics of countering corrupt behaviour /Selfstudy/ | 2 | 4 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L3.1 E1 E2 E3 | | |
| 1.26 | Control work /Control / | 2 | 0 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L3.1 E1 E2 E3 | | Control work |
| 1.30 | Credit/Mark | 2 | 0 | GPC-1.1, GPC1.2, GPC-1.3, UC-11.1, UC-11.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L3.1 E1 E2 E3 | | Oral quiz, written quiz, test |

Microbiology, Virology

1. COURSE OBJECTIVES

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| 1.1 | The aim of Microbiology, Virology in higher medical schools is to form consistent natural science-based world outlook, to master the knowledge of microbe world diversity and their role in common biological processes and in human pathologies by developing common cultural and professional competencies. The competencies are aimed at providing sanitary and epidemiological well-being of the population, preservation and improvement of its health. |
| 1.2 | The objectives of Microbiology, Virology are: to study the biology of infectious diseases agents and representatives of normal human microflora; to study etiology and usage of microbiological diagnostic methods and medications for specific prevention and therapy. |

2. COURSE OVERVIEW

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| Course code (in curriculum): | Б1.О.04 |
| 2.1 Assumed background: | |
| 2.1.1 | Biochemistry |
| 2.1.2 | Normal Physiology |
| 2.1.3 | Physics, Mathematics |
| 2.1.4 | Human anatomy |
| 2.1.5 | Histology, Embryology, Cytology |
| 2.2 Post-requisite courses and practice: | |
| 2.2.1 | Epidemiology |
| 2.2.2 | Infectious Diseases |

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| 2.2.3 | Dermatovenerology |
| 2.2.4 | Propaedeutics of Internal Diseases |
| 2.2.5 | Obstetrics |
| 2.2.6 | Gynecology |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

GPC-5.1: Demonstrates knowledge and understanding in the sections of fundamental medicine - anatomical, histological structures (anatomy of the human body, structure of organ tissues and their microscopic differentiation), physiological processes (human physiology, mechanisms of regulation of homeostasis, functional body systems in normal)

GPC-5.5: Demonstrates knowledge of the discipline « microbiology» on the structure, physiology of microorganisms, their etiological role in human diseases

By the end of the course students must

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| 3.1 know: | |
| 3.1.1 | - history of Microbiology, Virology, the main stages of the development of these Sciences; |
| 3.1.2 | - regulations for safety and work in microbiological laboratories, with reagents and devices, laboratory animals; |
| 3.1.3 | - classification, morphology and physiology of microbes and viruses, their biological and pathogenic properties, impact on public health; |
| 3.1.4 | - features of process creation of symbiosis between the human body and microbes, the role of resident microflora in the development of opportunistic diseases; |
| 3.1.5 | - features of pathogenicity and antibiotic resistance genetic control of microbes, development mechanisms of resistance and ways of its determination; |
| 3.1.6 | - the role of individual representatives of the microbial world in the etiology and pathogenesis of major human infectious diseases; |
| 3.1.7 | - methods of microbiological diagnostics, application of the main antibacterial, antiviral and biological medications, principles of their preparation and application. |
| 3.2 be able to: | |
| 3.2.1 | - analyze the assessment results of morphofunctional, physiological states and pathological processes in the human body to solve professional problems; |
| 3.2.2 | - diagnose the pathogenic agents of parasitic diseases on the specimen, slide, in the photo; perform microbiological and immunological diagnostics. |

| | Module 1. Morphology of microorganisms | | | | | |
|-----|--|---|---|--------------------|-----------------------|--|
| 1.1 | The subject and problems of medical microbiology and value of microbiology at the practical activities of the doctor. The basic stages of development of microbiology /Lecture/ | 4 | 2 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 1.2 | Lecture. The systematization and nomenclature of microorganisms. The basic groups of bacteria. Taxonomic systems of classification. Morphology and bacterial structure /Lecture/ | 4 | 2 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 1.3 | Morphology and bacterial structure. Role of bacterial components of bacterial cells in vital activity of bacteria and pathogenesis of infectious diseases /Practice/ | 4 | 4 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 1.4 | Special methods of staining. Organization of biological microscope. The types of microscopy. The procedure of the immersion microscopy /Practice/ | 4 | 4 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |

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| 1.5 | Morphology and ultrastructure of particular groups of bacteria: rickettsia, chlamidia, mycoplasma, actinomy-cetes, spirochetes, fungi, protozoa /Practice/ | 4 | 4 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 1.6 | The main periods in the development of microbiology. Research of L. Pas-teur, R. Koch, I. Mechnikov and their role in foundation of microbiology and the development of world science /Self-control/ | 4 | 2 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| Module 2. Physiology of microorganisms | | | | | | |
| 2.1 | Bacterial metabolism. Respiration of bacteria. Classification of bacteria according to type of respiration. Anaer-obes. Anaerobic culture methods of isolating anaerobic pure cultures /Lecture/ | 4 | 2 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 2.2 | Achievements in microbiology. Modern methods of detection of pathogen-specific macromolecules. Detection of nucleic acid sequences: nucleic acid probe tests, polymerase chain reaction /Lecture/ | 4 | 2 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 2.3 | Antibiotics. History of discovery. Role of A. Fleming. Classification. General criteria for effective antibiotic action. General principles of effective antibacterial therapy /Lecture/ | 4 | 2 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 2.4 | Physiology of bacteria. Nutrient media. Sterilization, asepsis, antiseptis, disinfection. Methods of cultivation of the microorganisms and isolation of the pure bacterial cultures. Bacteriological method of the diagnostics of infectious diseases /Practice/ | 4 | 4 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 2.5 | Physiology of bacteria: nutrition, respiration, growth, multiplication, energy metabolism, enzymatic systems of bacteria. Bacteriological method of diagnostics of infectious diseases. Identification of pure cultures of microorgan-isms. Biochemical activity of bacteria. The bacteriological method of diagnos-tics of infectious diseases /Practice/ | 4 | 4 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 2.6 | The spread of microbes in the environ-ment. Microflora of water, air, soil. Sanitary - bacteriological investigation of objects of environment: water, air, soil. Sterilization, disinfection, and antiseptis. Methods of sterilization /Practice/ | 4 | 4 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 2.7 | Normal microbial flora of the human body and its functions. Methods of detection. Dysbiosis. The preparations for correction of normal microflora disorders (probiotics, prebiotics, symbi-otic) /Practice/ | 4 | 4 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |

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| 2.8 | Genetics of microorganisms. Organization of the genetic bacterial apparatus. Genotypical and phenotypical variation of microorganisms, its practical significance. Mutations and genetic recombination's. Dissociation in bacteria. Bacteriophages. General characteristics. Structure and replication Chemotherapeutical drugs, antibiotics. Determination of sensitivity of microorganisms to antibiotics /Practice/ | 4 | 4 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 2.9 | The role of biological factors, such as bacteriophages, enzymes, serum, etc. The relationship of microbes in associations. Quorum sensing bacteria. The ability to form biofilm /Self-control/ | 4 | 3 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| | Module 3. Infectious immunology | | | | | |
| 3.1 | The study of infections. Dynamics of development of infectious diseases /Lecture/ | 4 | 3 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 3.2 | Immune System. Structure and functions. Cells of the Immune System. Classification. Characteristics. Cooperation of immunocompetent cells in immune response /Lecture/ | 4 | 3 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 3.3 | Infection. Infectious process. The factors of pathogenicity and virulence of bacteria. Biological method of diagnostics of infectious diseases /Practice/ | 4 | 4 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 3.4 | Factors of innate (natural) immunity. Nonspecific defense mechanisms: local and systemic. Complement system. Antigens and antibodies. Serological method of diagnostics of infectious diseases. Antigen-antibody reactions (agglutination reaction, passive hemagglutination reaction) /Practice/ | 4 | 4 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 3.5 | Immunity. Antigens and antibodies. Immune System. Structure and functions. Cells of the Immune System. Classification. Characteristics. Cooperation of immunocompetent cells in immune response. /Practice/ | 4 | 4 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 3.6 | Hypersensitivity of delayed type (DTH). Mechanisms. Important characteristics of the types of DTH reactions. Skin allergic tests /Practice/ | 4 | 4 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 3.7 | The normal human microflora and its role in physiological and pathological processes. Dysbiosis and risk factors /Self-control/ | 4 | 3 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 3.8 | /Control/ | 4 | 0 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| | Module 4. Gastrointestinal tract infections | | | | | |
| 4.1 | Fundamentals of Clinical Microbiology. General Principles of bacteriological diagnosis of acute intestinal infections /Lecture/ | 5 | 2 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |

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| 4.2 | Pathogenesis and methods of microbiological diagnosis of typhoid and paratyphoid /Lecture/ | 5 | 2 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 4.3 | Escherichia, systematic position, general characteristics. The biological role of Escherichia coli. Molecular mechanisms of escherichiosis pathogenesis /Practice/ | 5 | 4 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 4.4 | Characteristics of immunity in typhoid and paratyphoid fever. Salmonella - causative agents of acute gastroenteritis. Shigella. Causative agents of dysentery, classification, general characteristics /Practice/ | 5 | 4 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 4.5 | Microbiological diagnostics of diseases caused by Klebsiella, Yersinia, Methods for food poisoning diagnostics /Practice/ | 5 | 4 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 4.6 | Microbiological diagnostics of diseases caused by Campylobacter and pseudomonads, biochemical characteristics, antigenic structure, determinants of pathogenicity /Practice/ | 5 | 4 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 4.7 | Vibrio cholerae, the systematic position. Classification and general characteristics, pathogenicity factors. Biovars. Differentiation from non-cholera vibrio. Pathogenesis of cholera. Methods of microbiological diagnostics /Practice/ | 5 | 3 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 4.8 | Pseudomonas aeruginosa, general characteristics, pathogenicity factors. Role in human pathology /Self-control/ | 5 | 15 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| | Module 5. Purulent-inflammatory diseases | | | | | |
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| 5.1 | Microbiological diagnostics of diseases caused by staphylococci, streptococci, Neisseria /Lecture/ | 5 | 2 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 5.2 | Particularly dangerous infections. Classification mode, basic rules of sampling, sending and transportation of infectious material. General principles of diagnosis /Lecture/ | 5 | 2 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 5.3 | Methods of microbiological diagnostics of anaerobic infections /Lecture/ | 5 | 2 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 5.4 | Staphylococci, Streptococci general characteristics. Role in human pathology. Pathogenicity factors and mechanisms of pathogenesis of staphylococcal infections /Practice/ | 5 | 3 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 5.5 | The genus Clostridium. Classification. C. tetani., C. perfringens Taxonomy, general properties, determinants of pathogenicity, toxin production, transmission. Epidemiology. Clinical syndromes. Laboratory diagnosis. Treatment, prevention, and control /Practice/ | 5 | 3 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 5.6 | Methods of microbiological diagnosis of diseases caused by mycobacteria and actinomycetes /Practice/ | 5 | 3 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 5.7 | Microbiological diagnostics of diseases caused by Corynebacterium, Bordetella, haemophiles, legionella, listeria /Practice/ | 5 | 3 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 5.8 | Microbiological diagnostics of especially dangerous infections /Practice/ | 5 | 3 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 5.9 | Microbiological diagnostics of diseases caused by spirochetes. The family Rickettsiaceae. Classification. General characteristics. Rickettsiosis /Practice/ | 5 | 2 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 5.10 | The family Mycoplasmataccae. General characteristics. Classification. M.pneumoniae, M.hominis, Ureaplasma urealyticum. Pathogenesis and clinical disease of mycoplasmosis /Self-control/ | 5 | 15 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| Module 6. Viral infections | | | | | | |
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| 6.1 | Viruses. Structure and classification. Reproduction of viruses. Cultivation of viruses. Bacteriophages. Orthomyxoviruses (flu virus). Paramyxoviruses (parainfluenza, mumps, measles, respiratory syncytial virus). Adenoviruses /Lecture/ | 5 | 3 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 6.2 | Parenteral hepatitis viruses: classification, characteristics. Hepatitis B virus, Hepatitis C virus: pathogenesis, immunity, etiologic diagnostics, therapy, prevention /Lecture/ | 5 | 3 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 6.3 | Orthomyxoviruses. The influenza viruses. Structure. Classification. Pathogenesis and immunity of influenza virus infection. Nonspecific and specific defense mechanisms of anti influenza immunity, treatment, prevention, and control /Practice/ | 5 | 2 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 6.4 | Ecological group of arboviruses: definition, classification, characteristics. Arbovirus infection: features, pathogenesis. Tick-borne encephalitis: pathogenesis, etiologic diagnosis, prevention. Ecological arboviruses subgroup. Bunyaviruses, hemorrhagic fever with renal syndrome /Practice/ | 5 | 2 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 6.5 | Herpesviruses. Classification. General characteristics. Herpes simplex virus. Varicella-Zoster virus. Epstein-Barr virus. Cytomegalovirus. Epidemiology. Pathogenesis and clinical syndromes of herpesvirus infections. Laboratory diagnostics. Treatment and immunoprophylaxis /Practice/ | 5 | 2 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 6.6 | Picornaviruses. Classification. General characteristics. Biological properties. Antigens. Role in human pathology. Cocksackieviruses. Echoviruses. Epidemiology. Pathogenesis and clinical disease. Laboratory diagnosis. Treatment. Prevention. Hepatitis viruses. Classification. Hepatitis B virus. General properties. Associated antigens. Epidemiology. Pathogenesis and clinical disease. Laboratory diagnosis. Treatment. Prevention: passive and active immunization /Practice/ | 5 | 2 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
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| 6.7 | Retroviruses. Human Immunodeficiency viruses (HIV). General characteristics. Acquired Immune Deficiency Syndrome (AIDS). Epidemiology. Pathogenesis. Clinical stages of HIV infection. Laboratory Diagnostics. Treatment. Immunoprophylaxis. Oncoviruses /Practice/ | 5 | 2 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 6.8 | Clinical microbiology. Microbiological diagnostics of sepsis and purulent infections of the skin /Practice/ | 5 | 2 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 6.9 | Prions and slow virus diseases. Structure of cellular and scrapie prion proteins. Resistance to physico-chemical factors. Functions of cellular prion protein. Pathogenic characteristics of scrapie prion protein. Model for proliferation of prions /Self-control/ | 5 | 14 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 6.10 | /Control/ | 5 | 0 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |
| 6.11 | /Exam/ | 5 | 36 | GPC-5.1 GPC-5.5 | L1.1 L1.2 E1 E2 E3 | |

Normal Physiology

1. COURSE OBJECTIVES

- 1.1 The aim of the course of Normal Physiology is to create the basis for a sufficiently broad theoretical training in the field of medical physiology, allowing students to master their knowledge and form the ideas about functioning of the human body, its systems, organs, tissues and cells, the basic mechanisms, regulations in the human body, the influence of environmental factors. It also develops skills in making a preliminary diagnosis and providing qualified medical care at the prehospital stage and of professional competencies through the systematic approach to get the current knowledge in the field of general and particular physiology.

2. COURSE OVERVIEW

Course code (in B1.O.04.10

2.1 curriculum) Assumed background:

Latin Language

Foreign Language (English)

Biology

Physics, Mathematics

Chemistry

Histology, Embryology, Cytology

Human Anatomy

2.2 Post-requisite courses and practice:

Microbiology, Virology

Hygiene

Immunology and Allergology

Pathophysiology

Clinical Pathophysiology

Pharmacology

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

GPC-5.1: Demonstrates knowledge and understanding in the sections of fundamental medicine - anatomical, histological structures (anatomy of the human body, tissue structure of organs and their microscopic differentiation), physiological processes (human physiology, mechanisms of regulation of homeostasis, functional systems of the body in norm)

By the end of the course students must:

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| 3.1 Know: | |
| 3.L1.1 | principle analysis of social problems in various types of professional and social activities |
| 3.L1.2 | the subject and the tasks of the discipline |
| 3.1.3 | the role, place and connection of the discipline with other sciences in the system of biological and medical disciplines |
| 3.1.4 | the main historical stages of the discipline development |
| 3.1.5 | the basic concepts of medical physiology |
| 3.2 Be able to: | |
| 3.2.1 | use the methods of the human study, natural sciences, biomedical and clinical sciences in various types of professional and social activities |
| 3.2.2 | use the acquired knowledge in the study of other biomedical and medical disciplines |
| 3.2.3 | interpret and apply the basic concepts of medical physiology in the study of biomedical and medical literature and when working with medical specialists |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Interactive | Notes |
|-------------------|--|-----------------------------|-----------------------|--------------------|-------------------|--------------------|--------------|
| | Module 1. General properties of excitable tissues | | | | | | |

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|------|--|---|----|-----------|--|--|--|
| 1.1 | The structure of biomembranes, their properties and functions. Membrane proteins, their types and role. Receptor functions of cell membranes. Membrane receptors, their properties. Inotropic receptors. Metabotropic receptors, their varieties. Participation in the implementation of effects /Lecture/ | 3 | 4 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |
| L1.2 | Bioelectric signals in excitable tissues /Practice/ | 3 | 12 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |
| | Module 2. General characteristics of central nervous system | | | | | | |
| 2.1 | General principles of functional regulation. Nervous functional regulation /Lecture / | 3 | 4 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |

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| 2.2 | Characteristics of excitable tissues. Bioelectric phenomena in cells and tissues. Irritability and excitability of cells and tissues. Measurement of excitability. Neuron. Properties of neurons. The laws of the excitation in nerve fibers. Properties of synapses. Parabiosis. /Practice/ | 3 | 8 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |
| 2.3 | Membrane transport protein. Facilitated transport. Active transport, its types and features /Self – study/ | 3 | 6 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |
| Module 3. Private CNS and ANS | | | | | | | |
| 3.1 | Private physiology of the central nervous system. Dorsal, midbrain and posterior brain. Cerebellum. Intermediate brain /Lecture/ | 3 | 2 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |
| 3.2 | Forebrain. Limbic system. Basal ganglia. Cerebral cortex. Functional brain asymmetry /Practice/ | 3 | 12 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |
| 3.3 | Physiology of the spinal cord, medulla oblongata and brain, midbrain, cerebellum, reticular formation, diencephalon, subcortical structures, and the cerebral cortex /Self – study/ | 3 | 8 | | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |
| Module 4. Endocrine system | | | | | | | |

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|------------------------|---|---|---|-----------|---|--|--|
| 4.1 | Thyroid and parathyroid glands. Pancreas, adrenal glands. Sex glands. Physiology of reproductive function. Endocrine function of non-endocrine organs /Lecture/ | 3 | 2 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |
| 4.2 | Humoral and hormonal regulation. Hypothalamicpituitary system /Practice/ | 3 | 8 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |
| 4.3 | Menstrual cycle. Conception, pregnancy, birth. Contraception. Male potency /Self – study / | 3 | 8 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |
| Module 5. Blood | | | | | | | |

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|------------------------------------|---|---|----|-----------|---|--|--|
| 5.1 | General properties of blood. Leukocytes /Lecture/ | 3 | 2 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |
| 5.2 | Hemostasis, its types. /Lecture/ | 3 | 2 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |
| 5.3 | Erythrocytes. Hemoglobin. Blood groups. System AB0. Rhesus factor. Rules of blood transfusion. Platelet properties. Hemocoagulation. Anticoagulant and fibrinolytic blood systems. /Practice/ | 3 | 20 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |
| 5.4 | Anticoagulants. Fibrinolytic blood system. / Self – study / | 3 | 6 | (GPC)-5.1 | L1.1 L1.2 | | |
| 5.5 | Control work | 3 | 0 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |
| Module 6. Blood circulation | | | | | | | |
| 6.1 | Functional characteristics of the circulatory system. Regulation of the heart. External manifestations of cardiac activity (mechanical, sound). /Practice/ | 3 | 4 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |
| 6.2 | Physiological properties of the heart muscles /Lecture/ | 4 | 4 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |
| 6.3 | Vascular tone. Systemic hemodynamics. Blood pressure. Microcirculation. Features of blood circulation in various organs. Regulation of systemic hemodynamics. /Practice/ | 4 | 16 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |

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| 6.4 | Methods for the study of blood vessels, blood pressure measurement. Organ circulation, methods of its examination /Self – study/ | 4 | 4 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |
| Module 7. Breathing and Excretion | | | | | | | |
| 7.1 | External breathing. Biomechanics of respiration. Water-salt metabolism. Physiology of secretion. Renal Physiology /Lecture / | 4 | 4 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |

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| 7.2 | Gaseous exchange. Respiration /Practice/ | 4 | 16 | (GPC)-5.1 | L1.1 L1.2 | | |
| 7.3 | Water balance, factors to maintain balance, and water regulation. Water spaces, their characteristic. /Self – study/ | 4 | 2 | | L1.1 L1.2 | | |
| Module 8. Digestion and metabolism | | | | | | | |
| 8.1 | The physiology of digestion. Methods for studying the functions of the digestive tract. Functions of the digestive tract. Secretory function of the gastrointestinal tract. /Lecture/ | 4 | 2 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |
| 8.2 | Motor, absorption and excretory functions of the gastrointestinal tract. Regulation of digestion. Metabolism. Heat exchange. Thermoregulation. Energy exchange. Methods for estimating energy consumption /Practice/ | 4 | 16 | (GPC)-5.1 | L1.1;L1.2;L1.3 L2.1; L2.2; L2.2; L2.4; L2.5 L3.1; L3.2; E1 | | |
| 8.3 | The secretory function of the gastrointestinal tract /Self – study/ | 4 | 4 | (GPC)-5.1 | L1.1 L1.2 | | |
| Module 9. Analyzers | | | | | | | |
| 9.1 | General properties of analyzers /Lecture/ | 4 | 2 | (GPC)-5.1 | L1.1 L1.2 | | |
| 9.2 | Private physiology of analyzers (auditory, vestibular, tactile, taste and temperature analyzers) /Practice/ | 4 | 8 | (GPC)-5.1 | L1.1 L1.2 | | |
| 9.3 | Physiology of pain perception. Nociception and anti-nociception. /Self – study/ | 4 | 2 | (GPC)-5.1 | L1.1 L1.2 | | |
| Module 10. Higher nervous activity | | | | | | | |

NURSING

| 1. COURSE OBJECTIVES | |
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| 1.1 | The aim is training in nursing care for patients of therapeutic and surgical profile, providing pre-medical care |
| 1.2 | The objectives: |
| 1.3 | - formation of skills to create a safe environment when working with medical products |
| 1.4 | - provision of pre-hospital care |
| 1.5 | - nursing care for patients |

| 2. COURSE OVERVIEW | |
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| Course code (in curriculum) | Б1.О.04 |
| 2.1 Assumed background: | |
| 2.1.1 | Anatomy |
| 2.1.2 | Chemistry |
| 2.1.3 | Biology |
| 2.1.4 | Theoretical foundations for the study of patient care |
| 2.1.5 | Educational practice introductory to the care of patients with therapeutic and surgical profile |
| 2.2 Post-requisite courses and practice: | |
| 2.2.1 | Internal Diseases Propaedeutics, X-Ray Diagnostics |
| 2.2.2 | Faculty Therapy, Professional Diseases |
| 2.2.3 | Hospital Therapy, Endocrinology |
| 2.2.4 | Internal Diseases Propaedeutics, X-Ray Diagnostics |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

GPC-6.1: Provides primary health care, provides patient care

GPC-6.2: Conducts preventive medical examinations, medical examinations, carries out medical supervision, makes professional decisions and provides medical assistance in case of emergency conditions at the pre-hospital stage

PC-8.3: Ensures internal quality control and safety of medical activities within the scope of official duties, monitoring the performance of duties by secondary and junior medical personnel and other medical workers of their official duties

C-2.1 Evaluates the condition of a patient requiring emergency or urgent medical care, diagnoses a life-threatening condition, including clinical death;

By the end of the course students must:

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| 3.1 Know: | |
| 3.1.1 | signs of myocardial infarction, heart rhythm violations and acute heart failure |
| 3.1.2 | steps of the nursing process |
| 3.1.3 | classification of nursing diagnoses |
| 3.1.4 | rules for drawing up the plan of nursing intervention |
| 3.1.5 | preparation of the patients for emergency and planned surgical treatment |
| 3.1.6 | patient care in the first hours after surgery, early and late postoperative periods |
| 3.1.7 | monitoring and care of patients with therapeutic and surgical pathology |
| 3.1.8 | Prevention of infection. related to the provision of medical care |
| 3.1.9 | preparation of patients for laboratory and instrumental research methods |
| 3.1.10 | rules for the registration of ECG |

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| 3.1.11 | methods and purpose of healthy lifestyle enlightenment |
| 3.1.12 | classification of medical waste |
| 3.1.13 | knows the norm of the basic vital functions of the body |
| 3.1.14 | indications for indirect heart massage |
| 3.2 | Be able: |
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| 3.2.1 | to care about patients |
| 3.2.2 | to evaluate the nursing interventions' effectiveness |
| 3.2.3 | to provide the first aid in case of emergency |
| 3.2.4 | to make injections |
| 3.2.5 | to conduct ventilation of lungs |
| 3.2.6 | to perform indirect heart massage |
| 3.2.7 | to perform (primary and secondary) surgical treatment of the wound |
| 3.2.8 | to give enemas, |
| 3.2.9 | to irrigate the stomach |
| 3.2.10 | to identify the electrocardiogram of arrhythmia, myocardial infarction |
| 3.2.11 | to introduce a parenteral drug |
| 3.2.12 | to process injections |
| 3.2.13 | determine the indications for pre-medical care |
| 3.2.14 | provide first aid for fever, vomiting, anaphylactic shock, diabetic comas, bronchial asthma attack |
| 3.2.15 | indirect heart massage |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Interact |
|------------|--------------------|----------------------|----------------|-------------|------------|----------|
| | Section 1. | | | | | |

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|------|---|---|---|---|-----------------------------|--|
| 1.1 | Prevention of infection related to medical care / lecture / | 4 | 2 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.2 | Prevention of infection related to medical care / practical classes / | 4 | 4 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.3 | Prevention of infection related to medical care /Self-study / | 4 | 1 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.4 | Organization of nursing care. Nursing care at fever. / lecture / | 4 | 2 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 E1 E2 E3 E4 | |
| 1.5 | Organization of nursing care. Nursing care at fever. / practical classes / | 4 | 4 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.6 | Organization of nursing care. Nursing care at fever. /Self-study/ | 4 | 1 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.7 | Nursing care at diseases of the respiratory system / lecture / | 4 | 2 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.8 | Nursing care at diseases of the respiratory system / practical classes / | 4 | 4 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.9 | Nursing care at diseases of the respiratory system /Self-study / | 4 | 1 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 E1 E2 E3 E4 | |
| 1.10 | Rules of registration of ECG. Nursing care for diseases of the cardiovascular system / lecture / | 4 | 2 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.11 | Rules of registration of ECG. Nursing care for diseases of the cardiovascular system / practical classes/ | 4 | 4 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.12 | Rules of registration of ECG. Nursing care for diseases of the cardiovascular system /Self-study / | 4 | 1 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.13 | Nursing care at diseases of the digestive system and urinary system diseases / practical classes / | 4 | 4 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.14 | Nursing care at diseases of the digestive system and urinary system diseases /Selfstudy / | 4 | 1 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.15 | Nursing care at diabetes / practical classes / | 4 | 4 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 E1 E2 E3 E4 | |

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| 1.17 | Subcutaneous, intradermal and intramuscular injections / practical classes / | 4 | 4 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.18 | Subcutaneous, intradermal and intramuscular injections /Self-study / | 4 | 1 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.19 | Intravenous injection and vein catheterization./ practical classes/ | 4 | 4 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.20 | Intravenous injection and vein catheterization. /Self-study / | 4 | 1 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.21 | Guidelines for performing intravenous drip / practical classes / | 4 | 4 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.22 | Guidelines for performing intravenous drip /Self-study / | 4 | 1 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.23 | First aid in case of emergency. / practical classes / | 4 | 4 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.24 | First aid in case of emergency. /Self-study / | 4 | 1 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | |
| 1.25 | Desmurgy / practical classes / | 4 | 8 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 E1 E2 E3 E4 | |
| 1.26 | Desmurgy /Self-study / | 4 | 1 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 E1 E2 E3 E4 | |
| 1.27 | Concluding session /Self-study // | 4 | 3 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 E1 E2 E3 E4 | |
| 1.28 | Control work /Control / | 4 | 0 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 E1 E2 E3 E4 | Control work |
| 1.29 | Credit | 4 | 0 | GPC -6.1 GPC -6.2 PC- 2.1 PC-8.3 | L1.1L2.1L3.1 | Credit |

Philosophy

1. COURSE OBJECTIVES

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| 1.1 | The aim of the course actively influence the formation of the worldview of future specialists by updating the gnostic, ethical and aesthetic abilities of students |
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2. COURSE OVERVIEW

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|--------------------------------------|--|
| Course code (in curriculum): B1.O.01 | |
| 2.1 | Assumed background: |
| 2.1.1 | History (History of Russia, general history) |
| 2.1.2 | Russian language and culture of speech |
| 2.2 | Post-requisite courses and practice: |
| 2.2.1 | Fundamentals of project activities in healthcare |
| 2.2.2 | Jurisprudence |
| 2.2.3 | Fundamentals of economic culture |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

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| UC-1.1: Analyzes the task, highlighting its basic components |
| UC-1.2: Identifies and ranks the information required to solve a given problem |
| UC-1.3: Searches for information to solve a given problem using various types of requests |

By the end of the course students must:

| | |
|------------|--|
| 3.1 | Know: |
| 3.1.1 | main problems and main historical types of philosophizing; |
| 3.1.2 | main philosophical movements and schools, their problems; |
| 3.1.3 | specificity of philosophical knowledge in its connection with science; |
| 3.2 | Be able to: |
| 3.2.1 | identify philosophical ideas as relating to one or another historical type of philosophizing; |
| 3.2.2 | analyze the ideological content of philosophical concepts, highlighting their basic components; |
| 3.2.3 | identify and rank the information required to solve the problem; |
| 3.2.4 | based on philosophical knowledge, search for information to solve a given problem using various types of queries |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Interactive |
|------------|--|----------------------|----------------|--------------------------|--|-------------|
| | Section 1. Introduction to Life safety | year | | | | |
| 1.1 | Introduction to Philosophy. Philosophy of the Ancient World /Lecture/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 1.2 | Introduction to Philosophy. Philosophy of the Ancient World /Pr/ | 3 | 4 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 1.3 | Introduction to Philosophy. Philosophy of the Ancient World /Self-study/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 | |

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|------|--|---|---|--------------------------|--|--|
| 1.4 | /Lecture/Philosophy of the Middle Ages and the Renaissance/Lecture/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1L2.4 L3.1, E1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 1.5 | Philosophy of the Middle Ages and the Renaissance/Pr/ | 3 | 4 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 | |
| 1.6 | Philosophy of the Middle Ages and the Renaissance/Self-study/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 1.7 | Philosophy of the New Age /Lecture/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 1.8 | Philosophy of the New Age/Pr/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 1.9 | Philosophy of the New Age /Self-study/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 1.10 | German classical philosophy /Lecture/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 1.11 | German classical philosophy /Pr/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 1.12 | German classical philosophy/Self-study/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 1.13 | Non-classical philosophy of the 19th century/Lecture/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 1.14 | Non-classical philosophy of the 19th century /Pr/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 1.15 | Non-classical philosophy of the 19th century /Self-study/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 1.16 | Main directions and trends of philosophy of the twentieth century /Lecture/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 1.17 | Main directions and trends of philosophy of the twentieth century /Pr/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 1.18 | Main directions and trends of philosophy of the twentieth century /Self-study/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 1.19 | Russian philosophy /Lecture/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 1.20 | Russian philosophy /Pr/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 1.21 | Russian philosophy /Self-study/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |

| | Section 2. Theory of philosophy | | | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 | |
|------|--|---|---|--------------------------|--|--|
| 2.1 | Problems of existence. Philosophical understanding of matter /Lecture/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1L2.4 L3.1, E1 L1.2 L1.3 L1.5, L2.1 L2.3 | |
| 2.2 | Problems of existence. Philosophical understanding of matter /Pr/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1L2.4 L3.1, E1 L1.2 L1.3 L1.5, L2.1 L2.3 | |
| 2.3 | Problems of existence. Philosophical understanding of matter /Self-study/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1L2.4 L3.1, E1 L1.2 L1.3 L1.5, L2.1 L2.3 | |
| 2.4 | Philosophy of development /Lecture/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 2.5 | Philosophy of development /Pr/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 2.6 | Philosophy of development /Self-study/ /Lecture/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 | |
| 2.7 | Philosophy of consciousness/Lecture/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1L2.4 L3.1, E1 L1.2 L1.3 L1.5, L2.1 L2.3 | |
| 2.8 | Philosophy of consciousness/Pr/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1L2.4 L3.1, E1 L1.2 L1.3 L1.5, L2.1 L2.3 | |
| 2.9 | Philosophy of consciousness/Self-study/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1L2.4 L3.1, E1 L1.2 L1.3 L1.5, L2.1 L2.3 | |
| 2.10 | Gnosiology /Lecture/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1L2.4 L3.1, E1 L1.2 L1.3 L1.5, L2.1 L2.3 | |
| 2.11 | Gnosiology /Pr/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1L2.4 L3.1, E1 L1.2 L1.3 L1.5, L2.1 L2.3 | |
| 2.12 | Gnosiology /Self-study/ | 3 | 4 | UC-1.1, UC - 1.2, UC-1,3 | L1.1L2.4 L3.1, E1 L1.2 L1.3 L1.5, L2.1 L2.3 | |
| 2.13 | Philosophy of Science. Positivist and post-positivist concepts in the methodology of science/Lecture/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 2.14 | Philosophy of Science. Positivist and post-positivist concepts in the methodology of science/Pr/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 2.15 | Philosophy of Science. Positivist and post-positivist concepts in the methodology of science/Self-study/ | 3 | 4 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 2.16 | Social philosophy. Dynamics and typology of historical development/Lecture/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 2.17 | Social philosophy. Dynamics and typology of historical development /Pr/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 2.18 | Social philosophy. Dynamics and typology of historical development /Self-study/ | 3 | 4 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 2.19 | Philosophical anthropology /Lecture/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |

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|------|---|---|---|--------------------------|--|--|
| 2.20 | Philosophical anthropology /Pr/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 2.21 | Philosophical anthropology /Self-study/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 2.22 | Philosophy of language and philosophy of technology/Lecture/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 2.23 | Philosophy of language and philosophy of technology/Pr/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 2.24 | Philosophy of language and philosophy of technology/Self-study/ | 3 | 2 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 2.25 | /Test/ | 3 | 0 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |
| 2.26 | / Credit/mark/ | 3 | 0 | UC-1.1, UC - 1.2, UC-1,3 | L1.1 L1.2 L1.3 L1.5, L2.1 L2.3 L2.4 L3.1, E1 | |

Physiological basis of human adaptation in the North

1. COURSE OBJECTIVES

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| 1.1 | The physiological basis of human adaptation in the North is a branch of physiology that studies the dependence of body functions on living conditions and activities. It is the basis for understanding the ecological interactions of biological processes on the one hand and non-biological processes on the other, affecting the state of the human body at different levels of its organization. It is a branch of physiology that studies the dependence of human functions on living conditions and activities in unfavorable physical and geographical conditions of the North, in different periods of the year, day; reveals the physiological basis of adaptation (physiological adaptation) to natural factors. |
| 1.2 | The purpose of studying the discipline is: to consider the dependence of the body's functions on the conditions of existence, to reveal the physiological foundations and mechanisms of adaptation of the body to constantly changing environmental conditions. |

2. COURSE OVERVIEW

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|------------------------------|-------------------------------------|
| Course code (in curriculum): | FTD |
| 2.1 | Assumed background: |
| 2.1.1 | Adaptive and Age-related Physiology |
| 2.1.2 | Hominal Physiology |
| 2.1.3 | Human Anatomy |
| 2.1.4 | Biology |

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|------------|---|
| 2.1.5 | Adaptive and Age-related Physiology |
| 2.1.6 | Human Anatomy |
| 2.1.7 | Hominal Physiology |
| 2.2 | Post-requisite courses and practice: |
| 2.2.1 | Immunology and Allergology |
| 2.2.2 | Obstetrics |
| 2.2.3 | Paediatrics |
| 2.2.4 | Hygiene |
| 2.2.5 | Pathophysiology |
| 2.2.6 | Immunology and Allergology |
| 2.2.7 | Paediatrics |
| 2.2.8 | Internal Diseases Propaedeutics |
| 2.2.9 | Obstetrics |
| 2.2.10 | Clinical pathological physiology |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

PC-7.5 Teaches patients and their relatives basic hygienic measures of health-improving nature, skills of self-monitoring of basic physiological indicators, contributing to the preservation and promotion of health, prevention of diseases, hygiene education of the population and formation of a healthy lifestyle, he is capable of forming healthy lifestyle programs, including programs to reduce alcohol and tobacco consumption, prevent and combat non-medical consumption of narcotic drugs and psychotropic substances and he is able to evaluate the effectiveness of preventive work with patients.

PC-9.1 Analyzes medical information

By the end of the course students must:

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| 3.1 | Know: |
| 3.1.1 | The main physiological patterns of the functioning of the body in the sections of fundamental medicine - anatomical, histological structures. Physiological processes of function and mechanisms (human physiology, mechanisms of regulation of homeostasis, functional systems and the body are normal). Theoretical foundations of immunology, understanding of immune defense mechanisms, types of immunological reactions and their role in human pathogenesis. The main patterns of ontogenesis of the human body and the features of physical, mental and intellectual capabilities in each period. Methodological foundations of the organization of research activities, patterns of functioning of individual organs and systems; criteria for assessing the functional state of the body of an adult and adolescents. The main malformations, diseases and traumatic injuries associated with living in unfavorable conditions of the North, in various age groups, their classifications. The main symptoms of malformations, diseases and traumatic injuries in various age groups, the formulation of the main pathological conditions, symptoms, disease syndromes, nosological forms in accordance with the International Statistical Classification of Diseases and Healthrelated Problems - X revision. |
| 3.2 | Be able to: |
| 3.2.1 | Use basic knowledge in the field of biomedical and other natural science disciplines in mastering the profession in the sections of fundamental medicine - anatomical, histological structures, physiological processes, fundamentals of immunology, immune defense mechanisms, types of immunological reactions and their role in human pathogenesis; plan goals and set priorities when choosing decision-making methods taking into account the conditions, means, personal capabilities and time prospects of achievement; implementation of activities. Analyze the patterns of functioning of individual organs and systems; use the knowledge of anatomical and physiological bases to assess the functional state of the human body at rest and in the process of adaptation to environmental stresses in various conditions. Carry out scientific analysis, generalization, design and presentation of the results of educational research activities and scientific research; formulate a conclusion on the obtained result in relation to the goals and objectives of the study based on the symptoms, identify the main pathological conditions, symptoms and syndromes of malformations, diseases and traumatic injuries associated with living in unpleasant conditions of the North; formulate a diagnosis of the main pathological conditions, symptoms, disease syndromes, nosological forms in accordance with the International Statistical Classification of Diseases and Health-related Problems - X revision adopted by the 43rd By the World Health Assembly; use the International Statistical Classification of Diseases and Health-Related Problems - X revision adopted by the 43rd World Health Assembly |

| 4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE) | | | | | | |
|--|---|-----------------|----------------|---------------|--|-------------|
| Class Code | Topics /Class type | Term / Academic | Academic hours | Competences | Literature | Interactive |
| | Chapter 1. Physiological bases of adaptation. | | | | | |
| 1.1 | Physiological functions of the body /Lec/ | 4 | 2 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 1.2 | Physiological functions of the body. General mechanisms of physiological adaptation. /Pr/ | 4 | 4 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 1.3 | Types and mechanisms of adaptation /Pr/ | 4 | 2 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 1.4 | Physiological bases of adaptation. / Selfstudy/ | 4 | 8 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| | Chapter 2. Individual features of adaptation to extreme environmental factors. | | | | | |
| 2.1 | Individual features of adaptation to extreme environmental factors. /Lec/ | 4 | 2 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 2.2 | Physical development / Pr/ | 4 | 2 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 2.3 | Typology of human behavioral reactions /Pr/ | 4 | 4 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 2.4 | Individual features of adaptation to extreme environmental factors. / Self-study / | 4 | 8 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| | Chapter 3. Adaptation of regulatory systems | | | | | |
| 3.1 | Adaptation of regulatory systems /Lec/ | 4 | 2 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 3.2 | Ecological aspects of chronobiology. /Pr/ | 4 | 4 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 3.3 | Stress and adaptation Psychosomatic disorders /Pr/ | 4 | 4 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |

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|---|--|----|----|---------------|---|
| 3.4 | Adaptation of regulatory systems / Selfstudy/ | 4 | 6 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.4 2.2 2.1 E1 E2 E3 E4 E5 |
| Chapter 4. Adaptation of vegetative systems | | | | | |
| 4.1 | Adaptation of vegetative systems /Lec/ | 4 | 2 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.4 2.2 2.1 E1 E2 E3 E4 E5 |
| 4.2 | Internal environment. Adaptation of the blood system /Pr/ | 4 | 2 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.4 2.2 2.1 E1 E2 E3 E4 E5 |
| 4.3 | Adaptation of the circulatory system /Pr/ | 4 | 4 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.4 2.2 2.1 E1 E2 E3 E4 E5 |
| 4.4 | Adaptation of the respiratory system /Pr/ | 4 | 2 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.4 2.2 2.1 E1 E2 E3 E4 E5 |
| 4.5 | Cardio-respiratory system / Pr/ | 4 | 2 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.4 2.2 2.1 E1 E2 E3 E4 E5 |
| 4.6 | Temperature regime. Adaptation of the thermoregulation system /Pr/ | 54 | 2 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 |
| 4.7 | Adaptation of vegetative systems / Selfstudy/ | 4 | 10 | PC-7.5 PC-9.1 | 1. 3 1. 1 1. 2 1. 5 1. 6 1. 4 2. 2. 2. 1 E1 E2 E3 E4 E5 |
| Chapter 5. Physiological mechanisms of human adaptation in the North | | | | | |
| 5.1 | Control work | 4 | 0 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.4 2.2 2.1 E1 E2 E3 E4 E5 |
| 5.2 | /Credit/ | 4 | 0 | PC-7.5 PC-9.1 | 1.1 1.2 1.3 1.5 1.4 2.2 2.1 E1 E2 E3 E4 E5 |

Psychology and pedagogy

| 1. COURSE OBJECTIVES | |
|----------------------|--|
| 1.1 | The general goal of mastering the academic discipline is aimed at developing students' foundations of psychological and pedagogical competencies necessary in future professional activities as a doctor, forming readiness for self-development, self-realization, self-education, using the creative potential and professional abilities of students. |

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| | Specific goals are aimed at the formation of the following abilities: |
| | - define your role in the team, based on the strategy of cooperation to achieve the set goal; |
| | - to fulfill their role in the team, taking into account the peculiarities of the behavior of other team members; |
| | - analyze the possible consequences of personal actions and plan your actions to achieve a given result; |
| | - determine the tasks of self-development and professional growth, distribute them into long-, medium- and short-term with justification of the relevance and determination of the necessary resources for their implementation; |
| | - to assess the requirements of the labor market and educational services to build a trajectory of their own professional growth. |

2. COURSE OVERVIEW

| | |
|-----------------------------|---|
| Course code (in curriculum) | Б1.О.01.05 |
| 2.1 | Assumed background: |
| 2.1.1 | Introduction to Speciality. Ethics and Deontology (Bioethics) |
| 2.1.2 | Professional Image |
| 2.2 | Post-requisite courses and practice: |
| 2.2.1 | Basics of Project Management in Healthcare |
| 2.2.2 | Public Health and Healthcare. Economy of Public Healthcare |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

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| UC-6.1: Determines the tasks of self-development and professional growth, distributes them into long-, medium- and short-term with the relevance and determination of the necessary resources for their implementation |
| UC-6.2: Evaluates the requirements of the labor market and educational services for professional growth |
| UC-3.1: Determines his/her role in the team based on the strategy of cooperation to achieve the goal |
| UC-3.2: Considers the behavior of other team members while implementing his/her role in the team |
| UC-3.3: Analyzes the possible consequences of personal actions and plans his/her actions to achieve the pre-planned result |

As a result of mastering the discipline, the student must

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| 3.1 | Know: |
| 3.1.1 | the subject, tasks and features of psychology as a science. |
| 3.1.2 | the essence of the psyche and mental development. |
| 3.1.3 | the mental, emotional and volitional processes, to determine their role in the team, based on the strategy of cooperation to achieve the goal; |

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|------------------------|--|
| 3.1.4 | mental cognitive processes, to determine their role in the team, based on the strategy of cooperation to achieve the goal; |
| 3.1.5 | the mental properties: temperament, character, abilities necessary for the implementation of their role in the team, taking into account the characteristics of the behavior of other team members; |
| 3.1.6 | the properties and characteristics of a person as a person, contributing to the analysis of the possible consequences of personal actions and planning their actions to achieve a given result; |
| 3.1.7 | the socio-psychological phenomena and processes aimed at self-development and professional growth, distribute them into long-, medium- and short-term with justification of the relevance and determination of the necessary resources for their implementation; |
| 3.1.8 | the main aspects of the pedagogy of medical school and the requirements of the labor market and educational services for building a trajectory of their own professional growth. |
| 3.2 be able to: | |
| 3.2.1 | classify phenomena, phenomena and phenomena in psychology; |
| 3.2.2 | define the concept, function, structure and properties of the psyche; |
| 3.2.3 | classify emotions and feelings of a person to determine their role in the team, based on the strategy of cooperation to achieve the set goal; |
| 3.2.4 | determine the essence of cognitive mental processes, to determine their role in the team, based on the strategy of cooperation to achieve the goal; |
| 3.2.5 | form the psychological structure of the personality necessary for the implementation of his role in the team, taking into account the peculiarities of the behavior of other team members; |
| 3.2.6 | determine the main directions and tendencies of the mental development of the individual, contributing to the analysis of the possible consequences of personal actions and planning their actions to achieve a given result; |
| 3.2.7 | classify socio-psychological phenomena and processes aimed at self-development and professional growth, distribute them into long-, medium- and short-term with substantiation of their relevance and determination of the necessary resources for their implementation; |
| 3.2.8 | systematize and structure the forms and methods of pedagogy of higher medical school and assess the requirements of the labor market and educational services in order to build a trajectory of their own professional growth. |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic year | Hours | Competencies | Literature | Inter active |
|------------|---|----------------------|-------|---|---------------------------------------|--------------|
| | Section 1. SUBJECT, OBJECTIVES AND FEATURES OF PSYCHOLOGY AS A SCIENCE | | | | | |
| 1.1 | SUBJECT, OBJECTIVES AND FEATURES OF PSYCHOLOGY AS A SCIENCE / Lec / | 3 | 4 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC - 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
| 1.2 | The world of mental phenomena /Practice/ | 3 | 4 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC - 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
| 1.3 | The world of mental phenomena /Self-study/ | 3 | 1 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC - 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
| | Section 2. PSYCHE AND ORGANISM. MENTAL DEVELOPMENT | | | | | |
| 2.1 | DEVELOPMENT PSYCHE AND ORGANISM. MENTAL DEVELOPMENT / Lec / | 3 | 4 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC - 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |

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| 2.2 | Psyche: concept, functions, structure, properties, forms of mental reflection. /Practice/ | 3 | 4 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
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| 2.3 | Basic structures of the brain /S/ | 3 | 1 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
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Раздел 3. MENTAL PROCESSES: emotional, volitional processes

| | | | | | | |
|-----|---|---|---|---|---------------------------------------|--|
| 3.1 | MENTAL PROCESSES: emotional, volitional processes / Lec / | 3 | 4 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
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| 3.2 | Classification of emotions and feelings / Pr/ | 3 | 4 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
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| 3.3 | Psychological characteristics of will, emotions and feelings /S/ | 3 | 1 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
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Раздел 4. MENTAL PROCESSES: cognitive processes.

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| 4.1 | MENTAL PROCESSES: cognitive processes / Lec / | 3 | 4 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
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| 4.2 | The essence of cognitive mental processes: sensation, perception, representation, attention, memory, imagination, thinking, speech / Pr/ | 3 | 4 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
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| 4.3 | Types of cognitive mental processes /S/ | 3 | 1 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
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Раздел 5. MENTAL PROPERTIES: TEMPERAMENT, CHARACTER, ABILITY.

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|-----|--|---|---|---|---------------------------------------|--|
| 5.1 | MENTAL PROPERTIES: TEMPERAMENT, CHARACTER, ABILITY / Lec / | 3 | 4 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
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| 5.2 | Psychological structure of personality / Pr/ | 3 | 4 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
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| 5.3 | Psychological characteristics of temperament, character, abilities /S/ | 3 | 1 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
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Раздел 6. PERSONAL PERSONALITY

| | | | | | | |
|-----|------------------------------|---|---|---|---------------------------------------|--|
| 6.1 | PERSONAL PERSONALITY / Lec / | 3 | 4 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
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| 6.2 | The main directions and tendencies of the mental development of personality / Pr/ | 3 | 4 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
| 6.3 | Personality structure /S/ | 3 | 1 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
| Раздел 7. SOCIAL AND PSYCHOLOGICAL PHENOMENA AND PROCESSES | | | | | | |

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|--|---|---|---|--|--|--------------------|
| 7.1 | SOCIO-PSYCHOLOGICAL PHENOMENA AND PROCESSES / Lec / | 3 | 4 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
| 7.2 | Communication, interaction, mutual influence, conflicts as social and psychological processes / Pr/ | 3 | 4 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
| 7.3 | Psychological processes in a small group /S/ | 3 | 1 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
| Раздел 8. PEDAGOGY OF HIGHER MEDICAL SCHOOL | | | | | | |
| 8.1 | PEDAGOGY OF HIGHER MEDICAL SCHOOL / Lec / | 3 | 4 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
| 8.2 | Pedagogy of higher medical school / Pr/ | 3 | 4 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
| 8.3 | Pedagogy as an activity /S/ | 3 | 1 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | |
| 8.4 | /Control work/ | 3 | 0 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | Control work |
| 8.5 | / Credit with a mark/ | 3 | 0 | UC-3.1, UC-3.2 UC - 3.3 UC -6.1, UC – 6.2 | L1.1 L 1.2 L 1.3 L 2.1 L 3.1 I.1, I.2 | Credit with a mark |

Russian History

| 1. COURSE OBJECTIVES | |
|----------------------|---|
| 1.1 | The aim of the course is to provide knowledge of the history of Russia (a basic level) for non-historical specialties students. |
| 1.2 | The objectives of mastering the Russian History course are: |

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| 1.3 | to study the data on historical events from ancient times (from its Kievan origins) to the post-communist present (since 1991 till nowadays) of Russia; |
| 1.4 | to study the key aspects of Russia's history – political, international, military, economic, social, and cultural – with commitment to objectivity and balance; |
| 1.5 | to study recent research and new trends in scholarly interpretation of history. |

2. COURSE OVERVIEW

| | |
|---|--|
| Course code (in curriculum): | B1.O.01 |
| 2.1 Assumed background: | |
| 2.1.1 | History of Medicine |
| 2.1.2 | Philosophy |
| 2.2 Post-requisite courses and practice: | |
| 2.2.1 | Law Studies |
| 2.2.2 | Preparation for conducting an interim certification (exam) |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

| | |
|---|--|
| UC-5.1: Comprehends and interprets the history of the Russian Federation in the context of the world history | |
| UC-5.2: Considers the socio confessions, including world religions, communication | -cultural traditions of various social and ethnic groups, philosophical and ethical theories in social and professional |
| UC-5.3: Upholds the principles of tolerance and respect of fundamental human and civil rights in personal and social integration | |

By the end of the course students must:

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| 3.1 Know: | |
| 3.1.1 | - specific features and objectives of History of Russia course; |
| 3.1.2 | - Russia's place and role in the history of mankind and in the modern world; |
| 3.1.3 | - main historical stages of Russian state evolution; |
| 3.1.4 | - general tendencies in historical development of Russian society. |
| 3.2 be able to: | |
| 3.2.1 | - to use the acquired knowledge of History in the study of other humanities; |
| 3.2.2 | - to work with historical literature; |
| 3.2.3 | - to interpret and apply the basic concepts of historical literature; |
| 3.2.4 | -to identify features of Russia's development at key stages of historical development; |
| 3.2.5 | -to evaluate alternatives of social development in the history of Russia; |
| 3.2.6 | -critical perception of information; |
| 3.2.7 | - reading scientific thematic literature on the history of Russia and using it to fulfil educational tasks; |
| 3.2.8 | - defending civilian position based on the knowledge of the history of Russia |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic | Academic hours | Competences | Literature | Interactive |
|------------|--------------------|-----------------|----------------|-------------|------------|-------------|
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|-----|---|---|---|-----------------------------|---|--|
| | Section 1. Russian History from the ancient times to the middle of XIX century | | | | | |
| 1.1 | Eastern Slavs in the pre-state period /lecture/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |

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| 1.2 | The ancient Russian state of Kievan Rus (Russia) in the 9th - 12th centuries /lecture/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.3 | The ancient Russian state of Kievan Rus (Russia) in the 9th - 12th centuries /practical classes/ | 3 | 3 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.4 | The ancient Russian state of Kievan Rus (Russia) in the 9th - 12th centuries /self-study/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.5 | Foreign policy of the first Kievan princes /lecture/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.6 | Political fragmentation in the Russian lands (XII - XIV centuries) /lecture/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.7 | Political fragmentation in the Russian lands (XII - XIV centuries) /practical classes/ | 3 | 3 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.8 | Political fragmentation in the Russian lands (XII - XIV centuries) /self-study/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.9 | Formation of the Russian centralized state (Muscovy). Reign of Ivan the Third /lecture/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.10 | Russia in the 16th century. Internal and foreign policy of Ivan the Terrible /lecture/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.11 | Russia in the 16th century. Internal and foreign policy of Ivan the Terrible /practical classes/ | 3 | 3 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |

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| 1.12 | Russia in the 16th century. Internal and foreign policy of Ivan the Terrible /self-study/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.13 | The Time of troubles in Russia (1598-1613) /lecture/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.14 | Russia in the 17th century. The Reign of The First Romanovs /lecture/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |

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| 1.15 | Russia in the 17th century. The Reign of The First Romanovs /practical classes/ | 3 | 3 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.16 | Russia in the 17th century. The Reign of The First Romanovs /self-study/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.17 | Culture of Pre-Petrine Rus /lecture/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.18 | Domestic and foreign policy of Peter the Great /lecture/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.19 | Domestic and foreign policy of Peter the Great /practical classes/ | 3 | 3 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.20 | Domestic and foreign policy of Peter the Great /self-study/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.21 | The Era of Palace Coups in Russia /lecture/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.22 | The Era of enlightened absolutism. Foreign policy of Catherine the Great /lecture/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.23 | The Era of enlightened absolutism. Foreign policy of Catherine the Great /practical classes/ | 3 | 3 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |

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| 1.24 | The Era of enlightened absolutism. Foreign policy of Catherine the Great /self-study/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.25 | Domestic policy of Alexander I /lecture/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.26 | Russia's foreign policy in the first quarter of the XIX century /lecture/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.27 | Russia's foreign policy in the first quarter of the XIX century /practical classes/ | 3 | 3 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |

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| 1.28 | Russia's foreign policy in the first quarter of the XIX century /self-study/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.29 | Domestic and foreign policy of Nicholas I. The Crimean War /lecture/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.30 | The Socio-Political Movement in Russia in the first half of the 19th century /lecture/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.31 | The Socio-Political Movement in Russia in the first half of the 19th century /practical classes/ | 3 | 3 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.32 | The Socio-Political Movement in Russia in the first half of the 19th century /self-study/ | 3 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.33 | /Test/ | 3 | 0 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 1.34 | /Credit/ | 3 | 0 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| | Section 2. Russian History from the second half of the XIX century to the beginning of XXI century | | | | | |

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|-----|---|---|-----|-----------------------------|---|--|
| 2.1 | The Great reforms of Alexander II /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.2 | The counter-reforms of Alexander III /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.3 | The counter-reforms of Alexander III /practical classes/ | 4 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.4 | The counter-reforms of Alexander III /self-study/ | 4 | 0,5 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.5 | The Socio-Political Movement in Russia in the second half of the 19th century /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.6 | Russian culture in XIX century /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |

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| 2.7 | Russian culture in XIX century /practical classes/ | 4 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.8 | Russian culture in XIX century /self-study/ | 4 | 0,5 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.9 | Foreign policy of Russian Empire in the second half of XIX century /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.10 | The Russian Empire at the turn of the XIX - XX /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.11 | The Russian Empire at the turn of the XIX - XX centuries /practical classes/ | 4 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.12 | The Russian Empire at the turn of the XIX - XX centuries /self-study/ | 4 | 0,5 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |

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| 2.13 | Russian foreign policy in the late XIX - early XX centuries. Russian-Japanese War /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.14 | The First Russian Revolution /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.15 | The First Russian Revolution /practical classes/ | 4 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.16 | The First Russian Revolution /self-study/ | 4 | 0,5 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.17 | The Third June monarchy' period in the Russian history /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.18 | Russia in The First World War /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.19 | Russia in The First World War /practical classes/ | 4 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |

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| 2.20 | Russia in The First World War /self-study/ | 4 | 0,5 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.21 | The Great Russian Revolution of 1917 /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.22 | Civil War in Russia. The policy of war communism /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.23 | Civil War in Russia. The policy of war communism /practical classes/ | 4 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.24 | Civil War in Russia. The policy of war communism /self-study/ | 4 | 0,5 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |

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| 2.25 | Foundation of the USSR /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.26 | The New Economic Policy of Soviet Russia /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.27 | The New Economic Policy of Soviet Russia /practical classes/ | 4 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.28 | The New Economic Policy of Soviet Russia /self-study/ | 4 | 0,5 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.29 | The Stalin Era in the USSR /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.30 | Cultural Revolution in the Soviet Union /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.31 | Cultural Revolution in the Soviet Union /practical classes/ | 4 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.32 | Cultural Revolution in the Soviet Union /self-study/ | 4 | 0,5 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |

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| 2.33 | Stalin's Cult of Personality: Its Origins and Progression. Political repression in Soviet Union /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.34 | Soviet foreign policy in 1917-1941 /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.35 | Soviet foreign policy in 1917-1941 /practical classes/ | 4 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.36 | Soviet foreign policy in 1917-1941 /self-study/ | 4 | 0,5 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |

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| 2.37 | The USSR in The Great Patriotic War /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.38 | Domestic and foreign policy of the Soviet Union in 1941-1945 /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.39 | Domestic and foreign policy of the Soviet Union in 1941-1945 /practical classes/ | 4 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.40 | Domestic and foreign policy of the Soviet Union in 1941-1945 /self-study/ | 4 | 0,5 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.41 | Soviet Domestic Policy in the Postwar World /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.42 | Stalin's Foreign Policy in 1945-1953. The Cold War /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.43 | Stalin's Foreign Policy in 1945-1953. The Cold War /practical classes/ | 4 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.44 | Stalin's Foreign Policy in 1945-1953. The Cold War /self-study/ | 4 | 0,5 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.45 | Soviet State and Society Under Nikita Khrushchev. The Thaw /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |

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|------|--|---|-----|-----------------------------|---|--|
| 2.46 | Soviet foreign policy in 1953-1964 /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.47 | Soviet foreign policy in 1953-1964 /practical classes/ | 4 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.48 | Soviet foreign policy in 1953-1964 /self-study/ | 4 | 0,5 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |

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| 2.49 | The Soviet Union during the Brezhnev Era /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.50 | Soviet foreign policy in 1965-1984 /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.51 | Soviet foreign policy in 1965-1984 /practical classes/ | 4 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.52 | Soviet foreign policy in 1965-1984 /self-study/ | 4 | 0,5 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.53 | The Soviet Union during Perestroika. Collapse of the USSR /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.54 | Gorbachev and New Thinking in Soviet Foreign Policy, 1985-1991 /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.55 | Gorbachev and New Thinking in Soviet Foreign Policy, 1985-1991 /practical classes/ | 4 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.56 | Gorbachev and New Thinking in Soviet Foreign Policy, 1985-1991 /self-study/ | 4 | 0,5 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.57 | Culture in the Soviet Union, 1945- 1991 /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.58 | Foundation of the Russian Federation. Russia's domestic and foreign policy in the 1990s /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.59 | Foundation of the Russian Federation. Russia's domestic and foreign policy in the 1990s /practical classes/ | 4 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.60 | Foundation of the Russian Federation. Russia's domestic and foreign policy in the 1990s /self-study/ | 4 | 0,5 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |

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|------|--|---|-----|-----------------------------|---|--|
| 2.61 | Russia under Vladimir Putin /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.62 | Vladimir Putin and the Evolution of Russian Foreign Policy /lecture/ | 4 | 1 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.63 | Vladimir Putin and the Evolution of Russian Foreign Policy /practical classes/ | 4 | 2 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.64 | Vladimir Putin and the Evolution of Russian Foreign Policy /self-study/ | 4 | 0,5 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.65 | /Test/ | 4 | 0 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |
| 2.66 | /Credit with mark/ | 4 | 0 | UC-5.1 UC- 5.2 UC-5.3 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.1 E1 E2 E3 | |

Basics of Culture in Economics

| 1. COURSE OBJECTIVES | |
|--|---|
| 1.1 | The purpose of studying the discipline is to form students' culture of economic thinking and basic competencies in the field of economic literacy, necessary for the orientation and social adaptation of students to the ongoing changes in the life of society. |
| 2. COURSE OVERVIEW | |
| Course code (in curriculum): | Б1.О.01.09 |
| 2.1 Assumed background: | Business Management Basics |
| 2.2 Post-requisite courses and practice: | Public Health and Healthcare. Economy of Public Healthcare. |
| 3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE) | |
| UC-10: Able to make rational economic decisions in various spheres of life | |
| UC-10.1: Understands the basic principles of the functioning of the economy and economic development, goals, forms of state participation in the economy | |
| UC-10.2: Applies methods of personal economic and financial planning to achieve current and long-term financial goals, uses financial instruments to manage finances (personal budget), controls his/her own economic and financial risks | |
| By the end of the course students must: | |
| 3.1 Know: | |

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| 3.1.1 | - basic economic concepts: economic resources, economic agents, goods, services, demand, supply, market exchange, price, money, income, costs, profit, property, competition, monopoly, firm, institutions, transaction costs, savings, investments, credit, interest, risk, insurance, government, inflation, unemployment, gross domestic product, economic growth, etc.; |
| 3.1.2 | - basic principles of economic analysis for decision making (consideration of opportunity costs, change in value over time, comparison of marginal values); |
| 3.1.3 | - the concept of public good and the role of the state in its provision. Goals, objectives, tools and effects of budgetary, tax, monetary, social, pension policies of the state and their impact on macroeconomic parameters and individuals; |
| 3.1.4 | - main types of personal income (salary, entrepreneurial income, rental income, etc.), mechanisms for their receipt and increase. |
| 3.2 | Be able to: |
| 3.2.1 | - critically assess information on the prospects for economic growth and technological development of the country's economy and its individual sectors; |
| 3.2.2 | - solve typical tasks in the field of personal economic and financial planning that arise at all stages of the life cycle; |
| 3.2.3 | - use sources of information on the rights and obligations of a consumer of financial services, analyse the main provisions of the agreement with a financial institution. |
| 3.3 | Have skills of: |
| 3.3.1 | - personal finance management for achievement of the set financial goals, comparing them according to the criteria of profitability, reliability and liquidity. |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Interactive | Notes |
|------------|---|----------------------|----------------|------------------|--------------------------------------|-------------|-----------------------|
| 1.1 | Personal financial planning /Lecture/ | 6 | 4 | UC-10.1, UC-10.2 | L1.1 L1.9 L2.4 E5 | 0 | Oral quiz, test |
| 1.2 | Personal financial planning /Pr/ | 6 | 4 | UC-10.1, UC-10.2 | L1.1 L1.9 L2.4 E5 | 0 | Oral quiz, test |
| 1.3 | Personal financial planning /Selfstudy/ | 6 | 4 | UC-10.1, UC-10.2 | L1.1 L1.9 L2.4 E5 | 0 | Oral quiz, test |
| 1.4 | Financial services, savings and investment instruments / Lecture/ | 6 | 4 | UC-10.1, UC-10.2 | L1.1L2.3L3.7 E1 E2 E3 E4 E5 E6 | 0 | Oral quiz, case study |
| 1.5 | Financial services, savings and investment instruments /Pr/ | 6 | 4 | UC-10.1, UC-10.2 | L1.1L2.3L3.7 E1 E2 E3 E4 E5 E6 | 0 | Oral quiz, case study |

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| 1.6 | Financial services, savings and investment instruments /Self-study/ | 6 | 6 | UC-10.1, UC-10.2 | L1.1L2.3L3.7 E1 E2 E3 E4 E5 E6 | 0 | Oral quiz, case study |
| 1.7 | Banks: services and products /Lecture/ | 6 | 4 | UC-10.1, UC-10.2 | L1.5 L1.6 E1 | 0 | Oral quiz, case study |
| 1.8 | Banks: services and products /Pr/ | 6 | 4 | UC-10.1, UC-10.2 | L1.5 L1.6 L2.1 L3.3 E1 | 0 | Oral quiz, case study |
| 1.9 | Banks: services and products /Selfstudy/ | 6 | 6 | UC-10.1, UC-10.2 | L1.5 L1.6 L3.3 E1 | 0 | Oral quiz, case study |
| 1.10 | Consumer insurance /Lecture/ | 6 | 4 | UC-10.1, UC-10.2 | L1.2 L1.3 L1.8 L2.2 L3.5 E5 E6 | 0 | Oral quiz, written quiz |
| 1.11 | Consumer insurance /Pr/ | 6 | 4 | UC-10.1, UC-10.2 | L1.2 L1.8 L2.2 L3.5 E6 | 0 | Oral quiz, written quiz |
| 1.12 | Consumer insurance /Self-study/ | 6 | 4 | UC-10.1, UC-10.2 | L1.2 L1.8 L2.2 L3.5 E6 | 0 | Written quiz |
| 1.13 | Stock market /Lecture/ | 6 | 4 | UC-10.1, UC-10.2 | L1.7 L3.4 E2 | 0 | Oral quiz, case study |
| 1.14 | Stock market /Pr/ | 6 | 4 | UC-10.1, UC-10.2 | L1.7 L3.4 | 0 | Oral quiz, case study |
| 1.15 | Stock market /Self-study/ | 6 | 8 | UC-10.1, UC-10.2 | L1.7 L3.4 | 0 | Case study |
| 1.16 | Taxes and taxation: essence and basic concepts /Lecture/ | 6 | 4 | UC-10.1, UC-10.2 | L1.4 L2.5 L3.6 E3 | 0 | Oral quiz, case study |
| 1.17 | Taxes and taxation: essence and basic concepts /Pr/ | 6 | 4 | UC-10.1, UC-10.2 | L1.4 L2.5 L3.6 E3 | 0 | Oral quiz, case study |
| 1.18 | Taxes and taxation: essence and basic concepts /Self-study/ | 6 | 8 | UC-10.1, UC-10.2 | L1.4 L2.5 L3.6 E3 | 0 | Case study |

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| 1.20 | State pension and social insurance /Pr/ | 6 | 4 | UC-10.1, UC-10.2 | L1.9 L2.3 L3.1 E4 | 0 | Oral quiz, case study |
| 1.21 | State pension and social insurance /Self-study/ | 6 | 4 | UC-10.1, UC-10.2 | L1.9 L2.3 L3.1 E4 | 0 | Case study |
| 1.22 | Financial risks: essence and basic concepts /Lecture/ | 6 | 4 | UC-10.1, UC-10.2 | L1.9 L3.2 E1 E2 | 4 | Oral quiz, written quiz |
| 1.22 | Financial risks: essence and basic concepts /Pr/ | 6 | 4 | UC-10.1, UC-10.2 | L1.9 L3.2 | 4 | Oral quiz, written quiz |
| 1.24 | Financial risks: essence and basic concepts /Self-study/ | 6 | 4 | UC-10.1, UC-10.2 | L1.9 L3.2 | 0 | Written quiz |
| 1.25 | Credit/Mark | 6 | 0 | UC-10.1, UC-10.2 | L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L1.7 L1.8 L1.9 L2.2 L2.3 L2.4 L2.5 L3.1 L3.2 L3.3 L3.4 L3.5 L3.6 L3.7 E1 E2 E3 E4 E5 E6 | 0 | Oral quiz |

Foreign Language (Russian Language in the Professional Sphere)

| 1. COURSE OBJECTIVES | |
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| 1.1 | The aim of the course is to provide students with necessary knowledge of the Russian language at Elementary, Pre-intermediate and Intermediate levels as well as to prepare foreign students for mastering the communicative competences of Russian in the educational and professional spheres. |
| 1.2 | The establishment and development of professional contacts in accordance with the requirements of the joint |
| 1.3 | Development of the ability and constructive arguments to defend their positions and ideas in academic and professional , ; discussions on the state language of the Russian Federation |
| 1.4 | Development of the ability to create a non-discriminatory environment interaction when performing professional tasks and analyze the most important ideological and value systems that have emerged in the course of historical development; substantiates the relevance of their use in social and professional interaction |
| 1.5 | Creating a non-discriminatory situation for interaction in the performance of professional tasks |

| 2. COURSE OVERVIEW | |
|--------------------------------|--|
| Course code (in curriculum) | Б1.О.02.01 |
| 2.1 Assumed background: | |
| 2.1.1 | The student should master a vocabulary of at least 2300 lexical units, develop skills and abilities in all types of speech activities (speaking, listening, writing, reading) used in various social, everyday, socio-cultural and educational situations. Students should master the bulk of semantic-syntactic constructions of the Russian language, linguistic, speech and communication material that allows to communicate with native Russian speakers. |
| 2.1.2 | The students are able to communicate with people, to get to know someone, to introduce oneself or to represent another person, say hello, say goodbye, address someone, thank, apologize, respond to gratitude and apologies, congratulate, |

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| | ask to repeat, ask again, express a wish; advice, proposal, invitation, agreement or disagreement, refusal, permission or prohibition, promise, uncertainty; to express their attitude: evaluate a person, object, fact, action, event. |
| 2.2 | Post-requisite courses and practice: Foreign Language (Russian) |
| 2.2.1 | Professional Practice in Obtaining Nursing Assistance Professional Skills and Experience |
| 2.2.2 | Educational Practice in Research (primary research skills) |
| 2.2.3 | Professional practice, assistant diagnostician (uzist) |
| 2.2.4 | Professional Practice, Physician Assistant |
| 2.2.5 | Professional Practice, Surgeon Assistant |
| 2.2.6 | Professional Practice, Obstetrician and Gynecologist Assistant |
| 2.2.7 | Preparation for State Final Examination |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

UC-4.1 Chooses the style of communication in the State language of the Russian Federation in accordance with the purpose and conditions of communication.

UC-4.2 Presents the results of academic activity in the State language of the Russian Federation and a foreign language (oral and written business communication).

UC-4.3 Translates the official and professional texts from a foreign language into Russian and from Russian into a foreign language for the purpose of business communication.

By the end of the course students must:

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| 3.1 | know: |
| 3.1.1 | functional styles to choose accordingly in different conditions of communication; |
| 3.1.2 | methods of demonstrating results of academic activity in the state language and a foreign language |
| 3.1.3 | phonetic, lexical, grammatical and stylistic phenomena of the Russian language |
| 3.2 | be able to: |
| 3.2.1 | analyze and summarize the information obtained during the study; |

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| 3.2.3 | implement effective speech communication as a part of educational, research and professional activities |
| 3.2.4 | follow communication norms adopted in scientific environment |
| 3.2.6 | work with the special literature in the Russian language, Russian-language information resources, technology and modern computer translation programs. |
| 3.3 | have skills of: |
| 3.3.1 | analysis and synthesis while working with academic texts |
| 3.3.2 | mastering the techniques of searching and logical processing of information in the state language and a foreign language |
| 3.3.3 | creating dialogues and monologues in everyday professional, social and cultural situations |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Interactive |
|------------|------------------------|----------------------|----------------|----------------------|-----------------------------|-------------|
| | Module 1. | | | | | |
| 1.1 | Revision / Practical / | 5 | 3 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |

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|------|---------------------------------------|---|---|-------------------------|--------------------------------|--|
| 1.2 | Revision /Self-study/ | 5 | 7 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 1.3 | Structure of an object / Practical / | 5 | 3 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 1.4 | Structure of an object /Self-study/ | 5 | 8 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 1.5 | Form of an object / Practical / | 5 | 3 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 1.6 | Form of an object /Self-study/ | 5 | 7 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 1.7 | Functions of an object / Practical / | 5 | 3 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 1.8 | Functions of an object /Self-study/ | 5 | 5 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 1.9 | Properties of an object / Practical / | 5 | 4 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 1.10 | Properties of an object /Self-study/ | 5 | 8 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |

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| 1.11 | Description of process / Practical / | 5 | 4 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 1.12 | Description of process /Self-study/ | 5 | 6 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 1.13 | Science. Scientific methods of learning / Practical / | 5 | 4 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 1.14 | Science. Scientific methods of learning /Self-study/ | 5 | 7 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 1.15 | The Test / | 5 | 0 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 1.16 | Credit | 5 | 0 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |

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| | Module 2 | | | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 2.1 | Chemistry / Practical / | 6 | 3 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 2.2 | Chemistry /Self-study/ | 6 | 7 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 2.3 | Atomic-molecular theory. / Practical / | 6 | 6 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 2.4 | Atomic-molecular theory. Atoms and molecules existence proof /Self-study/ | 6 | 7 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 2.5 | The law of conservation of mass and energy / Practical / | 6 | 3 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 2.6 | The law of conservation of mass and energy /Self-study/ | 6 | 7 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 2.7 | Periodic law. The history of discovery Base concepts in chemistry / Practical / | 6 | 3 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 2.8 | Periodic law. The history of discovery Base concepts in chemistry /Self-study/ | 6 | 6 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |

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| 2.9 | Evolution of chemical knowledge / Practical / | 6 | 3 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 2.10 | Evolution of chemical knowledge /Self- study/ | 6 | 8 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 2.11 | Scale of chemical industry / Practical / | 6 | 3 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 2.12 | Scale of chemical industry /Self-study/ | 6 | 6 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 2.13 | Patient registration / Practical / | 6 | 3 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 2.14 | Patient registration /Self-study/ | 6 | 7 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |

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| 2.15 | The Test // | 6 | 0 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 2.16 | Credit | 6 | 0 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| | Module 3 | | | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 3.1 | Cardiovascular diseases / Practical / | 7 | 3 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 3.2 | Cardiovascular diseases /Self-study/ | 7 | 6 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 3.3 | Respiratory diseases / Practical / | 7 | 3 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 3.4 | Respiratory diseases /Self-study/ | 7 | 5 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 3.5 | Diseases of the digestive system / Practical / | 7 | 3 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 3.6 | Diseases of the digestive system /Self- study/ | 7 | 5 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |

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| 3.7 | Liver diseases / Practical / | 7 | 3 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 3.8 | Liver diseases /Self-study/ | 7 | 6 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 3.9 | Hepatobiliary diseases / Practical / | 7 | 3 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 3.10 | Hepatobiliary diseases /Self-study/ | 7 | 5 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 3.11 | Urinary diseases / Practical / | 7 | 3 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 3.12 | Urinary diseases /Self-study/ | 7 | 7 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |

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| 3.13 | Patient's passport data / Practical / | 7 | 3 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 3.14 | Patient's passport data /Self-study/ | 7 | 7 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 3.15 | Revision / Practical / | 7 | 3 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 3.16 | Revision /Self-study/ | 7 | 7 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 3.17 | Credit | 7 | 0 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |

| | Module 4 | | | | | |
|------|--|---|----|----------------------------|--------------------------------|--|
| 4.1 | Patient complaints / Practical / | 8 | 2 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 4.2 | Patient complaints /Self-study/ | 8 | 9 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 4.3 | Patient clinical record / Practical / | 8 | 2 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 4.4 | Patient clinical record /Self-study/ | 8 | 9 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 4.5 | Patient's life history / Practical / | 8 | 2 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 4.6 | Patient's life history /Self-study/ | 8 | 10 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 4.7 | Objective health condition of the patient / Practical / | 8 | 2 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 4.8 | Objective health condition of the patient /Self-study/ | 8 | 10 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 4.9 | Provisional diagnosis / Practical / | 8 | 3 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 4.10 | Provisional diagnosis /Self-study/ | 8 | 7 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 4.11 | Revision / Practical / | 8 | 5 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 4.12 | Revision /Self-study/ | 8 | 11 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |
| 4.13 | Credit / Mark | 8 | 0 | UC-4.1 UC-4.2 UC-4.3 | 1.2; 1.4; 2.1 2.2; 2.3; 2.5 | |

General surgery

1. COURSE OBJECTIVES

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| 1.1 | The aim of the General Surgery course in higher medical schools is to study the main pathological states in surgery, necessary surgical skills for the examination of patients. |
| 2. COURSE OVERVIEW | |
| Course code (in curriculum): | Б1.О.04 |
| 2.1 | Assumed background: |
| 2.1.1 | Human anatomy |
| 2.1.2 | Biochemistry |
| 2.1.3 | Normal physiology |
| 2.2 | Post-requisite courses and practice: |
| 2.2.1 | Disaster Medicine |
| 2.2.2 | Anesthesiology, intensive care, intensive care |
| 2.2.3 | Oncology, radiation therapy |
| 2.2.4 | Otorhinolaryngology |
| 3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE) | |
| PC-1.1: Demonstrates knowledge in etiology, pathogenesis, diagnostic criteria (clinical - subjective, physical, laboratory, instrumental, identifies the patient's common pathological conditions, symptoms, disease syndromes and diagnoses nosological forms according to the International Statistical Classification of Diseases and Related Health Problems, X - XI revisions | |
| PC-1.2: Carries out diagnostics, evaluates the prognosis (short-, medium- and long-term course) of the disease, identifies acute complications and complications of chronic diseases | |
| PC-3.1: Examines the patient (handle the patient's complaints, anamnesis, physical data based on the examination results, determines the necessary examination plan, evaluates the parameters of laboratory, instrumental, pathological and anatomical and other methods in order to diagnose diseases, assesses the prognosis (short-, medium- , long-term) of its course and outcomes | |
| PC-3.2: Makes an initial and clinical diagnosis in accordance with the International Statistical Classification of Diseases and Health Problems X - XI revisions and current clinical classifications | |
| PC-3.3: Carries out early and differential diagnostics of diseases | |
| PC-3.4: Provides routing and management of patients based on the current legislation (standards, procedures for the provision of medical care, Clinical guidelines) | |
| PC-5.1: Demonstrates knowledge of the mechanisms and methods applied in pharmacotherapy, medical nutrition, medical devices and methods of non-drug treatment, palliative and personalized medical care | |
| PC-5.2: Provides various categories of patients with outpatient treatment, treatment in hospitals and high-tech medical care (HMC) centers applying drugs, medical devices and medical nutrition, according to clinical pattern and current procedures, standards of medical care, Clinical guidelines (treatment protocols) | |
| PC-8.2: Keeps medical records, including the electronic format | |
| By the end of the course students must: | |
| 3.1 | Know: |
| 3.1.1 | -Hygienic aspects of nutrition, hygiene of medical organizations, hygienic problems of health care for the working population |
| 3.1.2 | -Etiology, pathogenesis and prevention measures of the most common diseases; modern classification of diseases |
| 3.1.3 | -The clinical picture, features of the course and possible complications of the most common diseases occurring in a typical form in different age groups. |
| 3.1.4 | -Diagnostic methods, diagnostic capabilities of methods of direct examination of the patient of therapeutic, surgical and infectious profile, modern methods of clinical, laboratory, instrumental examination of patients (including endoscopic, X-ray methods, ultrasound diagnostics) |
| 3.1.5 | -Criteria for the diagnosis of various diseases |
| 3.1.6 | -Clinical manifestations of major surgical syndromes. |
| 3.1.7 | -Types and methods of modern general anesthesia (mask, endotracheal, intravenous), methods and methods of prevention of postoperative pulmonary complications, features of management of comatose patients, intensive therapy for patients who have suffered critical conditions. |
| 3.1.8 | -Features of first aid and resuscitation measures for victims of auto-road injuries, drowning, electrical trauma, strangulation asphyxia, methods of restoring the patency of the upper respiratory tract |

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| 3.1.9 | -Clinical symptoms of damage to the musculoskeletal system, chest, abdominal cavity, pelvic cavity, head and skull cavity; methodology for determining the area of the burn surface, features of applying contour bandages in burn disease and cold injury. |
| 3.2 | Be able to: |
| 3.2.1 | -Determine the patient's status: collect anamnesis, conduct a patient survey (examination, palpation, auscultation, blood pressure measurement, etc.) assess the patient's condition to make a decision about the need to provide him with medical care, conduct an initial examination of systems and organs |

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| 3.2.2 | - Set priorities for solving the patient's problems: critical (terminal) condition, with chronic vomiting, a condition with an infectious disease, disability, geriatric problems, the condition of mentally ill patients |
| 3.2.3 | - Outline the scope of additional studies in accordance with the prognosis of the disease, to clarify the diagnosis and obtain a reliable result. |
| 3.2.4 | -Determine by X-ray the presence of a fracture and dislocation, free gas in the abdominal cavity, hydro-pneumothorax |
| 3.2.5 | - Choose an individual type of assistance for the treatment of the patient in accordance with the situation: primary care, ambulance, hospitalization. |
| 3.2.6 | - Formulate clinical diagnosis |
| 3.2.7 | -Develop a plan of therapeutic (surgical) actions, taking into account the course of the disease and its treatment. |
| 3.2.8 | -Formulate indications for the chosen method of treatment, taking into account etiotropic and pathogenetic agents, justify pharmacotherapy in a particular patient with major pathological syndromes and urgent conditions, determine the route of administration, regimen and dose of medications, evaluate the effectiveness and safety of the treatment |
| 3.2.9 | -Examine patients with various traumatic injuries, with purulent-septic complications, identify life-threatening bleeding disorders, apply transport tires, bandage and kerchief bandages, inject medications through drains and microirrigators, assess the suitability of blood and its preparations for transfusion, monitor hemodynamics and respiration. |
| 3.2.10 | -Carry out resuscitation measures in the event of clinical death |
| 3.2.11 | - Treat the hands before surgery and surgical manipulations, , the surgical field, put on a sterile surgical mask, put on or change sterile gloves, a sterile dressing gown independently and with the help of an operating nurse. |
| 3.3 | Have skills of: |
| 3.3.1 | - Demonstrating methods of general clinical examination. |
| 3.3.2 | - Interpretation of the results of laboratory, instrumental diagnostic methods |
| 3.3.3 | - Making detailed clinical diagnosis based using algorithm |
| 3.3.4 | - Making a preliminary diagnosis with the subsequent referral of the patient to the appropriate specialist doctor. |
| 3.3.5 | - Providing first aid in urgent and life-threatening conditions using main medical diagnostic and therapeutic measures. |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Interactive |
|------------|---|----------------------|----------------|------------------------|-------------------|-----------------|
| 1.1 | Introduction to the surgical clinic. Organization of the work of the surgical department, the operating unit, the reception department. | 5 | 2 | PC-1 PC-3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 1.2 | Introduction to the surgical clinic. Organization of the work of the surgical department, the operating unit, the reception department. | 5 | 4 | PC-1 PC-3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |

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| 2.1 | Asepsis. Methods of sterilization. Preparation of the surgeon's hands for surgery. | 5 | 2 | PC-1 PC-3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 2.2 | Modern principles and methods of antiseptics. Types of antiseptics. Hospital infection. The problem of AIDS in surgery. | 5 | 2 | PC-1 PC-3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |

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| 2.3 | Asepsis, prevention of contact and implantation infection. Principles of asepsis, organization of work and structure of the operating unit. Sterilization of surgical clothing, surgical gloves, suture material, surgical instruments. Sterilization, UFO, ionizing, ultrasonic radiation. Preparation of the surgeon's hands for surgery. | 5 | 4 | PC-1 PC-3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 2.4 | Asepsis, prevention of contact and implantation infection. Principles of asepsis, organization of work and structure of the operating unit. Sterilization of surgical clothing, surgical gloves, suture material, surgical instruments. Sterilization, UFO, ionizing, ultrasonic radiation. Preparation of the surgeon's hands for surgery. Cleaning of the | 5 | 4 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 2.5 | operating room. Antiseptics and aseptics . Modern principles and methods of antiseptics. Mechanical, physical, chemical and biological antiseptics. Hospital infection, its prevention. Order No. 720. | 5 | 4 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 3.1 | Injuries. Dysurgia. Thermal lesions. Electrical injuries. Cold injury. | 5 | 2 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 3.2 | Wounds, features of the course of the wound process. Primary surgical treatment of wounds. | 5 | 2 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 3.3 | The concept of traumatism. Characteristics of external factors. Classification of injuries. Dislocations. | 5 | 4 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |

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| 3.4 | Bone fractures. Clinic, diagnostics. Methods of treatment. Desmurgy, types of dressing material, bandaging technique. Types of bandages. Transport and medical immobilization. | 5 | 4 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 3.5 | Thermal lesions. Burns. Methods for determining the area of the lesion. Burn shock. Radiation damage. Features of radiation burns. Burn disease. Electrical injuries. | 5 | 4 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 3.6 | Cold lesions- frostbite. The concept of "pre-reactive" and "reactive period". General hypothermia. Basic principles of treatment. | 5 | 4 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |

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| 3.7 | Wounds, features of the course of the wound process, phases of the flow. Wound infection. Primary surgical treatment of wounds (PHO). The main modern principles of treatment of purulent wounds (adequate wide opening and drainage of a purulent wound, | 5 | 4 | PC-1 PC3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 3.8 | antibiotic injuries. Desmurgy. Thermal injuries. Electrical injuries. Cold injury. | 5 | 4 | PC-1 PC3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 3.9 | Wounds, features of the course of the wound process. Primary surgical treatment of wounds. | 5 | 4 | PC-1 PC3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 4.1 | Infection in surgery. Wound infection. Purulent diseases of soft tissues. Osteomyelitis. | 5 | 2 | PC-1 PC3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 4.2 | Acute specific purulent infection in surgery. Anaerobic infection. A common purulent infection is sepsis. Terminology. Theory of sepsis. Classification, etiology, pathogenesis, clinic, diagnosis. Basic principles of treatment. | 5 | 2 | PC-1 PC3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |

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| 4.3 | Infection in surgery. Wound infection. Purulent diseases of the skin, subcutaneous tissue, tendons, (carbuncle, abscess, phlegmon). Purulent diseases of the glandular organs (mastitis, mumps). | 5 | 4 | PC-1 PC3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 4.4 | Purulent diseases of the hand. Panaricius. Pandactyl. Modern principles of treatment. | 5 | 4 | PC-1 PC3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 4.5 | Acute and chronic osteomyelitis. Classification, features of the clinical course of hematogenic and posttraumatic osteomyelitis. Modern principles of local and general treatment. Atypical forms of chronic osteomyelitis. | 5 | 4 | PC-1 PC3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 4.6 | A common purulent infection is sepsis. Terminology. Theory of sepsis. Classification, etiology, pathogenesis, clinic, diagnosis. Basic principles of treatment. | 5 | 4 | PC-1 PC3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |

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| 4.7 | Necrosis, gangrene. Bedsores. Fistulas. Acute and chronic arterial patency disorders. The main types of necrosis. General principles of treatment. | 5 | 4 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 4.8 | Infection in surgery. Wound infection. Purulent diseases of soft tissues. Osteomyelitis. | 5 | 4 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 4.9 | Acute specific purulent infection in surgery. Anaerobic infection. A common purulent infection is sepsis. Terminology. Theory of sepsis. Classification, etiology, pathogenesis, clinic, diagnosis. Basic principles of treatment. | 5 | 4 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 5.1 | Modern principles of radiation diagnostics of surgical diseases of the abdominal cavity, chest. Current principles of radiation diagnostics of diseases of the bone and joint system. Methods of interventional radiology in surgery. | 5 | 2 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |

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| 5.2 | Modern principles of radiation diagnostics of surgical diseases of the abdominal cavity, chest. | 5 | 4 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 5.3 | Modern principles of radiation diagnostics of diseases of the bone and joint system. Methods of interventional radiology in surgery. | 5 | 4 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 5.4 | Radiation diagnostics of emergency conditions. Properties of X-rays. Physics, dosimetry. Methods of Xray studies | 5 | 4 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 5.5 | Modern principles of radiation diagnostics of surgical diseases of the abdominal cavity, chest. | 5 | 4 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 5.6 | Modern principles of radiation diagnostics of diseases of the bone and joint system. Methods of interventional radiology in surgery. | 5 | 4 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |

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|-----|--|---|---|--------------------------|-------------------|-----------------|
| 6.1 | Shock. Etiology, pathogenesis, main types of shocks. Basic principles of treatment. Resuscitation. The concept of terminal states. Classification, clinical picture. Cardiopulmonary resuscitation. Indications, technique of execution. The concept of "brain death", | 6 | 2 | PC-1 PC3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 6.2 | diagnostic criteria. Resuscitation. The concept of terminal states. Classification, clinical picture. Cardiopulmonary resuscitation. Indications, technique of execution. The concept of "brain death", diagnostic criteria. Anesthesiology. History of anesthesia. Theory of anesthesia. Types of general anesthesia. Modern combined anesthesia. Local anesthesia, types of local anesthesia. The main types of regional anesthesia. Blockades, rules for their implementation, criteria for | 6 | 2 | PC-1 PC3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |

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| 6.3 | the effectiveness of anesthesia or Shock. Etiology, pathogenesis, classification. Basic principles of treatment. Resuscitation. Classification, clinical picture. Cardiopulmonary resuscitation. Indications, technique of execution. The concept of "brain death", | 6 | 4 | PC-1 PC3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 6.4 | diagnostic criteria. Terminal states. Criteria, classification. A complex of therapeutic and diagnostic measures depending on the stage. | 6 | 4 | PC-1 PC3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 6.5 | Anesthesiology. History of anesthesia. Local anesthesia, types of local anesthesia. The main types of regional anesthesia. Blockades, rules for their implementation, criteria for the effectiveness of anesthesia or blockades. | 6 | 4 | PC-1 PC3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 6.6 | Shock. Etiology, pathogenesis, classification. Basic principles of treatment. | 6 | 1 | PC-1 PC3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 6.7 | Resuscitation. The concept of terminal states. Classification, clinical picture. Cardiopulmonary resuscitation. Indications, technique of execution. The concept of "brain death", diagnostic criteria. | 6 | 1 | PC-1 PC3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 7.1 | Surgical operations. Classification, the main types of surgical interventions, their stages. The concept of pre- and postoperative period. The concept of premedication, its purpose and objectives. | 6 | 2 | PC-1 PC3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 7.2 | Surgical operations. Classification, the main types of surgical interventions, their stages. The concept of pre- and postoperative period. The concept of premedication, its purpose and objectives. | 6 | 4 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 7.3 | Surgical operations. Classification, the main types of surgical interventions, their stages. The concept of pre- and postoperative period. The concept of premedication, its purpose and objectives. | 6 | 1 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |

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|-----|--|---|---|--------------------------|-------------------|-----------------|
| 8.1 | Bleeding. Classification, local and general clinical symptoms. Degrees of blood loss. Haemorrhagic shock. Methods of temporary and final stopping of bleeding. Regulation of the RASK system. Complex hemostatic therapy. Basic questions | 6 | 2 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 8.2 | of surgical tactics. General principles of infusion transfusion therapy in surgery. Classification of infusiontransfusion media. Transfusion of blood and blood substitutes. Determination of blood by the ABO system and Rh factor. | 6 | 2 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 8.3 | Bleeding. Classification, local and general clinical symptoms. Degrees of blood loss. Haemorrhagic shock. Methods of temporary and final stopping of bleeding. Regulation of the RASK system. Complex hemostatic therapy. Basic questions | 6 | 4 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 8.4 | of suGeneral principles of infusionrgical tactics. - transfusion therapy in surgery. The concept of water- electrolyte balance. Classification of infusiontransfusion media. Methods of conducting and monitoring the effectiveness of therapy. | 6 | 4 | PC-1 PC3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 8.5 | Determination of the blood group of the blood by the ABO system and the Rh factor. The technique of conducting individual tests for the compatibility of donor and recipient blood according to ABO and Rh factor. Ottenberg's rule for blood transfusion and blood substitutes. | 6 | 4 | PC-1 PC-3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 8.6 | Transfusion of blood and blood substitutes. Organization of the donation service in Russia. Absolute and relative indications for blood transfusion and blood substitutes. Techniques and types of blood transfusions. | 6 | 4 | PC-1 PC-3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 8.7 | Blood transfusion media and blood preparations: erythromass, thrombomass, plasma, correction of the hemostasis system. Complications of blood transfusion, their prevention. | 6 | 4 | PC-1 PC-3 PC-5 PC-8 | L1.1 L2.1 L3.1 | Oral quiz, test |
| 8.8 | Bleeding. Classification, local and general clinical symptoms. Degrees of blood loss. Haemorrhagic shock. Methods of temporary and final stopping of bleeding. Regulation of the RASK system. Complex hemostatic therapy. Basic questions | 6 | 1 | PC-1 PC-3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |

| | | | | | | |
|------|--|---|---|------------------------|-------------------|-----------------|
| 8.9 | of surgical tactTransfusion of blood and blood ics. substitutes. Organization of the donation service in Russia. Absolute and relative indications for blood transfusion and blood substitutes. Techniques and types of blood transfusions.Blood transfusion media and blood preparations: erythromass, thrombomass, plasma, correction of the hemostasis system. | 6 | 1 | PC-1 PC-3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 8.10 | Complications of blood transfusion, Determination of the blood group of the blood by the ABO system and the Rh factor. The technique of conducting individual tests for the compatibility of donor and recipient blood according to ABO and Rh factor. Ottenberg's rule for blood transfusion and blood substitutes. | 6 | 1 | PC-1 PC-3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 9.1 | Tumors. Definition. The concept of benign and malignant tumors. Etiology- theory of carcinogenesis, classification of tumors, international TNM system, stages of the disease. Diagnosis, basic principles of treatment. | 6 | 2 | PC-1 PC-3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 9.2 | Tumors. Definition. The concept of benign and malignant tumors. Etiology - theory of carcinogenesis, classification of tumors, international TNM system, concept and criteria of disease stages. | 6 | 4 | PC-1 PC-3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 9.3 | Tumors. Diagnosis, general principles of treatment. Types of specialized treatment (radiation. chemotherapy). Surgical treatment options. Possible complications of diseases. The concept of a "clinical group", criteria for the distribution of cancer patients in a particular group. Rehabilitation of cancer | 6 | 4 | PC-1 PC-3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 9.4 | patients. Outcomes of the disease. Tumors. Definition. The concept of benign and malignant tumors. Etiology- theory of carcinogenesis, classification of tumors, international TNM system, stages of the disease. Diagnosis, basic principles of treatment. | 6 | 1 | PC-1 PC-3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 10.1 | Fundamentals of surgery for parasitic diseases. Classification, clinic, diagnostics, surgical tactics. | 6 | 2 | PC-1 PC-3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |

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|------|---|---|----|------------------------|-------------------|------------------------------|
| 10.2 | Fundamentals of surgery for parasitic diseases. Classification, clinic, diagnostics, surgical tactics. | 6 | 4 | PC-1 PC-3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 10.3 | Fundamentals of surgery for parasitic diseases. Classification, clinic, diagnostics, surgical tactics. | 6 | 1 | PC-1 PC-3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 11.1 | Transplantology. The history of the development of transplantology. The concept of a donor-recipient. Classification of transplants. Kidney, heart, liver transplantation - indications, technique of execution. | 6 | 2 | PC-1 PC-3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 11.2 | Transplantology. The history of the development of transplantology. The concept of a donor-recipient. | 6 | 4 | PC-1 PC-3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 11.3 | Classification of transplants. Kidney, heart, liver transplantation - indications, technique of execution. | 6 | 4 | PC-1 PC-3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 11.4 | Transplantology. The history of the development of transplantology. The concept of a donor-recipient. Classification of transplants. Kidney, heart, liver transplantation - indications, technique of execution. | 6 | 1 | PC-1 PC-3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test |
| 12.1 | Exam | 6 | 27 | PC-1 PC-3 PC-5 PC-8 | 1.1 2.1 3.1 | Oral quiz, test, case study. |

Human Genetics

1. COURSE OBJECTIVES

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|-----|---|
| 1.1 | The aim of the course is to form students' understanding of the molecular and cellular foundations of genetics, its physiological and ontogenetic aspects, the doctrine of heredity and variability in families and populations, evolutionary and ecological genetics. Tasks. Students must master during the course: - knowledge in the field of human genetics. - the ability to solve genetic problems. - skills of cytogenetic, biochemical and prenatal diagnostics of hereditary diseases, carrying out preventive measures- identification of high-risk groups among the population of their prevention and gene therapy |
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2. COURSE OVERVIEW

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|-----------------------------|---|
| Course code (in curriculum) | B1.O.04 |
| 2.1 | Assumed background: |
| 2.1.1 | Biology (school course) |
| 2.2 | Post-requisite courses and practice: |
| 2.2.1 | Neurology, medical genetics, neurosurgery |
| 2.2.2 | Propaedeutics of internal diseases |
| 2.2.3 | Obstetrics |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

PC-1.1: Demonstrates knowledge in etiology, pathogenesis, diagnostic criteria (clinical - subjective, physical, laboratory, instrumental, identifies the patient's common pathological conditions, symptoms, disease syndromes and diagnoses nosological forms according to the International Statistical Classification of Diseases and Related Health Problems, X - XI revisions

GPC-7.2: Able to prescribe modern treatment regimens based on approved current Clinical Recommendations

GPC-5.2: Knows the structure of the cell, the phases of its division, the theoretical principles of genetics and the biology of insects and helminths, their role in the etiology of human diseases

GPC-4.2: Knows instrumental and morphological criteria for diagnosing diseases and conducting clinical interpretation of the results of instrumental examination methods

GPC-4.3: Able to apply knowledge and skills in conducting a diagnostic search for diseases using medical equipment (products) to establish a diagnosis

PC-9.1: Analyzes medical information

PC-9.2: Provides evidence-based health information

PC-10.1: Participates in applying new methods and techniques aimed at protecting the public health

By the end of the course students must:

| | |
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| 3.1 | Know: |
| 3.1.1 | Rules of safety and work in medical and biological laboratories; the laws of genetics, its significance for medicine, the laws of heredity and variability in individual development as a basis for understanding the pathogenesis and etiology of hereditary and multifactorial human diseases; the main pathological conditions, syndromes and symptoms of genetic diseases, as well as methods of their treatment; new methods and techniques in the field of human genetics. |
| 3.2 | Be able to: |

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|-------|---|
| 3.2.1 | Use new methods and techniques aimed at protecting the health of citizens; solve typical tasks on the following topics: organization of hereditary material; regulation of gene expression; cytoplasmic heredity; patterns of inheritance; genetics of populations; analyze pedigrees, make a forecast of the development of a hereditary disease in proband and his relatives; assess morpho-functional, physiological conditions and pathological processes in genetic diseases, to identify families and groups of people with an increased risk of developing a particular disease with a hereditary predisposition; to describe the morphological changes of the studied macroscopic, microscopic preparations and electronograms; provide publicly available medical information. |
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4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic | Academic hours | Competences | Literature | Interactive |
|------------|--------------------|-----------------|----------------|-------------|------------|-------------|
|------------|--------------------|-----------------|----------------|-------------|------------|-------------|

| Section 1. Patterns of inheritance | | | | | | |
|------------------------------------|---|---|---|-----------------|----------------------------|--|
| 1.1 | History and significance of human genetics /Lec/ | 2 | 2 | GPC-5.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 1.2 | Structure and functions of genetic material /Lec/ | 2 | 2 | GPC-5.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 1.3 | Replication of DNA and chromosomes /Lec/ | 2 | 2 | GPC-5.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 1.4 | DNA repair. Molecular mechanisms of genetic recombination /Lec/ | 2 | 2 | GPC-5.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 1.5 | Regulation of gene activity /Lec/ | 2 | 2 | GPC-5.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 1.6 | Mendelism (hybridological method, the laws of inheritance of G. Mendel's traits, the discreteness of heredity) /Pr/ | 2 | 2 | GPC-5.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 1.7 | The chromosomal theory of heredity /Pr/ | 2 | 2 | GPC-5.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 1.8 | Structure and functions of genetic material /Pr/ | 2 | 2 | GPC-5.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 1.9 | Multilevel organization of the genome /Pr/ | 2 | 2 | GPC-5.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 1.10 | Interaction of allelic and non-allelic genes /Pr/ | 2 | 2 | GPC-5.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 1.11 | Gene coupling and crossing-over. Genetics of sex /Pr/ | 2 | 2 | GPC-5.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 1.12 | Preparation for an oral survey, tests. Solving genetic problems /Self-study/ | 2 | 4 | GPC-5.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| Section 2. Variability | | | | | | |

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|-----|---|---|---|---|-------------------------------|--|
| 2.1 | Genotype and phenotype /Lec/ | 2 | 2 | GPC-4.3 GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 2.2 | Molecular mechanisms of mutagenesis /Lec/ | 2 | 2 | GPC-4.3 GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 2.3 | Variation of the manifestation of hereditary traits in the individual development of organisms. Modification and reaction rate /Pr/ | 2 | 2 | GPC-4.3 GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 2.4 | Theoretical foundations of mutational variability /Pr/ | 2 | 2 | GPC-4.3 GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 2.5 | Spontaneous mutation process. Mutagenesis inhibitors. Detection of mutagens /Pr/ | 2 | 2 | GPC-4.3 GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 2.6 | Non-chromosomal inheritance /Pr/ | 2 | 2 | GPC-4.3 GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |

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|-----|---|---|---|---|-------------------------------|--|
| 2.7 | Preparation for an oral survey, tests. Solving genetic problems. Writing research papers /Self-study/ | 2 | 4 | GPC-4.3 GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| | Section 3. The genetic basis of evolution | | | | | |
| 3.1 | Genetics and ontogenesis /Pr/ | 2 | 2 | GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 3.2 | Genes controlling embryonic induction /Pr/ | 2 | 2 | GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 3.3 | The genetic foundations of evolution. Population genetics /Pr/ | 2 | 2 | GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 3.4 | Synthetic theory of evolution. Genetics and problems of evolutionary theory. Evolution of the human genome /Pr/ | 2 | 2 | GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 3.5 | Preparation for an oral survey, tests. Solving genetic problems. Writing research papers /Self-study/ | 2 | 4 | GPC-5.2 PC-9.1 PC- 9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| | Section 4. Hereditary diseases | | | | | |

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|------|--|---|---|---|-------------------------------|-------------------------|
| 4.1 | Heredity and human pathology /Lec/ | 2 | 2 | GPC-4.2 GPC-4.3 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 4.2 | Chromosomal abnormalities and associated syndromes /Pr/ | 2 | 2 | GPC-4.2 GPC-4.3 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 4.3 | Monogenic human diseases /Pr/ | 2 | 2 | GPC-4.2 GPC-4.3 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 4.4 | Diseases with non-traditional types of inheritance (diseases inherited linked to sex, mitochondrial) /Pr/ | 2 | 2 | GPC-4.2 GPC-4.3 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 4.5 | Diseases with non-traditional types of inheritance (genomic imprinting (DGI), expansion of trinucleotide repeats (DETR), prion diseases (PD)) /Pr/ | 2 | 1 | GPCPC-10.1-4.2 GPC-4.3 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 4.6 | General characteristics and classification of hereditary metabolic diseases (amino acids (aminoacidopathy), carbohydrates) /Pr/ | 2 | 2 | GPC-4.2 GPC-4.3 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 4.7 | Hereditary metabolic diseases (lipids, erythron, lysosomal and peroxisomal) /Pr/ | 2 | 1 | GPC-4.2 GPC-4.3 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 4.8 | Genetics of widespread diseases. Prevention of hereditary pathology. Treatment of hereditary diseases /Pr/ | 2 | 2 | GPC-4.2 GPC-4.3 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 4.9 | Preparation for an oral survey, tests. Writing research papers /Self-study/ | 2 | 4 | GPC-4.2 GPC-4.3 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | |
| 4.10 | Control work /Control / | 2 | 0 | GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | defense of the abstract |

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|------|---|---|---|---|-------------------------------|---|
| 4.11 | Interview on credit questions / Credit/ | 2 | 0 | GPC-4.2 GPC-4.3 GPC-5.2 GPC-7.2 PC-1.1 PC- 9.1 PC-9.2 PC-10.1 | 1.1 2.1 3.1 E1 E2 E3 E4 E5 | interview on theoretical issues, solving genetic problems |
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Pathologic Anatomy

| 1. COURSE OBJECTIVES | |
|----------------------|---|
| 1.1 | Obtaining systematic knowledge about the causes, patho- and morphogenesis, clinical manifestations, outcomes and complications of the most important pathological processes and human diseases; skills of clinical and morphological comparisons and the basics of general pathological (clinical) thinking - the ability to analyze various (clinical and anamnestic, laboratory, functional, morphological, etc.) data about a process or a patient with the formation of a holistic vision of human pathology, understanding the importance of pathogenetic therapy and the basics of its tactics. |

| 2. COURSE OVERVIEW | |
|---|---|
| Course code (in curriculum): | B1.O.04 |
| 2.1 Assumed background: | |
| 2.1.1 | Foreign language in the professional field (Russian language) |
| 2.1.2 | Propaedeutics of internal diseases |
| 2.1.3 | Foreign language (Russian) |
| 2.1.4 | Biochemistry |
| 2.1.5 | human anatomy |
| 2.1.6 | normal physiology |
| 2.1.7 | Philosophy |
| 2.1.8 | Biology |
| 2.1.9 | History of medicine |
| 2.1.10 | Introduction to professional activity. Ethics and deontology (bioethics) |
| 2.1.11 | Latin language |
| 2.1.12 | Physics mathematics |
| 2.1.13 | Chemistry |
| 2.1.14 | Histology, embryology, cytology |
| 2.2 Post-requisite courses and practice: | |
| 2.2.1 | Industrial practice for obtaining professional skills and experience of professional activity in the positions of paramedical personnel |
| 2.2.2 | Industrial practice of a diagnostic profile |
| 2.2.3 | Topographic anatomy, operative surgery |
| 2.2.4 | Pathophysiology |
| 2.2.5 | Pharmacology |
| 2.2.6 | Immunology and Allergology |
| 2.2.7 | infectious diseases |
| 2.2.8 | Radiation diagnostics |

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| 2.2.9 | Neurology, medical genetics, neurosurgery |
| 2.2.10 | Otorhinolaryngology |
| 2.2.11 | Propaedeutics of internal diseases |
| 2.2.12 | Gynecology |
| 2.2.13 | general surgery |
| 2.2.14 | Urology |
| 2.2.15 | Clinical pathological physiology |
| 2.2.16 | Pathological syndromes in clinical medicine |
| 2.2.17 | Preparation for passing and passing the state exam |
| 2.2.18 | Oncogynecology |
| 2.2.19 | Emergency Medicine |
| 2.2.20 | Phthisiology |
| 2.2.21 | Pediatrics |
| 2.2.22 | Clinical pharmacology |
| 2.2.23 | medical rehabilitation |
| 2.2.24 | Dermatovenereology |
| 2.2.25 | Anesthesiology, resuscitation, intensive care |
| 2.2.26 | Traumatology and Orthopedics |
| 2.2.27 | Oncology, radiation therapy |
| 2.2.28 | Ophthalmology |
| 2.2.29 | Forensic Medicine |
| 2.2.30 | Occupational diseases |
| 2.2.31 | Faculty Therapy |
| 2.2.32 | Hospital therapy (5 course) |
| 2.2.33 | Endocrinology |
| 2.2.34 | Hospital therapy (6 course) |
| 2.2.35 | Obstetrics |
| 2.2.36 | Industrial practice of a therapeutic profile |
| 2.2.37 | Faculty Surgery |
| 2.2.38 | Hospital surgery. Pediatric surgery |
| 2.2.39 | Hospital surgery |
| 2.2.40 | Industrial practice of a surgical profile |
| 2.2.41 | Industrial practice of obstetrics and gynecology |
| 2.2.42 | Industrial practice in emergency medical manipulations using simulation technologies |
| 2.2.43 | Cardiovascular surgery and functional diagnostics |
| 2.2.44 | Perinatology |
| 2.2.45 | Clinical pathological anatomy |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

GPC -5.6. Demonstrates knowledge and skills to identify: the structure of the human body, morphological macro - and microscopic parameters in pathology; diagnose criteria of general pathological pathophysiological processes in various nosologies; on the basis of which he has the skills to the full topographic anatomy and is able to solve issues of operative surgery

GPC -5.8 . Demonstrates an understanding of the mechanisms of development of general pathological processes, knowledge of the pathogenesis of various diseases and pathological conditions of a person, the ability to identify the leading links pathogenesis in their relationship with a specific disease or pathological condition and on this basis ability to justify effective pharmacotherapy

GPC -5.9 . Demonstrates knowledge of the theoretical foundations of immunology, allergology, understanding of immune defense mechanisms, types of immunological reactions and their role in the pathogenesis of human diseases

By the end of the course

students must:

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|----------------------------|---|
| 3.1 Know: | |
| 3.1.1 | basic methods of pathoanatomical research; |
| 3.1.2 | essence, patterns of development and clinical significance of the most important morphofunctional, physiological conditions and pathological processes in the human body; |
| 3.1.3 | the doctrine of the disease, nosology, the principles of classification of diseases, the basic concepts of general nosology; |
| 3.1.4 | structural and functional foundations of diseases and pathological processes, causes, basic mechanisms of development and outcomes of pathological processes, dysfunctions of organs and systems; |
| 3.1.5 | characteristic changes in internal organs in the most important human diseases; |
| 3.1.6 | terms used in the course of pathological anatomy; |
| 3.1.7 | the main methods of laboratory, instrumental, pathoanatomical and other studies in order to recognize the condition or establish the fact of the presence or absence of a disease; |
| 3.1.8 | the essence and basic patterns of general pathological processes; |
| 3.1.9 | the concepts of etiology, pathogenesis, morphogenesis, pathomorphosis, the basics of the doctrine of nosology, the principles of classification of diseases; |
| 3.1.10 | structural and functional foundations of diseases and pathological processes, causes, basic mechanisms of development and outcomes of typical pathological processes, dysfunctions of organs and systems; |
| 3.1.11 | characteristic changes in internal organs in the most important human diseases; |
| 3.1.12 | the basis of pathology that develops under the influence of environmental factors. |
| 3.2 Be able to: | |
| 3.2.1 | 3.2.1 use educational, scientific, popular science literature, the Internet to master the training program; |
| 3.2.2 | collect and analyze the patient's complaints, his medical history data; evaluate the results of the examination, laboratory, instrumental, pathoanatomical and other studies in order to recognize the condition or establish the presence or absence of the disease; |
| 3.2.3 | work with magnifying equipment when conducting a microscopic examination of a histological preparation and give its morphological description; |
| 3.2.4 | on the basis of the descriptions received, to express an opinion on the nature of the pathological process and its clinical manifestations, the presumptive diagnosis or cause of death when solving situational problems, to formulate a pathoanatomical diagnosis; |
| 3.2.5 | evaluate morphofunctional, physiological states and pathological processes in the human body and substantiate the nature of the process and its manifestations. |
| 3.3 Have skills of: | |
| 3.3.1 | terms used in the course of pathological anatomy; |
| 3.3.2 | basic information transformation technologies: text, spreadsheet editors, Internet search; |
| 3.3.3 | skills of microscopy and analysis of histological preparations and electron micrographs; |
| 3.3.4 | skills in evaluating the results of post-mortem examinations in order to recognize a condition or establish the fact of the presence or absence of a disease; |
| 3.3.5 | the skill of comparing the morphological and clinical manifestations of diseases; |
| 3.3.6 | the skill of formulating a conclusion (diagnosis) in solving situational problems, evaluating results. histological study. |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic | Academic hours | Competences | Literature | Interactive |
|-------------------|--|------------------------|-----------------------|--------------------|-------------------|--------------------|
| | Section 1. General pathological anatomy | | | | | |

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| 1.1 | Methodical foundations of pathological anatomy. Reversible and irreversible damage to cells and tissues. Cell trophism, mechanisms for providing and disrupting cell trophism. Dystrophy. Causes, mechanisms of development, features of morphological manifestations, clinical significance. Irreversible damage to cells and tissues. Necrosis, apoptosis. Causes, mechanisms of development, differences, clinical significance. /Lec/ | 5 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.2 | Methodical foundations of pathological anatomy. Reversible and irreversible damage to cells and tissues. Cell trophism, mechanisms for providing and disrupting cell trophism. Dystrophy. Causes, mechanisms of development, features of morphological manifestations, clinical significance /Pr/ | 5 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.3 | Methodical foundations of pathological anatomy. Damage and death of cells and tissues. Dystrophy /Iw/ | 5 | 3 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.4 | Irreversible damage to cells and tissues. Necrosis, apoptosis. Causes, mechanisms of development, differences, clinical significance. /Pr/ | 5 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.5 | Damage and death of cells and tissues. Necrosis. apoptosis /Iw/ | 5 | 3 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |

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| 1.6 | Circulatory disorders. Thrombosis. Embolism. Disseminated intravascular coagulation (DIC). Heart attack. Blood disorders (arterial, venous). Bleeding. Shock. /Lec/ | 5 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.7 | Circulatory disorders. Thrombosis. Embolism. Disseminated intravascular coagulation (DIC). Heart attack.. /Pr/ | 5 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.8 | Disorders of blood and lymph circulation. Thrombosis. Embolism. Disseminated intravascular coagulation. /Self-study/ | 5 | 3 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.9 | Blood disorders (arterial, venous). Bleeding. Shock /pr/ | 5 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.10 | Disorders of blood and lymph circulation. Heart attack. Violation of the blood supply. Shock / Selfstudy / | 5 | 3 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |

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| 1.11 | Inflammation and reparation. General information about inflammation. Acute inflammation. outcomes of inflammation. Repair. Chronic inflammation. Granulomatous inflammation, specific granulomatous inflammation (tuberculosis, syphilis, leprosy, rhinoscleroma). granulomatous diseases. /Lec/ | 5 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.12 | Inflammation and reparation. General information about inflammation. Acute inflammation. outcomes of inflammation. Repair. /Pr/ | 5 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.13 | Inflammation and reparation. Acute inflammation. outcomes of inflammation /Self-study/ | 5 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.14 | Chronic inflammation. outcomes of inflammation. Repair. /Pr/ | 5 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.15 | Chronic inflammation. outcomes of inflammation. Repair /Self-study/ | 5 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.16 | Immunopathological processes. Hypersensitivity reactions. Autoimmune diseases. immunodeficiency states. Amyloidosis /Lec/ | 5 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.17 | Immunopathological processes. Hypersensitivity reactions. Autoimmune diseases. immunodeficiency states. Amyloidosis /Pr/ | 5 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.18 | Immunopathological processes. Hypersensitivity reactions. Autoimmune diseases. immunodeficiency states. Amyloidosis /Self-study/ | 5 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |

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| 1.19 | Adaptation processes. Hyperplasia. Hypertrophy. Atrophy. Metaplasia. /Lec/ | 5 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.20 | Adaptation processes. Hyperplasia. Hypertrophy. Atrophy. Metaplasia. /Pr/ | 5 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.21 | Adaptation processes. Hyperplasia. Hypertrophy. Atrophy. Metaplasia. /Self-study/ | 5 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.22 | Tumors. General provisions. Tumors from the epithelium. mesenchymal tumors. The impact of the tumor on the body. /Lec/ | 5 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |

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| 1.23 | Tumors. General provisions. Tumors from the epithelium. /Pr/ | 5 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.24 | Tumors. General provisions. Tumors from the epithelium. / Self-study / | 5 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.25 | Mesenchymal tumors. The impact of the tumor on the body. /Pr/ | 5 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.26 | Mesenchymal tumors. The impact of the tumor on the body. / Self-study / | 5 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.27 | Pathology of the pre- and perinatal periods. /Pr/ | 5 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.28 | Pathology of the pre- and perinatal periods. / Self-study / | 5 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.29 | Pathology associated with environmental factors. Iatrogenic. Medical disease. Alcohol intoxication. Addiction. Pneumoconiosis. /Pr/ | 5 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.30 | The doctrine of diagnosis. Thanatology, medical statement of death. Autopsy /Lec/ | 5 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 1.31 | The doctrine of diagnosis. Thanatology, medical statement of death. Autopsy /Pr/ | 5 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| | Раздел 2. Section 2. Special pathological anatomy | | | GPC -5.6 GPC - 5.8 GPC -5.9 | | |
| 2.1 | Diseases of the hematopoietic system. anemia. Polycythemia. Tumors of hematopoietic and lymphoid tissues. Leukemias, lymphomas, myelodysplastic diseases, chronic myeloproliferative diseases /Pr/ | 5 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |

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| 2.2 | Diseases of the hematopoietic system. anemia. Polycythemia. Tumors of hematopoietic and lymphoid tissues. Leukemias, lymphomas, myelodysplastic diseases, chronic myeloproliferative | 5 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.3 | Infectious process. Tuberculosis Airborne infections. /Lec/ | 5 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |

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| 2.4 | Infectious diseases. Tuberculosis. Viral and bacterial infections transmitted by airborne droplets. /Pr/ | 5 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.5 | Pyogenic infections caused by gram-positive microflora. Sepsis. /Pr/ | 5 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.6 | /Test./ | 5 | 0 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | Abstract |
| 2.7 | Diseases of the cardiovascular system Part I: atherosclerosis, coronary artery disease, hypertension. /Lec/ | 6 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.8 | Diseases of the cardiovascular system Part I: atherosclerosis, coronary artery disease, hypertension. /Pr/ | 6 | 5 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.9 | Diseases of the cardiovascular system Part I: atherosclerosis, coronary artery disease, hypertension. /Self-study/ | 6 | 3 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.10 | Diseases of the cardiovascular system. Diseases of the endocardium, myocardium and pericardium. Diseases of the arteries. Aneurysms. Diseases of the veins. Vascular tumors /Lec/ | 6 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.11 | Diseases of the cardiovascular system. Diseases of the endocardium, myocardium and pericardium. Diseases of the arteries. Aneurysms. Diseases of the veins. Vascular tumors /Pr/ | 6 | 5 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.12 | Diseases of the cardiovascular system. Diseases of the endocardium, myocardium and pericardium. Diseases of the arteries. Aneurysms. Diseases of the veins. Vascular tumors /Self-study/ | 6 | 3 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.13 | Diseases of the cardiovascular system Part III. Congenital heart defects. Diseases of the endocardium. Diseases of the myocardium. Diseases of the pericardium. Rheumatic diseases. Classification. Rheumatism. Nodular periarteritis. Rheumatoid arthritis. Systemic lupus erythematosus. Systemic scleroderma. Dermatomyositis. Sjögren's disease. /Lec/ | 6 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |

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| 2.14 | Rheumatic diseases. Classification. Rheumatism. Nodular periarteritis. Rheumatoid arthritis. Systemic lupus erythematosus. Systemic scleroderma. Dermatomyositis. Sjögren's disease. Etiology, pathogenesis, morphological manifestations, complications, outcomes. /Pr/ | 6 | 5 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.15 | Rheumatic diseases. Classification. Rheumatism. Nodular periarteritis. Rheumatoid arthritis. Systemic lupus erythematosus. Systemic scleroderma. Dermatomyositis. Sjögren's disease. Etiology, pathogenesis, morphological manifestations, complications, outcomes. /Self-study/ | 6 | 3 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.16 | Diseases of the lungs Part I. Pneumonia. congenital anomalies. Atelectasis. Vascular pathology of the lungs. /Lec/ | 6 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.17 | Diseases of the lungs Part I. Pneumonia. congenital anomalies. Atelectasis. Vascular pathology of the lungs. /Pr/ | 6 | 5 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.18 | Diseases of the lungs Part I. Pneumonia. congenital anomalies. Atelectasis. Vascular pathology of the lungs. /Pr/ | 6 | 3 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.19 | Diseases of the lungs. II part. Chronic diffuse lung diseases: chronic obstructive pulmonary disease, interstitial lung disease, lung cancer. /Lec/ | 6 | 0 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.20 | Diseases of the lungs. II part. Chronic diffuse lung diseases: chronic obstructive pulmonary disease, interstitial lung disease, lung cancer. /Pr/ | 6 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.21 | Diseases of the lungs. II part. Chronic diffuse lung diseases: chronic obstructive pulmonary disease, interstitial lung disease, lung cancer. /Self-study/ | 6 | 3 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.22 | Diseases of the gastrointestinal tract Part I. Diseases of the esophagus. Diseases of the stomach. Diseases of the exocrine pancreas. /Lec/ | 6 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.23 | Diseases of the gastrointestinal tract Part I. Diseases of the esophagus. Diseases of the stomach. Diseases of the exocrine pancreas. /Pr/ | 6 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.24 | Diseases of the gastrointestinal tract Part I. Diseases of the esophagus. Diseases of the stomach. Diseases of the exocrine pancreas. /Self-study/ | 6 | 3 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |

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| 2.25 | Diseases of the gastrointestinal tract II part. Intestinal diseases: ulcerative colitis, Crohn's disease and other colitis. colorectal cancer. /Lec/ | 6 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
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| 2.26 | Diseases of the gastrointestinal tract II part. Intestinal diseases: ulcerative colitis, Crohn's disease and other colitis. colorectal cancer. /Pr/ | 6 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.27 | Diseases of the gastrointestinal tract II part. Intestinal diseases: ulcerative colitis, Crohn's disease and other colitis. colorectal cancer. /Self-study/ | 6 | 3 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.28 | Diseases of the liver and biliary tract. /Lec/ | 6 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.29 | Diseases of the liver and biliary tract. /Pr/ | 6 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.30 | Diseases of the liver and biliary tract. /Self-study/ | 6 | 3 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.31 | Diseases of the kidneys. Glomerulopathies. Tubulopathy. OPN. HPN. Uremia. Diseases of the male reproductive system. /Lec/ | 6 | 2 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.32 | Diseases of the kidneys. Glomerulopathies. Tubulopathy. OPN. HPN. Uremia. Diseases of the male reproductive system. /Pr/ | 6 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.33 | Diseases of the kidneys. Glomerulopathies. Tubulopathy. OPN. HPN. Uremia. Diseases of the male reproductive system. /Selfstudy/ | 6 | 3 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.34 | Tubulointerstitial kidney disease. Tumors of the kidneys and urinary tract. kidney failure /Pr/ | 6 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.35 | Tubulointerstitial kidney disease. Tumors of the kidneys and urinary tract. kidney failure /Self-study/ | 6 | 3 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.36 | Diseases of the male reproductive system. /Pr/ | 6 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.37 | Diseases of the male reproductive system. /Self-study/ | 6 | 3 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |

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| 2.38 | Diseases of the female genital organs. Diseases of the mammary glands. /Pr/ | 6 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.39 | Pathology of the placenta. Pathology of pregnancy. /Pr/ | 6 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.40 | Pathology of the placenta. Pathology of pregnancy. /Self-study/ | 6 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.41 | Diseases of the endocrine system. Diseases of the pituitary gland. Diabetes. /Pr/ | 6 | 4 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | |
| 2.42 | Testing /Pr/ | 6 | 4 | GPC -5.6 GPC - | | Test |
| 2.43 | /Control work/ | 6 | 0 | 5.8GPC GPC -5.6- GPC 5.9 -5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | Abstract |
| 2.44 | /Exam/ | 6 | 27 | GPC -5.6 GPC 5.8 GPC -5.9 GPC -5.10 | L1.1 L1.2L2.1 E1 E2 E3 E4 | Theoretical questions, situational task, practical question (description of a macro-and/or |

Pathophysiology

1. COURSE OBJECTIVES

The aim of the Pathophysiology course is to provide students with knowledge of the general patterns and specific mechanisms of occurrence, development and outcome of pathological processes, conditions, individual diseases and the principles of their detection, treatment and prevention.

The comparison of the stages of pathogenesis and clinical manifestations of diseases at all stages allows developing students' abilities of clinical and pathogenetic analysis, to select the appropriate methods of diagnostics and prescribe pathogenetic treatment.

2. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

GPC-5.6: Knows the structure of the human body, morphological macro- and microscopic parameters in health and in pathology, criteria for general pathological pathophysiological processes in various nosologies, knows how to differentiate them macro- and microscopically, has skills to solve problems of operative surgery on the basis of knowledge of topographic anatomy

GPC-5.8: Knows the mechanisms of development of general pathological processes and the pathogenesis of various diseases and pathological conditions of a person; is able to identify the leading factors of pathogenesis in their relationship with a specific disease or pathological condition and substantiate effective pathogenetic therapy

GPC-5.9: Knows immune defense mechanisms, types of immunological reactions and their role in the pathogenesis of human diseases

GPC-5.10: Knows the etiology and pathogenesis of diseases, which is necessary to assess the physiological state and pathological processes in order to diagnose, treat and prevent diseases By the end of the course students must:

3.1 Know:

- specific features of the subject and objectives of pathophysiology;
- the role, place and relations with other biological and medical sciences;
- the main historical stages of pathophysiology;
- the prospects of development and new trends in the study of pathophysiology, clinical pathology;
- the prospects of development and new trends in the study of pathophysiology;

- the general patterns of development and manifestations of various pathological reactions, processes, conditions and diseases;
- the mechanisms of developing pathological systems and disruptions of the information process when exposed to various pathological agents;
- developmental patterns of the main pathological conditions, symptoms, syndromes, diseases, as well as the mechanisms of recovery from various diseases;

- the mechanisms of development of pathological systems and disruptions of the information process when exposed to various pathological agents.

3.2 Be able to:

- use the background knowledge in pathophysiology for studying other biomedical and clinical disciplines;
- interpret correctly and apply the basic concepts of pathophysiology while studying biomedical and medical literature and in collaboration with medical specialists;
- analyze pathological processes and individual diseases at different structural and morphofunctional levels;
- draw clinical and pathogenetic parallels of the common pathological syndromes;
- carry out pathophysiological analysis of clinical and laboratory, experimental and other data and to formulate a conclusion on their basis of the possible causes and mechanisms of pathological processes (diseases);
- carry out differentiated diagnostics of pathological conditions on the basis of pathogenesis mapping;
- substantiate the pathogenetic approach to the treatment of pathological process (disease);
- analyze the role of causes, conditions, reactivity of the body, development and completion (outcome) of diseases;
- analyze the etiology, pathogenesis, manifestations and outcomes of the most common forms of pathology of the organs and physiological systems, the principles of their etiological and pathogenetic therapy.

3.3 Have skills of:

- working with educational, scientific, popular science literature;
- analysing pathogenesis of various pathological conditions and human diseases;
- systemic analysing of pathophysiological problems;
- interpreting laboratory and instrumental methods of examination;
- analysing the problems of general pathology and critical evaluating modern theoretical concepts and trends in medicine;
- pathophysiological analysis of various diseases, substantiation of pathogenetic methods (principles) of diagnosis, treatment, rehabilitation and prevention of diseases;
- assessing the functional states of the human body in various diseases;
- analyzing and interpreting the results of modern human diagnostic technologies for various diseases

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic year | Academic Competences hours | Literature | Notes |
|-------------------|---------------------------|-----------------------------|-----------------------------------|-------------------|--------------|
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| Section 1. General Pathophysiology | | | | | |
|---|---|---|---|---|-----------------|
| 1.1 | Introduction. The subject and tasks of pathophysiology. Cell pathology. /Lec/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 |
| 1.2 | Disorders of peripheral blood circulation and microcirculation. /Lec/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 |
| 1.3 | Pathophysiology of haemostasis. Inflammation. /Lec/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 |

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| 1.4 | Pathophysiology of the immune system. Allergy. Types and mechanisms of allergic reactions. /Lec/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | |
| 1.5 | Acute phase response. Fever. Hyperthermia. /Lec/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | |
| 1.6 | Typical acid-base disorders. Typical violations of water-electrolyte metabolism. Edema. /Lec/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | |
| 1.7 | Pathophysiology of protein and lipid metabolism. Pathophysiology of carbohydrate metabolism. Obesity. Diabetes mellitus. /Lec/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | |
| 1.8 | The role of heredity in pathology. The impact of environmental factors on the organism. /Lec/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | |
| 1.9 | Introduction. The subject and tasks of pathophysiology. /Pr/ | 5 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | |
| 1.10 | Pathology of the cell. /Pr/ | 5 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | |
| 1.11 | Peripheral blood circulation and microcirculation disorders. /Pr/ | 5 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | |
| 1.12 | Pathophysiology of haemostasis. /Pr/ | 5 | 6 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | |
| 1.13 | Inflammation. /Pr/ | 5 | 6 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | |
| 1.14 | Colloquium. /Pr/ | 5 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | |
| 1.15 | The pathophysiology of the immune system. Allergy. Types and mechanisms of allergic reactions. /Pr/ | 5 | 6 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | |
| 1.16 | Acute phase response. Fever. Hyperthermia. /Pr/ | 5 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | |
| 1.17 | Reactivity of the organism and its importance in pathology. Adaptation. The constitution of the body. /Pr / | 5 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |

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|-------------|---|---|---|----------------------------------|-----------------|---|
| 1.18 | Colloquium. /Pr/ | 5 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |
| 1.19 | Typical violations of the acid-base balance. /Pr/ | 5 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |

| | | | | | | |
|-------------|--|---|---|----------------------------------|-----------------|---|
| 1.20 | Typical violations of water-ions metabolism. Edemas. /Pr/ | 5 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 1.21 | Pathophysiology of protein and lipid metabolism. /Pr/ | 5 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 1.22 | Pathophysiology of carbohydrate metabolism. Obesity. Diabetes mellitus. /Pr/ | 5 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 1.23 | Colloquium. /Pr/ | 5 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |
| 1.24 | The role of heredity in pathology. /Pr/ | 5 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 1.25 | Influence of environmental factors on the body. /Pr/ | 5 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |
| 1.26 | Final Lesson. Test. /Pr/ | 5 | 4 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 1.27 | Introduction The subject and tasks of pathophysiology. /Self-study/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 1.28 | Cell pathology. /Self-study/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 1.29 | Peripheral blood circulation and microcirculation disorders. /Self-study/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 1.30 | Pathophysiology of haemostasis. /Self-study/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |
| 1.31 | Inflammation. /Self-study/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |

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|-------------|---|---|---|---|----------------|---|
| 1.32 | Colloquium. /Self-study/ | 5 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 1.33 | The pathophysiology of the immune system. Allergy. Types and mechanisms of allergic reactions. /Self-study/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |

| | | | | | | |
|-------------|--|---|---|---|-----------------|---|
| 1.34 | Acute phase response. Fever. Hyperthermia. /Self-study/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 1.35 | Reactivity of the organism and its importance in pathology. Adaptation. The constitution of the body. /Self-study/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 1.36 | Colloquium. /Self-study/ | 5 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 1.37 | Typical violations of the acid-base balance. /Self-study/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 1.38 | Typical violations of water-electrolyte metabolism. Edemas. /Self-study/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 1.39 | Pathophysiology of protein and lipid metabolism. /Self-study/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |
| 1.40 | Pathophysiology of carbohydrate metabolism. Obesity. Diabetes mellitus. /Self-study/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |
| 1.41 | Colloquium. /Self-study/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 1.42 | The role of heredity in pathology. /Self-study/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 1.43 | Influence of environmental factors on the body. /Self-study/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 1.44 | Final class. /Self-study/ | 5 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |

Section 2. Systemic Pathophysiology

| | | | | | | |
|------------|--|---|---|---|----------------|---|
| 2.1 | Coronary insufficiency. Atherosclerosis. Overload and metabolic heart failure. /Lec/ | 6 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.2 | Circulatory disorders in disruptions of vascular tone. Cardiac arrhythmias. /Lec/ | 6 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.3 | Pathophysiology of respiration. Pathophysiology of digestion. /Lec/ | 6 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |

| | | | | | | |
|-------------|--|---|---|---|-----------------|---|
| 2.4 | Peptic ulcer and duodenum. Diseases of the pancreas. Syndrome of malabsorption and maldigestion. /Lec/ | 6 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.5 | Pathophysiology of the liver. Pathophysiology of the kidneys. Uremia. Uremic coma. /Lec/ | 6 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.6 | Pathophysiology of the hypothalamic-pituitary system, thyroid and parathyroid glands. /Lec/ | 6 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |
| 2.7 | Pathophysiology of the adrenal glands and genital glands. Violations of the red blood cell system. Violations of the leukocyte system. /Lec/ | 6 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.8 | General etiology and mechanisms of nervous system damage. Pathophysiology of pain. /Lec/ | 6 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |
| 2.9 | Coronary insufficiency. Atherosclerosis. /Pr/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.10 | Overload and metabolic heart failure. /Pr/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.11 | Circulatory disorders in disruptions of vascular tone. /Pr/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.12 | Cardiac arrhythmias. /Pr/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.13 | Pathophysiology of respiration. /Pr/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |
| 2.14 | Hypoxia and hyperoxia. /Pr/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |

| | | | | | | |
|-------------|---|---|---|---|----------------|---|
| 2.15 | Pathophysiology of digestion. /Pr/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.16 | Peptic ulcer and duodenum. Diseases of the pancreas. Syndrome of malabsorption and maldigestion. Pr/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.17 | Pathophysiology of the liver. /Pr/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.18 | Pathophysiology of the kidneys. Uremia. Uremic coma. /Pr/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |

| | | | | | | |
|-------------|--|---|---|---|-----------------|---|
| 2.19 | Pathophysiology of the hypothalamic-pituitary system, thyroid and parathyroid glands. Pr/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.20 | Pathophysiology of the adrenal glands and genital glands. /Pr/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |
| 2.21 | Violations of the red blood cell system. /Pr/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |
| 2.22 | Violations of the leukocyte system. Pr/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.23 | Pathophysiology of the blood system (colloquium). /Pr/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.24 | General etiology and mechanisms of nervous system damage. Pathophysiology of pair /Pr/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.25 | Final colloquium. /Pr/ | 6 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |
| 2.26 | Final Lesson (Test). /Pr/ | 6 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.27 | Coronary insufficiency. Atherosclerosis. /Selfstudy/ | 6 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.28 | Overload and metabolic heart failure. /Self-study/ | 6 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.29 | Circulatory disorders in disruptions of vascular tone. /Self-study/ | 6 | 2 | GPC-5.6 GPC-5.8 | 1.1., 1.2.,1.3 | 0 |

| | | | | | | |
|-------------|--|---|----|---|-----------------|----------|
| | | | | GPC-5.9 GPC-5.10 | | |
| 2.30 | Cardiac arrhythmias. /Self-study/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |
| 2.31 | Pathophysiology of respiration. Self-study/ | 6 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.32 | Hypoxia and hyperoxia. /Self-study/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 | 1.1., 1.2.,1.3 | 0 |
| 2.33 | Pathophysiology of digestion. /Self-study/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.34 | Peptic ulcer and duodenum. ome Diseases of the pancreas. Synd ion. of malabsorption and maldiges /Self-study/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.35 | Pathophysiology of the liver. /Self- study/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |
| 2.36 | Pathophysiology of the kidney : Uremia. Uremic coma. /Selfstudy/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.37 | Pathophysiology of the hypothalamic-pituitary system, thyroid and parathyroid glands. /Self-study/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |
| 2.38 | Pathophysiology of the adrenal glands and genital glands. /Self-study/ | 6 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.39 | Violations of the red blood cell system. /Self-study/ | 6 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.40 | Violations of the leukocyte sys.em. /Self-study/ | 6 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | |
| 2.41 | General etiology and mechanisms of nervous system damage. Pathophysiology of pain. /Self- study/ | 6 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2.,1.3 | 0 |
| 2.42 | Exam. | 6 | 27 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 | 1.1., 1.2., 1.3 | 0 |

Pharmacology

1. COURSE OBJECTIVES

| | |
|-----|--|
| 1.1 | Formation of students' ability to abstract thinking, analysis, synthesis in the process of competent selection of the most effective and safe medicines; preparation for the medical use of drugs and other substances and their combinations, alertness to unwanted drug reactions and elimination of the consequences of these reactions when solving professional |
| 1.2 | problems; Teaching students the methodology of mastering knowledge in pharmacology, analysis of the use of drugs using scientific, reference literature, official statistical reviews, Internet resources and principles of evidence; |
| 1.3 | Teaching students the basics of prescription workflow and the rules for writing prescriptions for medicines, storing and using medicines and other substances and their combinations in solving professional problems. |

2. COURSE OVERVIEW

| | |
|---|--|
| Course code (in curriculum) | Б1.О.04 |
| 2.1 Assumed background: | |
| 2.1.1 | Hominal Physiology |
| 2.1.2 | Latin Language |
| 2.1.3 | Chemistry |
| 2.2 Post-requisite courses and practice: | |
| 2.2.1 | Infectious diseases |
| 2.2.2 | Neurology, medical genetics, neurosurgery |
| 2.2.3 | Gynaecology |
| 2.2.4 | Clinical Pharmacology |
| 2.2.5 | Dermatovenereology |
| 2.2.6 | Anaesthesiology, Resuscitation, Intensive Care |
| 2.2.7 | Outpatient therapy |
| 2.2.8 | Faculty Therapy |
| 2.2.9 | Obstetrics |
| 2.2.10 | Hospital surgery. Pediatric surgery |
| 2.2.11 | Urology |
| 2.2.12 | Endocrinology |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

| |
|---|
| PC-5.1: Demonstrates knowledge of the mechanisms and methods applied in pharmacotherapy, medical nutrition, medical devices and methods of non-drug treatment, palliative and personalized medical care |
| PC-5.4: Demonstrates knowledge of side effects of drugs, methods and duration of their use; assesses the effectiveness and safety of pharmacotherapy, medical nutrition and non-drug treatment, medical nutrition of palliative care |
| GPC-7.1: Knows the classification, mechanism of action, pharmacokinetics, pharmacodynamics of drugs used in various fields of medicine; indications and contraindications for their prescription; possible side effects and complications; methods of non-drug therapy, their mechanism of effect, indications and contraindications for prescription to adult patients, possible side effects and complications |
| GPC-7.4: Knows the physical principles of various methods and equipment for non-drug treatment and prevention of human diseases with the aim of their effective and differentiated application in the professional activities |

By the end of the course students must: prescriptions for medicines

| | |
|------------|---|
| 3.1 | Know: |
| | classification, mechanisms of action, pharmacokinetics, pharmacodynamics of drugs used in various fields of medicine, indications and contraindications for their use, possible side effects and complications, methods of non-drug therapy, taking into account the mechanism of action, indications and contraindications, possible side effects and complications; principles of developing a treatment plan based on an established diagnosis, know the approaches to organizing pharmacotherapy, clinical nutrition, medical devices and methods of non-drug, palliative and personalized treatment, including pregnant women, elderly and senile patients, side effects of drugs, as well as the principles for evaluating the effectiveness and the safety of the therapy; general principles for preparing prescriptions and compiling prescription |

| | |
|------------|---|
| 3.2 | Be able to: |
| 3.2.1 | analyze pharmacokinetics and features of pharmacodynamics of drugs; analyze possible side effects and complications, methods of drug and non-drug therapy, taking into account the mechanism of action, indications and contraindications, possible side effects and complications, measures for their prevention and treatment; assess the possibility of developing drug dependence when using the drug; prescribe treatment and monitor its effectiveness and safety; develop a treatment plan (drug, non-drug, palliative) based on the established diagnosis, organize personalized treatment approaches, including for pregnant women, elderly and senile patients, and evaluate the effectiveness and safety of the therapy; write prescriptions for medicines |
| 3.3 | Have skills of: |
| 3.3.1 | the skills to use the main pharmacokinetic parameters and information about the dependence of pharmacodynamics on the properties of drugs, the conditions for their use, the characteristics and state of the body and, on this basis, prescribe treatment and monitor its effectiveness and safety; skills in developing treatment plans (drug, non-drug, palliative) based on an established diagnosis, organize personalized treatment, including for pregnant women, elderly and senile patients, and also possess the principles of assessing the effectiveness and safety of therapy; the skills of forming the population's motivation to eliminate bad habits |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Interactive |
|------------|---|----------------------|----------------|-------------------------------------|--|-------------|
| | Section 1. Introduction to pharmacology. General recipe. The main issues of general pharmacology | | | | | |
| 1.1 | Patterns of General Pharmacology. Pharmacokinetics. Pharmacodynamics /Lecture/ | 5 | 4 | GPC-7.1 GPC-7.4 PC 5.1 PC 5.4 | L1.1 L1.2 L1.3 L2.3 E1 E4 | |
| 1.2 | Neurotropic agents /Lec/ | 5 | 24 | GPC-7.1 GPC-7.4 PC 5.1 PC 5.4 | L1.1 L1.2 L1.3 L2.3 E1 E2 E3 E4 | |
| 1.3 | Medical prescription /Pr/ | 5 | 16 | GPC-7.1 GPC-7.4 PC 5.1 PC 5.4 | L1.1 L1.2 L1.3 L2.3 E1 | |
| 1.4 | Questions of general pharmacology. Pharmacokinetics. Pharmacodynamics /Pr/ | 5 | 2 | GPC-7.1 GPC-7.4 PC 5.1 PC 5.4 | L1.1 L1.2 L1.3 L2.3 L3.3 L3.5 E1 E4 | |
| 1.5 | Neurotropic agents /Pr/ | 5 | 30 | GPC-7.1 GPC-7.4 PC 5.1 PC 5.4 | L1.1 L1.2 L1.3 L2.3 L3.3 L3.5 E1 E2 E3 E4 | |

| | | | | | | |
|---|--|---|----|-------------------------------------|--|--|
| 1.6 | Neurotropic agents /Self-study/ | 5 | 68 | GPC-7.1 GPC-7.4 PC 5.1 PC 5.4 | L1.1 L1.2 L1.3 L2.3 L3.3 L3.5 E1 E2 E3 E4 | |
| 1.7 | General recipe / Test / | 5 | 0 | GPC-7.1 GPC-7.4 PC 5.1 PC 5.4 | L1.1 L1.2 L1.3 L2.3 L3.3 L3.5 E1 E2 E3 E4 | Test: writing prescriptions |
| 1.8 | Intermediate certification: an oral test carried out on questions / Test / | 5 | 0 | GPC-7.1 GPC-7.4 PC 5.1 PC 5.4 | L1.1 L1.2 L1.3 L2.3 L3.3 L3.5 E1 E2 E3 E4 | Oral discussion of classes. Prescribing and analyzing situational tasks. |
| Section 2. Particular Pharmacology | | | | | | |
| 2.1 | Medications affecting the functions of organs and systems /Lec/ | 6 | 12 | GPC-7.1 GPC-7.4 PC 5.1 PC 5.4 | L1.1 L1.2 L1.3 L2.3 E1 E2 E3 E4 | |
| 2.2 | Antimicrobial, antiviral and antiparasitic agents. Antineoplastic drug /Lec/ | 6 | 10 | GPC-7.1 GPC-7.4 PC 5.1 PC 5.4 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 E1 E2 E3 E4 | |

| | | | | | | |
|------|--|---|----|-------------------------------------|--|--|
| 2.3 | Substances with a predominant effect on tissue metabolism, inflammation and immune processes /Lec/ | 6 | 6 | GPC-7.1 GPC-7.4 PC 5.1 PC 5.4 | L1.1 L1.2 L1.3 L2.3 E1 E2 E3 E4 | |
| 2.4 | Medications affecting the functions of organs and systems /Pr/ | 6 | 18 | GPC-7.1 GPC-7.4 PC 5.1 PC 5.4 | L1.1 L1.2 L1.3 L2.3 L3.1 L3.5 E1 E2 E3 E4 | |
| 2.5 | Antimicrobial, antiviral and antiparasitic agents. Antitumor agents /Pr/ | 6 | 18 | GPC-7.1 GPC-7.4 PC 5.1 PC 5.4 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.2 L3.4 L3.5 E1 E2 E3 E4 | |
| 2.6 | Substances with a predominant effect on tissue metabolism, inflammation and immune processes /Pr/ | 6 | 12 | GPC-7.1 GPC-7.4 PC 5.1 PC 5.4 | L1.1 L1.2 L1.3 L2.3 L3.2 L3.5 E1 E2 E3 E4 | |
| 2.7 | Medications affecting the functions of organs and systems /Self-study/ | 6 | 2 | GPC-7.1 GPC-7.4 PC 5.1 PC 5.4 | L1.1 L1.2 L1.3 L2.3 L3.5 E1 E2 E3 E4 | |
| 2.8 | Antimicrobial, antiviral and antiparasitic agents. Antitumor agents /Self-study/ | 6 | 3 | GPC-7.1 GPC-7.4 PC 5.1 PC 5.4 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.4 L3.5 E1 E2 E3 E4 | |
| 2.9 | Particular Pharmacology /Test/ | 6 | 0 | GPC-7.1 GPC-7.4 PC 5.1 PC 5.4 | L1.1 L1.2 L1.3 L2.3 L3.1 L3.2 L3.4 | Test: writing prescriptions |
| 2.10 | Intermediate certification: an exam conducted on exam tickets /Exam/ | 6 | 27 | GPC-7.1 GPC-7.4 PC 5.1 PC 5.4 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L3.5 E1 E2 E3 4 | An oral survey conducted on examination tickets. Writing prescriptions |

Physiological basis of human adaptation in the North

1. COURSE OBJECTIVES

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| 1.1 | The physiological basis of human adaptation in the North is a branch of physiology that studies the dependence of body functions on living conditions and activities. It is the basis for understanding the ecological interactions of biological processes on the one hand and non-biological processes on the other, affecting the state of the human body at different levels of its organization. It is a branch of physiology that studies the dependence of human functions on living conditions and activities in unfavorable physical and geographical conditions of the North, in different periods of the year, day; reveals the physiological basis of adaptation (physiological adaptation) to natural factors. |
| 1.2 | The purpose of studying the discipline is: to consider the dependence of the body's functions on the conditions of existence, to reveal the physiological foundations and mechanisms of adaptation of the body to constantly changing environmental conditions. |

2. COURSE OVERVIEW

| | |
|------------------------------|---|
| Course code (in curriculum): | FTD |
| 2.1 | Assumed background: |
| 2.1.1 | Adaptive and Age-related Physiology |
| 2.1.2 | Hominal Physiology |
| 2.1.3 | Human Anatomy |
| 2.1.4 | Biology |
| 2.1.5 | Adaptive and Age-related Physiology |
| 2.1.6 | Human Anatomy |
| 2.1.7 | Hominal Physiology |
| 2.2 | Post-requisite courses and practice: |
| 2.2.1 | Immunology and Allergology |
| 2.2.2 | Obstetrics |
| 2.2.3 | Paediatrics |
| 2.2.4 | Hygiene |
| 2.2.5 | Pathophysiology |
| 2.2.6 | Immunology and Allergology |
| 2.2.7 | Paediatrics |
| 2.2.8 | Internal Diseases Propaedeutics |
| 2.2.9 | Obstetrics |
| 2.2.10 | Clinical pathological physiology |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

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| GPC-5.1: Demonstrates knowledge and understanding in the areas of fundamental medicine-anatomical, histological structures (anatomy of the human body, structure of organ tissues and their microscopic differentiation), physiological processes (human physiology, mechanisms of homeostasis regulation, functional systems of the body in normal conditions) |
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GPC-5.9: Demonstrates knowledge of the theoretical foundations of immunology, allergology, understanding of immune defense mechanisms, types of immunological reactions and their role in the pathogenesis of human diseases

By the end of the course students must:

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| 3.1 | Know: |
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|------------|---|
| 3.1.1 | The main physiological patterns of the functioning of the body in the sections of fundamental medicine - anatomical, histological structures. Physiological processes of function and mechanisms (human physiology, mechanisms of regulation of homeostasis, functional systems and the body are normal). Theoretical foundations of immunology, understanding of immune defense mechanisms, types of immunological reactions and their role in human pathogenesis. The main patterns of ontogenesis of the human body and the features of physical, mental and intellectual capabilities in each period. Methodological foundations of the organization of research activities, patterns of functioning of individual organs and systems; criteria for assessing the functional state of the body of an adult and adolescents. The main malformations, diseases and traumatic injuries associated with living in unfavorable conditions of the North, in various age groups, their classifications. The main symptoms of malformations, diseases and traumatic injuries in various age groups, the formulation of the main pathological conditions, symptoms, disease syndromes, nosological forms in accordance with the International Statistical Classification of Diseases and Health-related Problems - X revision. |
| 3.2 | Be able to: |
| 3.2.1 | Use basic knowledge in the field of biomedical and other natural science disciplines in mastering the profession in the sections of fundamental medicine - anatomical, histological structures, physiological processes, fundamentals of immunology, immune defense mechanisms, types of immunological reactions and their role in human pathogenesis; plan goals and set priorities when choosing decision-making methods taking into account the conditions, means, personal capabilities and time prospects of achievement; implementation of activities. Analyze the patterns of functioning of individual organs and systems; use the knowledge of anatomical and physiological bases to assess the functional state of the human body at rest and in the process of adaptation to environmental stresses in various conditions. Carry out scientific analysis, generalization, design and presentation of the results of educational research activities and scientific research; formulate a conclusion on the obtained result in relation to the goals and objectives of the study based on the symptoms, identify the main pathological conditions, symptoms and syndromes of malformations, diseases and traumatic injuries associated with living in unpleasant conditions of the North; formulate a diagnosis of the main pathological conditions, symptoms, disease syndromes, nosological forms in accordance with the International Statistical Classification of Diseases and Health-related Problems - X revision adopted by the 43rd World Health Assembly; use the International Statistical Classification of Diseases and Health-Related Problems - X revision adopted by the 43rd World Health Assembly |
| 3.3 | Have skills of: |
| 3.3.1 | Determination of the main pathological conditions, symptoms, disease syndromes, nosological forms in patients in accordance with the International Statistical Classification of Diseases and Health-related Problems - X revision adopted by the 43rd World Health Assembly |
| 3.3.2 | Changing the main physiological indicators characterizing the functional state of the organism, its physical, mental and intellectual capabilities providing the adaptive reserve necessary for successful activity. |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic | Academic hours | Competences | Literature | Interactice |
|------------|---|-----------------|----------------|-----------------|---|-------------|
| | Chapter 1. Physiological bases of adaptation. | | | | | |
| 1.1 | Physiological functions of the body /Lec/ | 5 | 2 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 1.2 | Physiological functions of the body. General mechanisms of physiological adaptation. /Pr/ | 5 | 4 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 1.3 | Types and mechanisms of adaptation /Pr/ | 5 | 2 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |

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|-----|---|---|---|--------------------|---|--|
| 1.4 | Physiological bases of adaptation. / Selfstudy/ | 5 | 8 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| | Chapter 2. Individual features of adaptation to extreme environmental factors. | | | | | |
| 2.1 | Individual features of adaptation to extreme environmental factors. /Lec/ | 5 | 2 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 2.2 | Physical development / Pr/ | 5 | 2 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 2.3 | Typology of human behavioral reactions /Pr/ | 5 | 4 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 2.4 | Individual features of adaptation to extreme environmental factors. / Self-study / | 5 | 8 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| | Chapter 3. Adaptation of regulatory systems | | | | | |
| 3.1 | Adaptation of regulatory systems /Lec/ | 5 | 2 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 3.2 | Ecological aspects of chronobiology. /Pr/ | 5 | 4 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 3.3 | Stress and adaptation Psychosomatic disorders /Pr/ | 5 | 4 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |

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|-----|---|---|----|--------------------|--|--|
| 3.4 | Adaptation of regulatory systems / Selfstudy/ | 5 | 6 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| | Chapter 4. Adaptation of vegetative systems | | | | | |
| 4.1 | Adaptation of vegetative systems /Lec/ | 5 | 2 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 4.2 | Internal environment. Adaptation of the blood system /Pr/ | 5 | 2 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 4.3 | Adaptation of the circulatory system /Pr/ | 5 | 4 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 4.4 | Adaptation of the respiratory system /Pr/ | 5 | 2 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 4.5 | Cardio-respiratory system / Pr/ | 5 | 2 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 4.6 | Temperature regime. Adaptation of the thermoregulation system /Pr/ | 5 | 2 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | |
| 4.7 | Adaptation of vegetative systems / Selfstudy/ | 5 | 10 | GPC-5.1 GPC-5.9 | 1. 3 1. 1 1. 2 1. 5 1. 6 1. 4 2. 2 2. 1 E1 E2 E3 E4 E5 | |
| | Chapter 5. Physiological mechanisms of human adaptation in the North | | | | | |

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|-----|----------|---|---|--------------------|--|-----------------|
| 5.1 | /Test/ | 5 | 0 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | Test completion |
| 5.2 | /Credit/ | 5 | 0 | GPC-5.1 GPC-5.9 | 1.1 1.2 1.3 1.5 1.6 1.4 2.2 2.1 E1 E2 E3 E4 E5 | Credit passing |

Theoretical bases of studying patient care

| COURSE OBJECTIVES | |
|-------------------|---|
| | The purpose of mastering the discipline: teaching students the theoretical foundations of patient care, with the use of medical devices provided for by the procedures for providing medical care, providing primary pre-medical medical care, as well as conducting educational work with the population on the formation of healthy lifestyle skills. |

| 3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE) | |
|---|---|
| | GPC-6.1: Provides primary health care, provides patient care |
| | GPC-6.2: Conducts preventive medical examinations, medical examinations, carries out medical supervision, makes professional decisions and provides medical assistance in case of emergency conditions at the pre-hospital stage |
| | PC-8.3: Ensures internal quality control and safety of medical activities within the scope of official duties, monitoring the performance of duties by secondary and junior medical personnel and other medical workers of their official duties |
| | PC-2.1 Assesses the condition of a patient requiring medical care in urgent or emergency forms, diagnoses a condition that poses a threat to the patient's life, including a state of clinical death |

By the end of the course students must:

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| | Know: |
| | |
| | Requirements for personal hygiene of the patient |
| | Rules for providing assistance depending on the period of fever |
| | Rules for monitoring feverish patients |
| | Types and stages of fevers |
| | Indications for indirect heart massage |
| | Indications for the use of the Heinemlich reception |
| | Indications for indirect heart massage |
| | Indications for the reception of Heinemlich |
| | Rules for disinfection of medical devices and methods of sterilization |
| | Requirements for the collection and transportation of biological material |
| | Prevention of infection associated with the provision of medical care |
| | Types of medical waste. Rules for handling it |

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|--|---|
| | Rules of current and general cleaning in hospital departments |
| | Rules for monitoring feverish patients |
| | Be able to: |
| | Change underwear, bed linen for a seriously ill person |
| | Carry out the prevention of bedsores in a non-mobile patient |
| | Do parenterally inject |
| | |
| | Provide pre-medical care for: fever, respiratory failure, foreign body of the respiratory tract |
| | Carry out various types of enemas, |
| | Put a gas outlet tube |
| | Drip medications into the nose, eyes, ears |
| | Handle hands in a hygienic way |
| | Remove and put on sterile and non-sterile gloves |
| | Perform an indirect heart massage |
| | |
| | |
| | Have skills of: |
| | Feeding a hot water bottle |
| | Serving an ice bubble |
| | |
| | Performing an indirect heart massage on a mannequin |
| | |
| | The technique of applying bandages |
| | Prevention of occupational HIV infection |
| | The technique of indirect heart massage is not a mannequin |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Interactive |
|------------|---|----------------------|----------------|-------------|------------|-------------|
| | Organization of the work of the Ministry of Defense. Ethics and deontology. Sanitary and epidemic regime of the department Diet therapy (standard tables) /Lec/ | | | | | |
| | Organization of the work of the Ministry of Defense. Ethics and deontology. Sanitary and epidemic regime of the department Diet therapy (standard tables) /Pr/ | | | | | |

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|--|---|--|--|--|--|--|
| | <p>Organization of the work of the Ministry of Defense.</p> <p>Ethics and deontology. Sanitary and epidemic regime of the department Diet therapy (standard tables)</p> <p>/S-s /</p> | | | | | |
| | <p>Classification of medical waste.</p> <p>Disinfection and</p> <p>s</p> | | | | | |

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|--|--|--|--|--|--|--|
| | <p>Classification of medical waste.</p> <p>Disinfection and</p> | | | | | |
| | <p>s</p> <p>Classification of medical waste. Disinfection and sterilization is the concept of an HIV emergency. Algorithm of action in case of HIV emergency /S-s/</p> | | | | | |
| | <p>Personal hygiene of the patient. Hygiene of immobile patients. Change of underwear and bed linen. Rules for the treatment of the nasal c a v</p> | | | | | |
| | <p>Personal hygiene of the patient. Hygiene of immobile patients. Change of underwear and bed linen. Rules for the treatment of the nasal c a v</p> | | | | | |
| | <p>Personal hygiene of the patient. Hygiene of immobile patients. Change of underwear and bed linen. Rules for the treatment of the nasal c a v</p> | | | | | |
| | <p>Measurement of pulse, respiratory rate.</p> <p>Measurement of blood pressure. Methods of thermometry. /Lec/</p> | | | | | |
| | <p>Measurement of pulse, respiratory rate.</p> <p>Measurement of blood pressure. Methods of thermometry. /Pr/</p> | | | | | |
| | <p>Measurement of pulse, respiratory rate.</p> <p>Measurement of blood pressure. Methods of thermometry /S-s/</p> | | | | | |

| | | | | | | |
|--|--|--|--|--|--|--|
| | Measurement of blood pressure /Pr/ | | | | | |
| | Types of fever. Features of observation of a febrile patient. The mechanism of action of the simplest physiotherapy /Lec/ | | | | | |
| | Types of fever. Features of observation of a febrile patient. The mechanism of action of the simplest physiotherapy /Pr/ | | | | | |
| | Types of fever. Features of observation of a febrile patient. The mechanism of action of the simplest physiotherapy /S-s/. | | | | | |

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|--|--|--|--|--|--|--|
| | Exhaust pipe. Oil and hypertensive enemas. Indications, contraindications. Technique of conducting /Pr/ | | | | | |
| | Exhaust pipe. Oil and hypertensive enemas. Indications, contraindications. Technique of conducting /S-s/ | | | | | |
| | Exhaust pipe. Oil and hypertensive enemas. Indications, contraindications. Technique of conducting /S-s/ | | | | | |
| | Enemas. Cleansing and siphon. Indications, contraindications. Technique of conducting /S-s / | | | | | |

X-Ray Diagnostics

1. COURSE OBJECTIVES

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| 1.1 | The aim of the course is to form culture universal, general professional and professional competencies in the field of knowledge in X-Ray Diagnostics. |
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2. COURSE OVERVIEW

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|-----------------------------|------------|
| Course code (in curriculum) | B1.O.04.23 |
|-----------------------------|------------|

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| 2.1 | Assumed background: |
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|------------|---|
| 2.1.1 | Chemistry |
| 2.1.2 | Physics mathematics |
| 2.1.3 | Medical informatics |
| 2.1.4 | Educational practice in research work (obtaining primary skills in research work) |
| 2.2 | Post-requisite courses and practice: |
| 2.2.1 | Propaedeutics of Internal Medicine |
| 2.2.2 | Faculty surgery |
| 2.2.3 | Industrial practice of a diagnostic profile |
| 2.2.4 | Topographic anatomy, operative surgery |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

PC-8.2 - Keeps medical records, including the electronic format

GPC-5.1 - Demonstrates knowledge and understanding in the sections of fundamental medicine - anatomical, histological structures (anatomy of human body, structure of organ tissues and their microscopic differentiation), physiological processes (human physiology, homeostasis regulation mechanisms, normal functional systems of the body)

GPC-4.1 - Demonstrates general knowledge of instrumental diagnostic methods, understanding of physical principles of operation of equipment for practical use - the diagnosis and differential diagnosis of human diseases and their application in professional activities

GPC-4.2 - Demonstrates knowledge of instrumental and morphological criteria for diagnosing diseases, owns the methodology for interpreting the results of instrumental research methods

By the end of the course students must:

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| Know: |
| radiation anatomical-physiological, age-sex and individual structural features of a healthy body, as well as changes in organs in various diseases: x-ray, ultrasound and other radiation symptoms of certain diseases, taking into account the stage of development of the pathological process |
| how to use imaging techniques for research |
| medical equipment for radiation diagnostics usage |
| how to analyze knowledge of the humanities and natural sciences for making a diagnosis using methods of radiation diagnostics |
| how to keep medical records and report |

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|--|
| Be able to: |
| identify independently images of all human organs and indicate their main anatomical structures on radiographs, angiograms, computed x-ray and magnetic resonance imaging. identify pathological symptoms |
| use imaging techniques for research |
| use medical equipment for radiation diagnostics |
| analyze and systematize knowledge of the humanities and natural sciences for diagnosis, using methods of radiation diagnostics |
| how to keep and report medical records |
| Have skills of: |
| drawing up a protocol of radiological examination in normal and pathological conditions, as well as conclusions on individual clinical cases, taking into account the analysis of the data obtained, in accordance with the international classification |
| researching by methods of radiation diagnostics |
| using medical equipment for radiation diagnostics |
| analyzing and synthesizing knowledge of the humanities and natural sciences for diagnosis using methods of radiation diagnostics |
| keeping and reporting medical records |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic | Academic hours | Competences | Literature | Notes |
|------------|--|-----------------|----------------|---|---------------|-------|
| | Unit 1. | | | | | |
| 1.1 | Prospects for the development of radiation diagnostics / lecture / | 6 | 1 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 2.1 E1 | |
| 1.2 | General questions of radiation diagnostics / lecture / | 6 | 1 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 E 1 | |
| 1.3 | Particular questions of radiation diagnostics / lecture / | 6 | 2 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 E 1 | |
| 1.4 | Radiation diagnostics of traumatic injuries and diseases of the osteoarticular system / lecture / | 6 | 2 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 | |
| 1.5 | Lungs and heart in ray image / lecture / | 6 | 2 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 | |
| 1.6 | Radiation diagnostics of diseases of the heart and lungs / lecture / | 6 | 2 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 E 1 | |

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| 1.7 | Radiation diagnosis of pulmonary lesion syndromes /lecture/ | 6 | 1 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 E 1 | |
| 1.8 | Radiation diagnosis of diseases of the esophagus, stomach, intestines /lecture/ | 6 | 2 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 E 1 | |

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|------|---|---|---|--|-------------------|--|
| 1.9 | Radiological methods of heart research /lecture/ | 6 | 2 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 E 1 | |
| 1.10 | Complex radiation diagnostics of kidney and urinary tract diseases /lecture/ | 6 | 1 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 E 1 | |
| | Unit 2. | | | | | |
| 2.1 | Prospects for the development of radiation diagnostics /pr/ | 6 | 4 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 3.1 E 1 | |
| 2.2 | General questions of radiation diagnostics /pr/ | 6 | 3 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 3.1 E 1 | |
| 2.3 | Particular questions of radiation diagnostics /pr/ | 6 | 4 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 3.1 E 1 | |
| 2.4 | Lungs and heart in ray image /pr/ | 6 | 4 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 3.1 E 1 | |
| 2.5 | Radiological diagnostic methods for heart examination /pr/ | 6 | 3 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 3.1 E 1 | |
| 2.6 | Radiation syndromes of lung damage /pr/ | 6 | 4 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 3.1 E 1 | |
| 2.7 | Radiation diagnostics of lung diseases /pr/ | 6 | 4 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 3.1 | |

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|------|---|---|---|--|-------------------|--|
| 2.8 | Osteoarticular system in the ray image / pr / | 6 | 6 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 3.1 E 1 | |
| 2.9 | Radiation diagnosis of diseases gastrointestinal tract / pr / | 6 | 4 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 3.1 E 1 | |
| 2.10 | Complex radiation diagnostics of diseases of hepatobiliary and pancreatoduodenal zone / pr / | 6 | 4 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 3.1 E1 | |

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|------|---|---|---|--|---------------|--------|
| 2.11 | Complex radiation diagnostics in urology / pr / | 6 | 4 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 3.1 E1 | |
| 2.12 | Participation in the examination of patients in the radiation diagnostics rooms / pr / | 6 | 4 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 3.1 E1 | offset |
| | Unit 3. | | | | | |
| 3.1 | Prospects for the development of radiation diagnostics / Self-study / | 6 | 3 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 2.1 E1 | |
| 3.2 | General issues of radiation diagnostics / Self-study / | 6 | 3 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 2.1 E1 | |
| 3.3 | Particular questions of radiation diagnostics / Self-study / | 6 | 3 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 2.1 E1 | |
| 3.4 | Lungs and heart in ray image / Self-study / | 6 | 4 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 2.1 E1 | |
| 3.5 | Radiological diagnostic methods for heart examination / Self-study / | 6 | 4 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 2.1 E1 | |
| 3.6 | Radiation syndromes of lung damage / Selfstudy / | 6 | 4 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 2.1 | |

| | | | | | | |
|------|--|---|---|--|---------------|-------------|
| 3.7 | Radiation diagnostics of lung diseases /Self-study/ | 6 | 4 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 2.1 E1 | |
| 3.8 | Osteoarticular system in the ray image /Self-study/ | 6 | 4 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 2.1 E1 | |
| 3.9 | Radiation diagnosis of diseases gastrointestinal tract /Self-study/ | 6 | 4 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 2.1 E1 | |
| 3.10 | Complex radiation diagnostics of diseases of hepatobiliary and pancreatoduodenal zone /Self-study/ | 6 | 4 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 2.1 E1 | |
| 3.11 | Complex radiation diagnostics in urology /Self-study/ | 6 | 4 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 2.1 E1 | |
| 3.12 | Participation in the examination of patients in the radiation diagnostics rooms /Self-study/ | 6 | 3 | GPC -4.1 GPC -4.2 GPC -4.3 GPC -5.1 PC-8.2 | 1.1 2.1 E1 | control bot |

Clinical Pathophysiology

1. COURSE OBJECTIVES

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| 1.1 | The aim Study of general patterns and specific pathophysiological mechanisms of occurrence, clinical development and outcomes of pathological processes, conditions, individual diseases and to develop practical skills for assessing morphofunctional, physiological conditions and pathological processes in the human body, the principles of their identification, pathogenetic treatment and prevention. |
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2. COURSE OVERVIEW

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| Course code (in curriculum) | Б1.О.04.01 |
| 2.1 Assumed background: | |
| 2.1.1 | Anatomy |
| 2.1.2 | Chemistry |
| 2.1.3 | Biology |
| 2.1.4 | Microbiology, virology |
| 2.1.5 | Normal physiology |
| 2.1.6 | Biochemistry |

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| 2.2 | Post-requisite courses and practice: |
| 2.2.1 | Obstetrics and gynecology |
| 2.2.2 | Faculty surgery, urology |
| 2.2.3 | Hospital therapy, endocrinology |
| 2.2.4 | Traumatology, orthopedics |
| 2.2.5 | Hospital surgery, pediatric surgery |
| 2.2.6 | Oncology, radiation therapy |
| 2.2.7 | Faculty therapy, occupational diseases |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

GPC-5.6. Demonstrates knowledge and skills to identify: the structure of the human body, morphological macro- and microscopic parameters in pathology; diagnose criteria of general pathological pathophysiological processes in various nosologies; on the basis of which he/she possesses skills in topographic anatomy and is able to solve questions of operative surgery;

GPC-5.8 Demonstrates understanding of mechanisms of development of general pathological processes, knowledge of issues of pathogenesis of various human diseases and pathological conditions, ability to identify the leading links of pathogenesis in their relationship in a particular disease or pathological condition and on this basis the ability to justify effective pharmacotherapy;

GPC-5.9 Demonstrates knowledge of the theoretical foundations of immunology and allergology, understanding of immune defense mechanisms, types of immunological reactions and their role in the pathogenesis of human disease;

GPC-5.10. Demonstrates knowledge of the etiology and pathogenesis of diseases, which is necessary to assess physiological state and pathological processes in order to diagnose treatment and prevention of diseases.

PC-9.1 Analyzes medical information

PC-9.2 Presents medical information based on evidence-based medicine

PC-10.1 Participates in the introduction of new methods and techniques aimed at protecting the health of citizens

By the end of the course students must:

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| 3.1 | Know: |
| 3.1.1 | the specifics of the subject and objectives of the discipline pathophysiology, clinical pathophysiology; |
| 3.1.2 | about the role, place and connection with other sciences in the system of biological and medical disciplines; |
| 3.1.3 | the main historical stages in the development of pathophysiology, clinical pathophysiology; |
| 3.1.4 | about the prospects for the development of science and new directions in the study of pathophysiology, clinical pathophysiology; |

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| 3.1.5 | basic concepts used in pathophysiology, clinical pathophysiology; |
| 3.1.6 | general patterns of development and manifestation of various pathological reactions, processes, conditions and individual diseases; |
| 3.1.7 | mechanisms of formation of pathological systems and disturbances of the information process when the body is exposed to various pathological agents; |
| 3.1.8 | patterns of development of basic pathological conditions, symptoms, syndromes, diseases, as well as mechanisms of recovery of various diseases; |
| 3.1.9 | mechanisms of formation of pathological systems and disturbances of the information process when the body is exposed to various pathological agents. |
| 3.2 | Be able to: |

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| 3.2.1 | use acquired knowledge in pathophysiology, clinical pathophysiology when studying other biomedical and clinical disciplines; |
| 3.2.2 | correctly interpret and apply the basic concepts of pathophysiology, clinical pathophysiology when studying biomedical and medical literature and when working together with medical specialists; |
| 3.2.3 | analyze pathological processes and individual diseases at various structural and morphofunctional levels; |
| 3.2.4 | conduct clinical and pathogenetic parallels of leading pathological syndromes; |
| 3.2.5 | conduct a pathophysiological analysis of clinical, laboratory, experimental and other data and formulate on their basis a conclusion about the possible causes and mechanisms of development of pathological processes (diseases); |
| 3.2.6 | carry out differential diagnosis between pathological conditions based on drawing up pathogenesis diagrams; |
| 3.2.7 | justify the pathogenetic approach to the treatment of the pathological process (disease); |
| 3.2.8 | analyze the role of causes, conditions, reactivity of the body in the occurrence, development and completion (outcome) of diseases; |
| 3.2.9 | analyze the etiology, pathogenesis, manifestations and outcomes of the most common forms of pathology of organs and physiological systems, the principles of their etiological and pathogenetic therapy. |

| 4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE) | | | | | | |
|--|--|----------------------|----------------|--|--|-------|
| Class Code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Notes |
| 1.1 | Systemic inflammatory response syndrome. Sepsis. /Lec/ | 7 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 PC-9.1 PC-9.2 PC-10.1 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.2 | Pathophysiology of the infectious process. Inflammation. SIRS. Sepsis./Pr/ | 7 | 4 | GPC-5.6 GPC-5.8 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.3 | Pathophysiology of the infectious process. Inflammation. SIRS. Sepsis. /Self. study/ | 7 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 PC-9.1 PC-9.2 PC-10.1 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.4 | Pathophysiology of the pulmonary system. DN.RDSV /Lec/ | 7 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 PC-9.1 PC-9.2 PC-10.1 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.5 | Pathophysiology of the pulmonary system. DN. RDSV. RDSN. PE Airway obstruction syndrome /Pr/ | 7 | 4 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 PC-9.1 PC-9.2 PC-10.1 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.6 | Pathophysiology of the pulmonary system. DN. RDSV. RDSN. PE Airway obstruction syndrome //Self. study/ | 7 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 PC-9.1 PC-9.2 PC-10.1 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.7 | Pathophysiology of hemostasis. DIC syndrome /Lec/ | 7 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 PC-9.1 PC-9.2 PC-10.1 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.8 | Pathophysiology of hemostasis. Thrombohemorrhagic syndromes. DIC syndrome. Thrombophilia./Pr/ | 7 | 4 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 PC-9.1 PC-9.2 PC-10.1 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |

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| 1.9 | Pathophysiology of hemostasis. Thrombohemorrhagic syndromes. DIC syndrome. Thrombophilia /Self. study/ | 7 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 PC-9.1 PC-9.2 PC-10.1 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.10 | Bleeding and blood loss. Posthemorrhagic anemia. /Lec/ | 7 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 PC-9.1 PC-9.2 PC-10.1 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.11 | Bleeding and blood loss. Hemorrhagic shock Posthemorrhagic anemia /Pr/ | 7 | 4 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 PC-9.1 PC-9.2 PC-10.1 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.12 | Bleeding and blood loss. Hemorrhagic shock Posthemorrhagic anemia /Self. study/ | 7 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 PC-9.1 PC-9.2 PC-10.1 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.13 | Pathophysiology of the liver. Hepatorenal syndrome. Uremia /Lec/ | 7 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 PC-9.1 PC-9.2 PC-10.1 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.14 | Kidney and liver failure. Hepatorenal syndrome. Hepatic coma. Uremia./Pr/ | 7 | 4 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 PC-9.1 PC-9.2 PC-10.1 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.15 | Kidney and liver failure. Hepatorenal syndrome. Hepatic coma. Uremia /Self. study/ | 7 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 PC-9.1 PC-9.2 PC-10.1 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.16 | Types of Shock. Pathogenesis, clinical picture, treatment /Lec/ | 7 | 2 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 PC-9.1 PC-9.2 PC-10.1 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
| 1.17 | Shock. Kinds. Pathogenesis, clinical picture, treatment /Pr/ | 7 | 4 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 PC-9.1 PC-9.2 PC-10.1 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |

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| 1.18 | Shock. Kinds. Pathogenesis, clinical picture, treatment /Self. study/ | 7 | 3 | GPC-5.6 GPC-5.8 GPC-5.9 GPC-5.10 PC-9.1 PC-9.2 PC-10.1 | L1.1 L1.2 L1.3L2.1 L2.2 L2.3L3.1 L3.2 E1 E2 | |
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Faculty Surgery

1. COURSE OBJECTIVES

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| 1.3 | The aim of mastering the discipline "Faculty Surgery" is to develop the ability to make a diagnosis, conduct differential diagnostics and solve tactical issues in the main nosological forms of surgical pathology, including urgent, in their typical and complicated course with substantiation of personalized diagnostic, therapeutic and preventive measures from the standpoint of evidence-based medicine, as well as knowledge of modern principles of providing emergency medical care for urgent surgical diseases and conditions and their complications, including in pregnant women and elderly and |
| 1.4 | senile persons; training in the necessaryThe objective of the course is the development of studentsy volume of practical skills for independent medical practice in the examination ' personal qualities and the formation of general cultural (general scientific, social and personal, instrumental), general professional and professional competencies in accordance with the Federal Educational Standards of Higher Education. |

2. COURSE OVERVIEW

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| Course code (in curriculum) | Б1.О.04 |
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2.1 Assumed background knowledge:

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| X-Ray diagnostics |
| Pathological physiology |
| Pharmacology |
| Human anatomy |
| Topographic anatomy, operative surgery |
| General surgery |
| Introductory practice in patient care of therapeutic and surgical profile |

2.2 Post requisites:

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| Oncology, radiation therapy |
| Industrial practice of surgical profile |
| Anesthesiology, intensive care |
| Disaster Medicine |
| Hospital surgery. Pediatric surgery |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

PC-8.2: Maintains medical records, including in electronic form

PC-5.1: Demonstrates knowledge of the mechanisms of action, methods of application of pharmacotherapy, therapeutic nutrition, medical devices and methods of non-drug treatment, palliative and personalized medical care

PC-5.2: He will treat various categories of patients with diseases on an outpatient basis, in hospitals and centers of high-tech medical care (HMP) with the use of drugs, medical devices and medical nutrition, taking into account the clinical picture, in accordance with current procedures, standards of medical care(clinical guidelines & treatment protocols)

PC-5.4: Demonstrates knowledge of side effects of drugs, methods of their administration, knowledge of the duration of their use and assesses the effectiveness and safety of pharmacotherapy, medical nutrition and the use of non-drug treatment, medical nutrition in palliative care

PC-3.3: Conducts early and differential diagnosis of diseases

PC-3.4: Carries out routing and management of patients on the basis of current legislation (standards, procedures for the provision of medical care, clinical guidelines)

PC-1.1: Demonstrates knowledge about the etiology, pathogenesis, diagnostic criteria (clinical – subjective, physical, laboratory, instrumental) determines the patient's main pathological conditions, symptoms, disease syndromes and diagnoses nosological forms in accordance with the International Statistical Classification of Diseases and Health-related Problems, X – XI

PC-1.2: Conducts differential diagnosis, evaluates the prognosis (short-, medium- and long-term) of the course of the disease, identifies acute complications and complications of chronic diseases

By mastering of the course students must:

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| 3.1 | Know: |
| | 1. Etiology, pathogenesis, diagnostic criteria (clinical - subjective, physical. laboratory, instrumental, the main pathological conditions, symptoms, syndromes of surgical diseases, classification of nosological forms in accordance with the International Statistical Classification of Diseases and Health Problems, X - XI revisions |
| | 2. Principles of differential diagnosis and prognosis of the course of surgical diseases, diagnosis of acute forms and complications of chronic diseases. |
| | 3. Clinical manifestations of surgical diseases, methods of examination and clarifying diagnostics, as well as their peculiarities in pregnant women and elderly and senile persons. |

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| 1.5 | Acute appendicitis and its complications /Lecture/ | 7 | 2 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 1.6 | Acute appendicitis /Practical classes/ | 7 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 1.7 | Complicated acute appendicitis /Practical classes/ | 7 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 1.8 | Acute appendicitis /Self-study/ | 7 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 1.9 | Acute calculous cholecystitis and its complications. /Lecture/ | 7 | 2 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 1.10 | Acute calculous cholecystitis /Practical classes/ | 7 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 1.11 | Complicated acute calculous cholecystitis /Practical classes/ | 7 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |

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| 1.12 | Acute calculous cholecystitis /Selfstudy/ | 7 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 1.13 | Acute intestinal obstruction /Lecture/ | 7 | 2 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 1.14 | Acute intestinal obstruction /Practical classes/ | 7 | 8 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 1.15 | Acute intestinal obstruction /Selfstudy/ | 7 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |

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| 1.16 | Acute pancreatitis and its complications /Lecture/ | 7 | 2 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 1.17 | Acute pancreatitis and its complications /Practical classes/ | 7 | 8 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | 1 | |
| 1.18 | Acute pancreatitis and its complications /Self-study/ | 7 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 1.19 | Gastric and duodenal ulcer /Practical classes/ | 7 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | 1 | |
| 1.20 | Complications of peptic ulcer: bleeding, perforation, penetration, stenosis, malignancy /Practical classes/ | 7 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 1.21 | Complications of peptic ulcer: bleeding, perforation, penetration, stenosis, malignancy /Self-study/ | 7 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 1.22 | Stomach and duodenal ulcer postgastrectomy and postvagotomy complications and syndromes / Practical classes / | 7 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |

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| 1.23 | Abdominal hernias. Complications of hernias /Practical classes/ | 7 | 8 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 1.24 | Abdominal hernias. Complications of hernias /Selfstudy/ | 7 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 1.25 | Peritonitis /Lecture/ | 7 | 2 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 1.26 | Peritonitis /Practical classes/ | 7 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | 1 | |
| 1.27 | Peritonitis /Self-study/ | 7 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 1.28 | Final lesson /Practical classes/ | 7 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |

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| 1.29 | Control work /Control / | 7 | 0 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, L3.1, E1, E2, E3, E4, E5 | | Control work |
| 1.30 | Credit | 7 | 0 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, L3.1, E1, E2, E3, E4, E5 | | Credit task |
| | 2. Faculty surgery | 8 | | | | | |
| 2.1 | Fundamentals of Surgical Treatment of Heart Diseases/Lecture/ | 8 | 2 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 2.2 | Supervision of surgical patients /Practical classes/ | 8 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 2.3 | Diagnosis and treatment of acute lower limb ischemia. /Lecture/ | 8 | 2 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 2.4 | Pathology of the aorta. Aneurysm. Acute arterial ischemia (thrombosis, embolism). /Practical classes/ | 8 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 2.5 | Diagnostics and treatment of chronic lower limb ischemia. /Lecture/ | 8 | 2 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |

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| 2.6 | Atherosclerotic arterial disease. Obliterating arterial disease. /Practical classes/ | 8 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 2.7 | Obliterating arterial disease. /Selfstudy/ | 8 | 3 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 2.8 | Chronic venous insufficiency/Lecture/ | 8 | 2 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 2.9 | Diseases of the venous system. Varicose veins. Acute thrombophlebitis. Postthrombophlebitis syndrome. /Practical classes/ | 8 | 8 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 2.10 | Diseases of the venous system. Varicose veins. Acute thrombophlebitis. Postthrombophlebitis syndrome. /Self-study/ | 8 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 2.11 | Complications of diabetes mellitus in surgical practice /Lecture/ | 8 | 2 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 2.12 | Surgical complications of diabetes mellitus/Practical classes/ | 8 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 2.13 | Questions of surgical treatment of uncomplicated and complicated gastroduodenal ulcers/Lecture/ | 8 | 2 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 2.14 | Chest trauma/Lecture/ | 8 | 2 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 2.15 | Abdominal trauma/Lecture/ | 8 | 2 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 2.16 | Chest trauma. Abdominal trauma /Practical classes/ | 8 | 12 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 2.17 | Purulent diseases of the lungs and pleura /Practical classes/ | 8 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 2.18 | Acute mediastinitis /Practical classes/ | 8 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 2.19 | Thyroid disease /Practical classes/ | 8 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |

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|------|---|---|----|--|---|--|---------------------|
| 2.20 | Thyroid disease /Self-study/ | 8 | 4 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 2.21 | Final lesson, defense of medical history/Practical classes/ | 8 | 6 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, E1, E2, E3, E4, E5 | | |
| 2.22 | Control work /Control / | 8 | 0 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, L3.1, E1, E2, E3, E4, E5 | | Control work |
| 2.23 | Exam | 8 | 27 | PC-1.1 PC - 1.2 PC-3.3 PC - 3.4 PC - 5.1 PC -5.2 PC -5.4 PC - 8.2 | L1.1, L1.2, L2.1, L2.2, L3.1, E1, E2, E3, E4, E5 | | Exam |

Faculty therapy

1. COURSE OBJECTIVES

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| 1.1 | The aim of the course is to acquire scientific knowledge about the etiology, pathogenesis, diagnosis, rational pharmacotherapy, rehabilitation, and prevention of major diseases of internal organs. The objectives are: - to prepare for the state final certification, - to form professional competencies required in the framework of the professional activity of the general practitioner; - to conduct therapeutic and preventive activities under the supervision of a general practitioner; - to prepare students to postgraduate education programs. |
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2. COURSE OVERVIEW

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|--------------------------------|--|
| Course code (in curriculum) | Б1.Б.35 |
| 2.1 Assumed background: | |
| | Anatomy |
| | Chemistry |
| | Biology |
| | Internal Diseases Propaedeutics, X-Ray Diagnostics |
| | Hominal physiology |
| | Biochemistry |
| | Pharmacology |
| | Microbiology, Virology |
| | Histology, embryology, cytology |
| | Clinical pathophysiology |
| | Clinical pathological anatomy |
| | Pathological anatomy |
| | Pathophysiology |

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| 2.2 | Post-requisite courses and practice: |
| | Functional diagnostics |
| | Hospital Therapy, Endocrinology |
| | Hospital surgery, Paediatric surgery |
| | Ambulatory Therapy |
| | Anesthesiology, resuscitation, intensive care |
| | Clinical pharmacology |
| | Disaster Medicine |
| | Medical rehabilitation |
| | Oncology, X-Ray Therapy |
| 3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE) | |
| PC-1.1: Demonstrates knowledge in etiology, pathogenesis, diagnostic criteria (clinical - subjective, physical, laboratory, instrumental, identifies the patient's common pathological conditions, symptoms, disease syndromes and diagnoses nosological forms according to the International Statistical Classification of Diseases and Related Health Problems, X - XI revisions | |
| PC-1.2: Carries out diagnostics, evaluates the prognosis (short-, medium- and long-term course) of the disease, identifies acute complications and complications of chronic diseases | |
| PC-3.1: Examines the patient (handle the patient's complaints, anamnesis, physical data based on the examination results, determines the necessary examination plan, evaluates the parameters of laboratory, instrumental, pathological and anatomical and other methods in order to diagnose diseases, assesses the prognosis (short-, medium- , long-term) of its course and outcomes | |
| PC-3.2: Makes an initial and clinical diagnosis in accordance with the International Statistical Classification of Diseases and Health Problems X - XI revisions and current clinical classifications | |
| PC-3.3: Carries out early and differential diagnostics of diseases | |
| PC-3.4: Provides routing and management of patients based on the current legislation (standards, procedures for the provision of medical care, Clinical guidelines) | |
| PC-5.1: Demonstrates knowledge of the mechanisms and methods applied in pharmacotherapy, medical nutrition, medical devices and methods of non-drug treatment, palliative and personalized medical care | |
| PC-5.2: Provides various categories of patients with outpatient treatment, treatment in hospitals and high-tech medical care (HMC) centers applying drugs, medical devices and medical nutrition, according to clinical pattern and current procedures, standards of medical care, Clinical guidelines (treatment protocols) | |
| PC-5.4: Demonstrates knowledge of side effects of drugs, methods and duration of their use; assesses the effectiveness and safety of pharmacotherapy, medical nutrition and non-drug treatment, medical nutrition of palliative care. | |
| PC-8.2: Keeps medical records, including the electronic format | |

As a result of mastering the discipline, the student must

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| 3.1 | Know: |
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| 3.1.1 | <ul style="list-style-type: none"> - Significant problems and processes - main pathological symptoms, clinical and laboratory syndromes; - the features of collecting anamnesis from patients with therapeutical profile; - basic and additional methods of patient's examination (in accordance with ICD). - clinical symptoms and pathogenesis of major diseases, their prevention, diagnosing and treating; - clinical symptoms of borderline states; - principles of the non-drug and medication therapy, physiotherapy, physical therapy and medical monitoring; - indications for surgical treatment of somatic pathology; - basics of rational diet therapy; - modern methods of clinical and laboratory diagnosing and treating in accordance with the standards and clinical protocols. - principles of differential diagnosis of the most common pathologies; - principles of treating and preventing diseases; - side effects of drugs; - the emergency therapeutic care in the life-threatening conditions; - indications for hospitalization of patients. - the basic principles of treating patients with different nosologies. |
|-------|---|

3.2 Be able to:

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| 3.2.1 | <ul style="list-style-type: none"> - conduct a survey, physical and clinical examination; - interpret the results of laboratory and instrumental examination. - interpret the results of laboratory and instrumental methods of research; - give a diagnosis according to the ICD based on the data from the main and additional researches; - conduct basic and additional researches to clarify the diagnosis; - use normative documents in medical practice. - outline the program of patient's examination; - formulate a detailed clinical diagnosis based on the data obtained during the examination; - determine the activity and the stage of the pathological process; - assign treatment to the patient, taking into account knowledge of the etiology and the features of the disease pathogenesis (etiological, pathogenetic treatment, basic and additional therapy, symptomatic treatment); - develop specific measures for the secondary prevention and rehabilitation therapy of the supervised patient; - keep medical records; - predict the necessity for the medications. - treat patients with different nosologies. |
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4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics/Class type | Term / Academic year | Academic hours | Competences | Literature | Interactive | Notes |
|------------|---|----------------------|----------------|---|--|-------------|-------|
| | Section 1. General part | 7 | | | | | |
| 1.1 | Examination of the patients / practical classes | 7 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |

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|------|--|---|------------|---|--|--|--------|
| 3.23 | Credit | 7 | 0 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | Credit |
| | TOTAL for the 7th semester | | 108 | | | | |
| | Section 4. Gastroenterology | 8 | | | | | |

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| 4.1 | Examination of the patients / practical classes | 8 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 4.2 | Chronic diseases of oesophagus, stomach and duodenum. / lecture | 8 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 4.3 | Chronic diseases of oesophagus, stomach and duodenum. / practical classes | 8 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 4.4 | Chronic diseases of oesophagus, stomach and duodenum. / self-study | 8 | 1 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 4.5 | Gastric and duodenum ulcer / lecture / | 8 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 4.6 | Gastric and duodenum ulcer / practical classes | 8 | 6 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 4.7 | Chronic enteritis and colitis. Functional disorders of the colon. Colon cancer / practical classes | 8 | 6 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 4.8 | Chronic enteritis and colitis. Functional disorders of the colon. Colon cancer / self-study | 8 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 4.9 | Biliary dyskinesia. Chronic acalculous cholecystitis / lecture | 8 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |

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|------|--|---|---|---|---------------|--|--|--|
| 4.10 | Biliary dyskinesia. Chronic acalculous cholecystitis / practical classes | 8 | 6 | PC-1.1 PC-1.2 PC-3.2 PC-3.3 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | PC-3.1 PC-3.4 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 4.11 | Biliary dyskinesia. Chronic acalculous cholecystitis / self-study | 8 | 4 | PC-1.1 PC-1.2 PC-3.2 PC-3.3 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | PC-3.1 PC-3.4 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |

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|------|--|---|---|---|---------------|--|--|--|
| 4.12 | Chronic cholangitis. Choledocholithiasis. Pancreatitis / practical classes | 8 | 6 | PC-1.1 PC-1.2 PC-3.2 PC-3.3 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | PC-3.1 PC-3.4 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 5.13 | Chronic cholangitis. Choledocholithiasis. Pancreatitis / self-study | 8 | 2 | PC-1.1 PC-1.2 PC-3.2 PC-3.3 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | PC-3.1 PC-3.4 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 5.14 | Chronic hepatitis. Gilbert disease / lecture | 8 | 2 | PC-1.1 PC-1.2 PC-3.2 PC-3.3 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | PC-3.1 PC-3.4 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 4.15 | Chronic hepatitis. Gilbert disease / practical classes | 8 | 6 | PC-1.1 PC-1.2 PC-3.2 PC-3.3 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | PC-3.1 PC-3.4 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 4.16 | Chronic hepatitis. Gilbert disease / self-study | 8 | 1 | PC-1.1 PC-1.2 PC-3.2 PC-3.3 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | PC-3.1 PC-3.4 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 4.17 | Cirrhosis and hepatic cancer / lecture | 8 | 2 | PC-1.1 PC-1.2 PC-3.2 PC-3.3 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | PC-3.1 PC-3.4 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 4.18 | Cirrhosis and hepatic cancer / practical classes | 8 | 6 | PC-1.1 PC-1.2 PC-3.2 PC-3.3 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | PC-3.1 PC-3.4 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |

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|------------------------------|--|---|---|---|--|--|--|
| 4.19 | Cirrhosis and hepatic cancer / self-study | 8 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 4.20 | Human helminthosis. Opisthorchiasis / practical classes | 8 | 6 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 4.21 | Human helminthosis. Opisthorchiasis / self-study | 8 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| Section 5. Nephrology | | | | | | | |
| 5.1 | Acute and chronic glomerulonephritis. Chronic pyelonephritis / lecture | 8 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 5.2 | Acute and chronic glomerulonephritis. Chronic pyelonephritis / practical classes | 8 | 6 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 5.3 | Acute and chronic glomerulonephritis. Chronic pyelonephritis / self-study | 8 | 1 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 5.4 | Chronic kidney disease (CKD) / lecture | 8 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 5.5 | Chronic kidney disease (CKD) / practical classes | 8 | 6 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| 5.6 | Chronic kidney disease (CKD) / self-study | 8 | 1 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| Section 6. Hematology | | | | | | | |
| 6.1 | diseases Anemia. Iron deficiency anemia / lecture | 8 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |

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|-----|--|---|------------|---|--|--|-------------------------|
| 6.2 | Anemia. Iron deficiency anemia / practical classes | 8 | 6 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | Control work |
| 6.3 | Iron deficiency anemia / self-study | 8 | 1 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | |
| | TOTAL for the 8th semester | | 81 | | | | |
| | Exam | 8 | 27 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L 1.1 L 2.1 L 3.1 E1 E2 E3 E4 E5 E6 E7 | | Oral quiz, case - study |
| | TOTAL | | 216 | | | | |

Infectious Diseases

1. COURSE OBJECTIVES

1.1 The aim of Infectious diseases course is the development of students' theoretical knowledge and the formation of skills to be further applied for: early diagnosis of infectious diseases in outpatient settings and in the hospital; a complex of therapeutic and preventive measures in the pre - hospital and hospital stages; diagnosis of emergency conditions and the provision of medical care to infectious patients in the pre-hospital and hospital stages.

PC-1.1. Demonstrates knowledge of etiology, pathogenesis, diagnostic criteria (clinical - subjective, physical, laboratory, instrumental) determines the main pathological conditions, symptoms, syndromes of diseases in a patient and diagnoses nosological forms according to the International Statistical Classification of Diseases and Health-Related Problems, X - XI revisions.

PC-1.2. - Performs differential diagnosis, assesses the prognosis (short-, medium- and long-term) of the course of the disease, and identifies complications of acute and complications of chronic diseases.

PC-2.1. Evaluates the condition of a patient requiring emergency or urgent medical care, diagnoses a life-threatening condition, including clinical death;

PC-3.1 Examines a patient (collects and analyzes patient's complaints, anamnesis data, physical examination data, determines the necessary examination plan, evaluates parameters of laboratory, instrumental, pathological, anatomical and other research methods for disease diagnosis, assesses the prognosis (short-, medium-, long- term) of its course and outcomes;

PC-3.2 Formulates a preliminary and clinical diagnosis in accordance with the International Statistical Classification of Diseases and Health Related Problems X - XI revisions and current clinical classifications;

PC-3.3 Performs early and differential diagnosis of diseases;

PC-3.4 Routes and manages patients based on current legislation (standards, orders of medical care, Clinical Recommendations).

PC-5.2 Treats various categories of patients with diseases in outpatient, inpatient and high-tech medical care centers using drugs, medical devices and therapeutic nutrition, taking into account the clinical picture, in accordance with current procedures, standards of medical care, clinical recommendations (treatment protocols);

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| <p>PC-7.2 Organizes and supervises immunoprophylaxis of infectious diseases in adult population in accordance with the current procedures of medical care, clinical recommendations (treatment protocols) on issues of medical care, taking into account the standards of medical care and determine medical indications</p> <p>PC-7.4 Issues and sends to the territorial body of the Federal Service for Supervision of Consumer Rights Protection and Human Welfare an emergency notification in case of detection of a infectious or occupational disease and carry out anti-epidemic measures in case of a focus of infection, including quarantine measures in case of detection of particularly dangerous (quarantine) infectious diseases;</p> | |
| <p>PC-8.1 Demonstrates ability and readiness to organize plan, report of medical staff work, to analyze performance indicators of medical institution and its subdivisions, to present analysis results; PC-8.2. Maintains medical documentation, including in electronic form;</p> | |
| <p>By the end of the course students must:</p> | |
| 3.1 | <p>know:</p> <ul style="list-style-type: none"> -specific features of the subject and objectives of Infectious Diseases course; - the role, place and interrelations with other sciences in the system of biological and medical disciplines; - the main historical stages of the development of Infectious Diseases; - prospects of development and new directions in the study of infectious diseases; - basic concepts of the discipline. -the necessary list of medical documentation -general issues of medical care organization for infectious patients (adults and children); - modern classification, etiology, epidemiology of infectious diseases; - mechanisms of immunity and the state of the immune system in various infectious diseases; - pathoanatomical changes in organs and tissues in infectious diseases; |

- clinical symptomatology of infectious diseases, complications, outcomes
- clinical symptomatology of infectious diseases, complications, outcomes;
- modern classification, etiology, epidemiology of infectious diseases, principles of epidemiological analysis and anti-epidemic measures in the focus of infection.
- modern methods of treatment for infectious diseases (specific and pathogenetic therapy, basics of rational nutrition and diet therapy for infectious diseases);
- organization of follow-up for survivors;
- rehabilitation treatment after infectious diseases, indications and contraindications to spa treatment.

3.2 be able to:

- to apply abstract thinking, analysis and synthesis in various types of professional and social activities.
- to draw up necessary medical documentation.
- to conduct a comprehensive clinical examination of the patient and to diagnose an infectious disease, the severity of the condition, emergency measures, the necessary additional examination (consultations of other specialists, laboratory and instrumental diagnostics);
- to determine the tactics of management of the patient, indications for hospitalization and isolation;
- to assign treatment of infectious patients, taking into account the etiology, severity of the disease and related pathological conditions.
- to conduct a comprehensive clinical examination of the patient and to diagnose an infectious disease, the severity of the condition, emergency measures, the necessary additional examination (consultations of other specialists, laboratory and instrumental diagnostics);
- to determine the tactics for the patient management, indications for hospitalization and isolation; to assign treatment of infectious patients, taking into account the etiology, severity of the disease and related pathological conditions;
- to perform differential diagnosis with the most common diseases
- to assign treatment of infectious patients, taking into account the etiology, severity of the disease and related pathological conditions;
- to determine the tactics for the patient management (to provide a full range of emergency medical care, or to start treatment and invite relevant specialists for consultation).

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Class Code | Class Code | Class Code | Class Code | Class Code | Class Code |
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| 2.5 | Intestinal infections. Etiology, epidemiology, pathogenesis, classification, clinic, diagnosis and treatment of salmonellosis. /pr/ | 7 | 4 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 2.6 | Salmonellosis. /Self-study/ | 7 | 4 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 2.7 | Acute and chronic dysentery. /lecture/ | 7 | 2 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |

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| 2.9 | Cholera. /lecture/ | 7 | 2 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
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| 2.14 | Intestinal infections. Etiology, epidemiology, pathogenesis, classification, clinic, diagnosis and treatment of escherichiosis. /pr/ | 7 | 4 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |

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| 2.15 | Pseudotuberculosis, yersiniosis /lecture/ | 7 | 2 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
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| 3.2 | Etiology, epidemiology, pathogenesis, classification, clinic, diagnosis and treatment of influenza and acute respiratory viral infections /pr/ | 7 | 4 | PC-1.1 PC -1.2 PC -2.1 PC -3.1 PC -3.2 PC -3.3 PC -3.4 PC -5.2 PC -7.2 PC -7.4 PC -8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
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| 3.4 | Etiology, epidemiology, pathogenesis, classification, clinic, diagnosis and treatment of diphtheria and angina. /pr/ | 7 | 2 | PC-1.1 PC -1.2 PC -2.1 PC -3.1 PC -3.2 PC -3.3 PC -3.4 PC -5.2 PC -7.2 PC -7.4 PC -8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
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| 5.5 | Legionellosis, mycoplasma infection. Etiology, epidemiology, pathogenesis, clinical picture, diagnosis, treatment. / pr / | 9 | 2 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.6 | Anthrax. Anti-epidemic measures. The threat of bioterrorism / Self-study / | 8 | 6 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.7 | Tetanus. Etiology, epidemiology, pathogenesis, clinical picture, diagnosis, treatment / pr / | 9 | 2 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.8 | Tick-borne encephalitis / lecture / | 9 | 2 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.9 | Leptospirosis. Etiology, epidemiology, pathogenesis, clinical picture, diagnosis, treatment / pr / | 9 | 4 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |

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| 5.10 | Leptospirosis. Etiology, epidemiology, pathogenesis, clinical picture, diagnosis, treatment / Self-study / | 9 | 4 | PC-1.1 PC -1.2 PC -2.1 PC -3.1 PC -3.2 PC -3.3 PC -3.4 PC -5.2 PC -7.2 PC -7.4 PC -8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.11 | Toxoplasmosis. Etiology, epidemiology, pathogenesis, clinical picture, features of the course of toxoplasmosis during pregnancy - effect on the fetus, diagnosis, treatment. / pr / | 9 | 2 | PC-1.1 PC -1.2 PC -2.1 PC -3.1 PC -3.2 PC -3.3 PC -3.4 PC -5.2 PC -7.2 PC -7.4 PC -8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.12 | TORCH infections in immunodeficiency conditions, in older people / Self-study / | 9 | 6 | PC-1.1 PC -1.2 PC -2.1 PC -3.1 PC -3.2 PC -3.3 PC -3.4 PC -5.2 PC -7.2 PC -7.4 PC -8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.13 | Lyme disease. Etiology, epidemiology, pathogenesis, clinic, diagnosis, treatment, preventive measures. / pr / | 9 | 4 | PC-1.1 PC -1.2 PC -2.1 PC -3.1 PC -3.2 PC -3.3 PC -3.4 PC -5.2 PC -7.2 PC -7.4 PC -8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.14 | Lyme Disease / lecture / | 9 | 2 | PC-1.1 PC -1.2 PC -2.1 PC -3.1 PC -3.2 PC -3.3 PC -3.4 PC -5.2 PC -7.2 PC -7.4 PC -8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.15 | Lyme disease. Etiology, epidemiology, pathogenesis, clinic, diagnosis, treatment, preventive measures. / Self-study / | 9 | 4 | PC-1.1 PC -1.2 PC -2.1 PC -3.1 PC -3.2 PC -3.3 PC -3.4 PC -5.2 PC -7.2 PC -7.4 PC -8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.16 | Erysipelas. Etiology, epidemiology, clinical classification, diagnosis, differential diagnosis of erysipelas. Treatment and prevention. / pr / | 9 | 4 | PC-1.1 PC -1.2 PC -2.1 PC -3.1 PC -3.2 PC -3.3 PC -3.4 PC -5.2 PC -7.2 PC -7.4 PC -8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.17 | Erysipelas / lecture / | 9 | 2 | PC-1.1 PC -1.2 PC -2.1 PC -3.1 PC -3.2 PC -3.3 PC -3.4 PC -5.2 PC -7.2 PC -7.4 PC -8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |

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| 5.18 | Tick-borne encephalitis. Etiology, epidemiology, pathogenesis, clinic, diagnosis, treatment, preventive measures. /pr/ | 9 | 4 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.19 | West Nile fever. Ehrlichioses /pr/ | 9 | 4 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.20 | Tick-borne encephalitis. Etiology, epidemiology, pathogenesis, clinic, diagnosis, treatment, preventive measures. /Self-study/ | 9 | 4 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.21 | Leishmaniasis. Etiology, epidemiology, pathogenesis, clinic, diagnosis, treatment, preventive measures. /pr/ | 9 | 2 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.22 | Urgent conditions in infectious diseases /pr/ | 9 | 4 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.23 | Differential diagnosis of infectious diseases with exanthema syndrome /pr/ | 9 | 2 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.24 | Differential diagnosis of infectious diseases with lymphadenopathy syndrome /pr/ | 9 | 2 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |

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| 5.25 | Differential diagnosis of infectious diseases with diarrhea syndrome / pr / | 9 | 2 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.26 | Differential diagnosis of infectious diseases with fever syndrome / pr / | 9 | 2 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.27 | Differential diagnosis of infectious diseases / Self-study / | 9 | 3 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.28 | Hemolytic-uremic syndrome / Self-study / | 9 | 2 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.29 | Infectious and toxic shock / lecture / | 9 | 2 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.30 | Vaccination of infectious diseases according to epidemiological indications / Self-study / | 8 | 6 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.31 | Rabies / Self-study / | 8 | 6 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |

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| 5.32 | Smallpox of monkeys /Self-study/ | 8 | 4 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 5.33 | Dengue fever /Self-study/ | 8 | 4 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| Section 6. Credit with an assessment | | | | | | |

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| 6.1 | Credit with an assessment | 9 | 27 | PC-1.1 PC - 1.2 PC -2.1 PC -3.1 PC - 3.2 PC -3.3 PC -3.4 PC - 5.2 PC -7.2 PC -7.4 PC - 8.1 PC -8.2 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
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Neurology, Medical Genetics, Neurosurgery

1. COURSE OBJECTIVES

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| 1.1 | The aim of the course is mastering the main functions of the professional activity of a doctor, the formation and development of professional competence, the formation of professionally significant personal qualities in accordance with the requirements of the Federal State Educational Standard of Higher Education. |
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2. COURSE OVERVIEW

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| Course code (in Curriculum): | Б1.О.04.28 |
| 2.1 | Assumed background: |
| 2.1.1 | Biology |
| 2.1.2 | Hygiene |
| 2.1.3 | Pharmacology |
| 2.1.4 | Internal Diseases Propaedeutics |
| 2.1.5 | Microbiology, Virology |
| 2.1.6 | Biochemistry |
| 2.1.7 | Hominal Physiology |
| 2.1.8 | Human Anatomy |
| 2.1.9 | Histology, Embryology, Cytology |
| 2.1.10 | General Surgery |
| 2.1.11 | Pathologic Syndromes in Clinical Medicine |
| 2.1.12 | Clinical Cytology and Biochemistry |
| 2.1.13 | Immunology and Allergology |
| 2.1.14 | Pathologic Anatomy |

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| 2.1.15 | Pathophysiology |
| 2.1.16 | Clinical Pathologic Anatomy |
| 2.1.17 | Molecular Biology |
| 2.1.18 | Human Genetics |
| 2.1.19 | Clinical Pathologic Anatomy |
| 2.1.20 | Clinical Pathophysiology |
| 2.1.21 | Topographic Anatomy, Operative Surgery |
| 2.2 | Post-requisite courses and practice: |
| 2.2.1 | Clinical Pharmacology |
| 2.2.2 | Medical Rehabilitation |
| 2.2.3 | Traumatology and Orthopaedics |
| 2.2.4 | Pathophysiological bases of emergency conditions in the clinic of internal diseases |
| 2.2.5 | Anaesthesiology, Resuscitation, Intensive Care |
| 3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE) | |
| <p>PC-1.1: Demonstrates knowledge in etiology, pathogenesis, diagnostic criteria (clinical - subjective, physical, laboratory, instrumental, identifies the patient's common pathological conditions, symptoms, disease syndromes and diagnoses nosological forms according to the International Statistical Classification of Diseases and Related Health Problems, X - XI revisions) PC-1.2: Carries out diagnostics, evaluates the prognosis (short-, medium- and long-term course) of the disease, identifies acute complications and complications of chronic diseases</p> <p>PC-3.1: Examines the patient (handle the patient's complaints, anamnesis, physical data based on the examination results, determines the necessary examination plan, evaluates the parameters of laboratory, instrumental, pathological and anatomical and other methods in order to diagnose diseases, assesses the prognosis (short-, medium- , long-term) of its course and outcomes</p> <p>PC-3.2: Makes an initial and clinical diagnosis in accordance with the International Statistical Classification of Diseases and Health Problems X - XI revisions and current clinical classifications</p> <p>PC-3.3: Carries out early and differential diagnostics of diseases</p> <p>PC-3.4: Provides routing and management of patients based on the current legislation (standards, procedures for the provision of medical care, Clinical guidelines)</p> <p>PC-5.1: Demonstrates knowledge of the mechanisms and methods applied in pharmacotherapy, medical nutrition, medical devices and methods of non-drug treatment, palliative and personalized medical care</p> <p>PC-5.2: Provides various categories of patients with outpatient treatment, treatment in hospitals and high-tech medical care (HMC) centers applying drugs, medical devices and medical nutrition, according to clinical pattern and current procedures, standards of medical care, Clinical guidelines (treatment protocols)</p> <p>PC-5.4 Demonstrates knowledge of side effects of drugs, methods and duration of their use; assesses the effectiveness and safety of pharmacotherapy, medical nutrition and non-drug treatment, medical nutrition of palliative care.</p> <p>PC-8.2: Keeps medical records, including the electronic format</p> | |

By the end of the course students must:

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| 3.1 | know: |
| 3.1.1 | the specificities of the discipline and the tasks of the discipline Neurology, Medical Genetics, Neurosurgery; |
| 3.1.2 | the role, place and connection with other sciences in the system of biological and medical disciplines; |
| 3.1.3 | the main historical stages of the development of Neurology, Medical Genetics, Neurosurgery; |
| 3.1.4 | the prospects of development and new directions in the study of Neurology, Medical Genetics, Neurosurgery; |
| 3.1.5 | basic concepts used in Neurology, Medical Genetics, Neurosurgery |
| 3.1.6 | etiology, pathogenesis and preventive measures of the most common diseases; modern classification of diseases |
| 3.1.7 | the clinical picture, features of the course and possible complications of the most common diseases that occur in a typical form in different age groups; |
| 3.1.8 | diagnostic methods, diagnostic capabilities of methods of direct examination of a patient with a neurological profile, modern methods of clinical, laboratory instrumental examination of patients (including endoscopic, X-ray methods, ultrasound diagnostics, clinical picture, features of the course and possible complications of the most common diseases occurring in a typical form in different age groups; |

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| 3.1.9 | diagnostic methods, diagnostic capabilities of methods of direct examination of a patient with a neurological profile, modern methods of clinical, laboratory instrumental examination of patients (including endoscopic, X-ray methods, ultrasound diagnostics) |
| 3.2 | be able to: |
| 3.2.1 | use the acquired knowledge of Neurology, Medical Genetics, Neurosurgery in the study of other biomedical and medical disciplines; |
| 3.2.2 | correctly interpret and apply the basic concepts of Neurology, Medical Genetics, Neurosurgery in the study of biomedical and medical literature and in collaboration with medical specialists |
| 3.2.3 | determine the status of the patient: (assessment of consciousness, meningeal symptoms, general brain, cranial innervation, motor system, extrapyramidal, etc.) collect anamnesis, conduct a survey of the patient and/or his relatives, conduct a physical examination of the patient |
| 3.2.4 | determine the patient's status: collect anamnesis, conduct a survey of the patient and / or his relatives, conduct a physical examination of the patient (assessment of consciousness, meningeal symptoms, general cerebral, cranial innervation, motor system, extrapyramidal, etc.) |
| 3.2.6 | determine the patient's status: collect anamnesis, conduct a survey of the patient and / or his relatives, conduct a routine neurological examination of the patient (assessment of consciousness, meningeal symptoms, general brain, cranial innervation, motor system, etc.); |
| 3.2.7 | assess the patient's condition to make a decision about the need for medical care; |
| 3.2.8 | provide first aid in emergency situations, first aid to victims in the affected areas in emergency situations |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Interactive | Notes |
|------------|--|----------------------|----------------|--|--|-------------|-------|
| | Section 1. General section | | | | | | |
| 1.1 | Introduction to neurology. CSF. The liquor system. /Lecture/ | 7 | 2 | PC-1.1; PC-1.2 PC-3.1; PC-3.2; PC-3.3; PC-3.4 PC-5.1; PC-5.2; PC-5.4 PC-8.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.2 | Disruptions of consciousness /Lecture/ | 7 | 2 | PC-1.1; PC-1.2 PC-3.1; PC-3.2; PC-3.3; PC-3.4 PC-5.1; PC-5.2; PC-5.4 PC-8.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.3 | Acute disorders of cerebral circulation. Chronic cerebrovascular pathology./Lecture/ | 7 | 2 | PC-1.1; PC-1.2 PC-3.1; PC-3.2; PC-3.3; PC-3.4 PC-5.1; PC-5.2; PC-5.4 PC-8.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |

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| 1.4 | Acute infections of the nervous system. /Lecture/ | 7 | 2 | PC-1.1; PC-1.2 PC-3.1; PC-3.2; PC-3.3; PC-3.4 PC-5.1; PC-5.2; PC-5.4 PC-8.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.5 | Introduction to medical genetics. Heredity and pathology /Lecture/ | 7 | 2 | PC-1.1; PC-1.2 PC-3.1; PC-3.2; PC-3.3; PC-3.4 PC-5.1; PC-5.2; PC-5.4 PC-8.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.6 | Semiotics and principles of clinical diagnostics of hereditary diseases. General principles of treatment of hereditary diseases. /Lecture/ | 7 | 2 | PC-1.1; PC-1.2 PC-3.1; PC-3.2; PC-3.3; PC-3.4 PC-5.1; PC-5.2; PC-5.4 PC-8.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.7 | Chromosomal and gene diseases. /Lecture/ | 7 | 2 | PC-1.1; PC-1.2 PC-3.1; PC-3.2; PC-3.3; PC-3.4 PC-5.1; PC-5.2; PC-5.4 PC-8.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.8 | Organization of medical and genetic services./Lecture/ | 7 | 2 | PC-1.1; PC-1.2 PC-3.1; PC-3.2; PC-3.3; PC-3.4 PC-5.1; PC-5.2; PC-5.4 PC-8.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.9 | Motor system, central and peripheral paralysis /Practical classes/ | 7 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |

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| 1.10 | Sensory system, surface and deep sensitivity /Practical classes/ | 7 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 2 | |
| 1.11 | Extrapyramidal nervous system, cerebellum /Practical classes/ | 7 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2 | L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 2 | |
| 1.12 | Cranial nerves. I-VI pairs of cranial nerves /Practical classes/ | 7 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 2 | |
| 1.13 | Cranial nerves. I-VI pairs of cranial nerves /Practical classes/ | 7 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 2 | |
| 1.14 | CSF. Cerebrospinal fluid syndromes /Practical classes/ | 7 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 2 | |
| 1.15 | Higher cortical functions./Practical classes/ | 7 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |

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| 1.16 | The autonomic nervous system. Vegetative dysfunction./Practical classes/ | 7 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.17 | Neuromuscular diseases./Practical classes/ | 7 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.18 | Mononeuropathy, polyneuropathy. /Practical classes/ | 7 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.19 | Introduction to medical genetics. Heredity and pathology /Practical classes/ | 7 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.20 | Semiotics and principles of clinical diagnostics of hereditary diseases. General principles of treatment of hereditary diseases. /Practical classes/ | 7 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.21 | Chromosomal and gene diseases./Practical classes/ | 7 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |

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| 1.22 | Organization of medical and genetic services./Practical classes/ | 7 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | Control work |
| 1.23 | Motor system, central and peripheral paralysis /Self-study/ | 7 | 2 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.24 | Sensory system, surface and deep sensitivity /Self-study/ | 7 | 2 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 2 | |
| 1.25 | Extrapyramidal nervous system, cerebellum /Self-study/ | 7 | 2 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 2 | |
| 1.26 | Cranial nerves. I-XII pairs of cranial nerves /Self-study/ | 7 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 2 | |
| 1.27 | CSF. Cerebrospinal fluid syndromes /Self-study/ | 7 | 2 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |

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| 1.28 | Higher cortical functions./Self-study/ | 7 | 2 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.29 | The autonomic nervous system. Vegetative dysfunction./Self-study/ | 7 | 2 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.30 | Neuromuscular diseases./Self-study/ | 7 | 2 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.31 | Mononeuropathy, polyneuropathy./Self-study/ | 7 | 2 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.32 | Demyelinating diseases of the nervous system./Lecture/ | 8 | 2 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.33 | Osteochondrosis of the spine. Neurological complications./Lecture/ | 8 | 2 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |

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| 1.34 | Craniocerebral and spinal injuries. Brain and spinal cord tumors /Lecture/ | 8 | 2 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC- 3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.35 | Epilepsy./Lecture/ | 8 | 2 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC- 3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.36 | Neuromuscular diseases./Lecture/ | 8 | 2 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC- 3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.37 | Acute disorders of cerebral circulation /Practical classes/ | 8 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC- 3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.38 | Chronic cerebrovascular insufficiency./Practical classes/ | 8 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC- 3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 2 | |
| 1.39 | Acute neuroinfections – meningitis, encephalitis, myelitis./Practical classes/ | 8 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC- 3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 2 | |

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| 1.40 | Chronic neuroinfections./Practical classes/ | 8 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 2 | |
| 1.41 | Demyelinating diseases of the nervous system. Multiple sclerosis. Acute multiple encephalomyelitis /Practical classes/ | 8 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.42 | Epilepsy /Practical classes/ | 8 | 4 | PC-1.1; PC-1.2; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.43 | Osteochondrosis of the vertebral column. Vertebrogenic neurological syndromes./Practical classes/ | 8 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.44 | Craniocerebral and spinal cord injury Brain and spinal cord tumors /Practical classes/ | 8 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | Control work |
| 1.45 | Acute disorders of cerebral circulation /Self-study/ | 8 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |

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| 1.46 | Chronic cerebrovascular insufficiency. /Self-study/ | 8 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.47 | Acute neuroinfections – meningitis, encephalitis, myelitis./Self-study/ | 8 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.48 | Chronic neuroinfections. /Self-study/ | 8 | 2 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.49 | Demyelinating diseases of the nervous system. Multiple sclerosis. Acute multiple encephalomyelitis /Self-study/ | 8 | 4 | PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2; | L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3 | 0 | |
| 1.50 | / Exam/ | 8 | 36 | | | 0 | Exam |

Obstetrics

1. COURSE OBJECTIVES

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| 1.1 | The main goal of mastering the discipline is the student's clinical training: the formation of knowledge about the etiology, pathogenesis and clinic of obstetric pathologies, clinical thinking in the diagnosis of obstetric and gynecological pathology based on symptoms, syndromes of diseases, nosological forms in accordance with the International Statistical Classification of Diseases and Problems Related to Health , X revision, differential diagnosis of diseases, determination of therapeutic tactics for managing patients with various nosological forms, mastering the practical skills necessary for conducting a physiological pregnancy, receiving childbirth. |
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2. COURSE OVERVIEW

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| Course code (in curriculum) | B1.O.04 |
| 2.1 Assumed background knowledge: | |
| 2.1.1 | Chemistry |
| 2.1.2 | Latin |
| 2.1.3 | Biology |
| 2.1.4 | Philosophy |
| 2.1.5 | Histology, Embryology, Cytology |
| 2.1.6 | Bioethics |
| 2.1.7 | Anatomy |
| 2.1.8 | Hominal Physiology |
| 2.1.9 | Biochemistry |
| 2.1.10 | Microbiology, Virology |
| 2.1.11 | Immunology |
| 2.1.12 | Pharmacology |
| 2.1.13 | Pathologic Anatomy |
| 2.1.14 | Clinical Pathologic Anatomy |
| 2.1.15 | General Surgery, X-ray Diagnostics |
| 2.1.16 | Internal Diseases Propaedeutics, X-Ray Diagnostics |
| 2.1.17 | Public health and health care, Economy of Public Health |
| 2.2 Post requisites: | |
| 2.2.1 | Pediatric gynecology |
| 2.2.2 | Industrial practice of obstetric and gynecological profile |
| 2.2.3 | Perinatology |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

PC-1.1: Demonstrates knowledge about etiology, pathogenesis, diagnostic criteria (clinical - subjective, physical, laboratory, instrumental); identifies the patient's main pathological conditions, symptoms, disease syndromes and diagnoses nosological forms in accordance with the International Statistical Classification of Diseases and Related Health Problems, X – XI revisions

PC-1.2: Conducts differential diagnostics, assesses the prognosis (short -, medium- and long-term) of the course of the disease, identifies acute complications and complications of chronic diseases

PC-3.1: Examines the patient (collects and analyzes the patient's complaints, his medical history, physical data based on the examination results, determines the necessary examination plan, evaluates the parameters of laboratory, instrumental, pathological-anatomical and other research methods for the purpose of diagnosing diseases, evaluates the prognosis (short-, medium- , long-term) its course and outcomes

PC-3.2: Formulates a preliminary and clinical diagnosis in accordance with the International Statistical Classification of

Diseases and Related Health Problems X - XI revisions and current clinical classifications**PC-3.4: Carries out routing and management of patients on the basis of current legislation (standards, procedures for providing medical care, Clinical guidelines)****PC-4.1: Manages physiological pregnancy and childbirth****PC-4.2: Demonstrates the ability and readiness, together with an obstetrician -gynecologist, to manage a pregnant woman who has diseases during pregnancy and the postpartum period****PC-5.1: Demonstrates knowledge of the mechanisms of action, methods of application of pharmacotherapy, therapeutic nutrition, medical devices and methods of non-drug treatment, palliative and personalized medical care****PC-5.2: Provides treatment to various categories of patients with diseases on an outpatient basis, in hospitals and high-tech medical care centers using medications, medical devices and nutritional therapy, taking into account the clinical picture, in accordance with current procedures, standards of medical care, clinical recommendations (treatment protocols)****PC-5.4: Demonstrates knowledge of the side effects of drugs, methods of their administration, knowledge of the duration of their use and evaluates the effectiveness and safety of pharmacotherapy, nutritional therapy and the use of non-drug treatment, nutritional therapy for palliative care****PC-8.2: Maintains medical documentation, including in electronic form****By the end of the course students must:**

| 3.1 | Know |
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| 3.1.1 | - Interrelation of functional systems of an organism and levels of their regulation. |
| 3.1.2 | - Organization and carrying out medical examination of women, analysis of its efficiency. |
| 3.1.3 | - General principles of statistical methods of processing of medical documentation. |
| 3.1.4 | - The standard documentation accepted in health care of the Russian Federation (laws of the Russian Federation, technical regulations, international and national standards, orders, recommendations, terminology, operating international classifications) and also documentation for assessment of quality and overall performance of the medical organizations; |
| 3.1.5 | - Clinical symptomatology and pathogenesis of the main processes of the complications of pregnancy, in labor and the postnatal period, their prevention, diagnostics and treatment, clinical symptomatology of borderline Case-studys of pregnant women, women in labor and women in childbirth. |
| 3.1.6 | - Bases of conducting pregnancy, childbirth and the postnatal period, the principles of medicamentous and non-drug therapy, physical therapy, physiotherapy exercises and medical control, the indication to an operational childbirth; |
| 3.1.7 | - Bases of rational nutrition and a diet therapy during pregnancy, in the postnatal period and in the lactation period; |
| 3.1.8 | - Modern methods of clinical and laboratory diagnostics and treatment in compliance with standards and clinical protocols in obstetric practice; |
| 3.1.9 | - The principles of medication therapy and non-drug therapy, physical therapy, therapeutic physical training and medical control, the indications to surgical treatment; |
| 3.1.10 | - The principles of postoperative treatment of patients, prevention of postoperative complications, recovery treatment, physical therapy, therapeutic physical training and medical control, basis of rational diet therapy in the postoperative period; |
| 3.1.11 | - Clinical symptomatology and pathogenesis of the main processes of gynecologic pathology of women during various age periods, their prevention, diagnostics and treatment; |
| 3.1.12 | - The principles of drug and non-drug therapy, physical therapy, therapeutic physical training and medical control, the indications urgical treatment; |
| 3.1.13 | - Modern methods of clinical and laboratory diagnostics and treatment in gynecologic practice of Case-studys which do not demand surgical treatment, in compliance with standards and clinical protocols; |
| 3.1.14 | - Principles of choice of type and volume of surgical help; |
| 3.1.15 | - The principles of postoperative treatment of patients, prevention of postoperative complications, recovery treatment, physical therapy, therapeutic physical training and medical control, basis of a rational diet in the postoperative period; |
| 3.1.16 | - Principles of therapeutic and surgical treatment of pathological pregnancies, childbirth and postnatal period; |
| 3.1.17 | - principles of rendering emergency aid (obstetric bleedings, eclampsy); |
| 3.1.18 | - Indications to episiotomy; |

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| 3.1.19 | - Indications to planned and emergency Cesarean section; |
| 3.1.20 | - Treatment of women in childbirth after Cesarean section. |
| 3.2 | Be able to: |
| 3.2.1 | - To estimate efficiency of medical examination; |
| 3.2.2 | - To analyze key performance indicators of medical and preventive treatment institution; |
| 3.2.3 | - To conduct scientific research on the profession; |
| 3.2.4 | - Keep medical documentation of various types in the medical organizations; |
| 3.2.5 | - Prescribe medicines against certain diseases and pathological processes of the pregnant and gynecologic patients according to the features of their pharmacodynamics and pharmacokinetics; |
| 3.2.6 | - To interpret results of laboratory and tool methods of research; |
| 3.2.7 | - To make the diagnosis according to the International classification of diseases on the basis of main and additional methods of a research; |
| 3.2.8 | - To carry out the main and additional methods of a research in order to specify the diagnosis; |
| 3.2.9 | - To carry out episiotomy; |
| 3.2.10 | - To process and remove seams of a crotch and anterior abdominal wall, |
| 3.2.11 | - Prevention of a milk stasis, treatment of cracks of nipples, |
| 3.2.12 | - To collect tool kit for carrying out diagnostic curettement and medical abortion. |
| 3.2.13 | - To reveal the most frequent complications of pregnancy, childbirth and the postnatal period; |
| 3.2.14 | - To render the main diagnostic and medical manipulations to pregnant women, women in labor and women in childbirth. |

4. STRUCTURE AND CONTENTS

| Class Code | Part and topic /class type/ | Term / Ac. year | Academic hours | Competences | Literature | Interactive |
|------------|--|-----------------|----------------|--|----------------------------------|-------------|
| | Section 1. Physiological obstetrics | | | | | |
| 1.1 | Introduction. Modern directions in obstetrics /Lec/ | 7 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.2 | Physiology of a reproductive system of the woman /Lec/ | 7 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.3 | Adaptation changes of physiological pregnancy /Lec/ | 7 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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| 1.4 | Modern ideas of formation of the "mother- placenta-foetus" system /Lec/ | 7 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.5 | Diagnostic methods in obstetrics /Lec/ | 7 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.6 | Maintaining a normal pregnancy /Lec/ | 7 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.7 | Maintenance of normal childbirth and the postpartum period /Lec/ | 7 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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| 1.8 | Family planning. Medical genetic counseling /Lec/ | 7 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.9 | The organization of work of obstetric service in the Russian Federation /Pr/ | 7 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.10 | Menstrual cycle Methods for assessing the hormonal function of the ovaries /Pr/ | 7 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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| 1.11 | Menstrual cycle Methods for assessing the hormonal function of the ovaries /Ss/ | 7 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.12 | Methods for assessing the hormonal function of the fetoplacental system /Pr/ | 7 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.13 | Adaptive changes in a woman's body during physiological pregnancy /Pr/ | 7 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.14 | Anatomy of the female genital organs /Pr/ | 7 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.15 | The female pelvis from an obstetric point of view /Pr/ | 7 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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| 1.23 | Supervision of pregnant women /Ss/ | 8 | 3 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
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| 1.24 | Biomechanism of labor in the anterior and posterior types of occipital presentation /Pr/ | 8 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.25 | Biomechanism of labor in the anterior and posterior types of occipital presentation /Ss/ | 8 | 3 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.26 | Physiology of normal childbirth, clinical picture and management /Pr/ | 8 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.27 | Physiology of normal childbirth, clinical picture and management /Ss/ | 8 | 3 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.28 | Physiology of normal postpartum period /Pr/ | 8 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.29 | Physiology of normal postpartum period /Ss/ | 8 | 3 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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| 1.30 | The neonatal period. The course and management of the postpartum period /Pr/ | 8 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.31 | The neonatal period. The course and management of the postpartum period /Ss/ | 8 | 3 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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| 1.32 | Practical class (credit) /Pr/ | 8 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.33 | Analyze the data, prepare the history of birth /Ss/ | 8 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.34 | Report of patient. Test lesson /Pr/ | 8 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 1.35 | Control work /Control | 8 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| Section 2. Pathological obstetrics | | | | | | |
| 2.1 | Placental insufficiency /Lec/ | 9 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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| 2.2 | Extragenital diseases and pregnancy /Lec/ | 9 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.3 | Intrauterine infection /Lec/ | 9 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.4 | Abnormalities of labor /Lec/ | 9 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.5 | Caesarean section in modern obstetrics /Lec/ | 9 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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| 2.6 | The modern view on the problem of miscarriage /Lec/ | 9 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.7 | Pathology of the fetoplacental system. Fetal growth restriction. Intrauterine Hypoxia. /Pr/ | 9 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.8 | Pathology of the fetoplacental system. Fetal growth restriction. Intrauterine Hypoxia. /Ss/ | 9 | 3 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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| 2.9 | Operative obstetrics. Cesarean section /Pr/ | 9 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.10 | Curation of pregnant patient /Pr/ | 9 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.11 | Maternal and perinatal infection: viral /Pr/ | 9 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.12 | Maternal and perinatal infection: viral /Ss/ | 9 | 0 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.13 | Endocrine diseases and pregnancy /Pr/ | 9 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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| 2.14 | Endocrine diseases and pregnancy /Ss/ | 9 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.15 | Cardiovascular diseases and pregnancy /Pr/ | 9 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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| 2.16 | Cardiovascular diseases and pregnancy /Ss/ | 9 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.17 | Diseases of the Urinary system and pregnancy /Pr/ | 9 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.18 | Diseases of the Urinary system and pregnancy /Ss/ | 9 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.19 | Hematological diseases in pregnancy. Anemia, Thrombocytopenia, Willebrand disease /Pr/ | 9 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.20 | Hematological diseases in pregnancy. Anemia, Thrombocytopenia, Willebrand disease /Ss/ | 9 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.21 | Practical skills /Pr/ | 9 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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| 2.22 | Miscarrige of pregnancy /Pr/ | 9 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
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| 2.23 | Miscarrige of pregnancy /Ss/ | 9 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.24 | Ante partum hemorrhage (Vasa previa, Placenta previa, Placental abruption) /Pr/ | 9 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.25 | Ante partum hemorrhage (Vasa previa, Placenta previa, Placental abruption) /Ss/ | 9 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.26 | Intrauterine infection (Maternal and perinatal infection: Chlamydia, Gonorrhea and syphilis in pregnancy viral) Chorionamnionitis /Pr/ | 9 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.27 | Intrauterine infection (Maternal and perinatal infection: Chlamydia, Gonorrhea and syphilis in pregnancy viral) Chorionamnionitis /Ss/ | 9 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.28 | Prolonged pregnancy /Pr/ | 9 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.29 | Prolonged pregnancy /Ss/ | 9 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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| 2.30 | Abnormalities of labor /Pr/ | 9 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.31 | Abnormalities of labor /Ss/ | 9 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.32 | Pregnancy and childbirth with breech presentation /Pr/ | 9 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.33 | Pregnancy and childbirth with breech presentation /Ss/ | 9 | 3 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.34 | Conference: Analysis of a clinical case /Pr/ | 9 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.35 | Practical skills (credit) /Pr/ | 9 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.36 | Report of pregnant woman. Test lesson /Pr/ | 9 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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| 2.36.1 | Control work /Control / | 9 | 0 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.36.2 | Credit with an assessment | 9 | 0 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.37 | Prolonged pregnancy /Lec/ | 10 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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| 2.38 | Pregnancy and childbirth with breech presentation /Lec/ | 10 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.39 | Multifetal pregnancy /Lec/ | 10 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.40 | Rh immunization. Hemolytic disease of the fetus /Lec/ | 10 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.41 | Congenital malformations of the fetus /Lec/ | 10 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.42 | Septic diseases of the postpartum period. Sepsis. Septic shock /Lec/ | 10 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.43 | Analysis of the medical history of labor scheme. Supervision of pregnant women /Pr/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.44 | Analysis of the medical history of labor scheme. Supervision of pregnant women /Ss/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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| 2.45 | Curation of pregnant patient /Pr/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.46 | Analyze the data. Examination of the pregnant woman /Ss/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.47 | Anatomical and clinical narrow pelvis. Fetal macrosomia. Prolonged pregnancy /Pr/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.48 | Anatomical and clinical narrow pelvis. Fetal macrosomia. Prolonged pregnancy /Ss/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.49 | Multifetal pregnancy /Pr/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.50 | Multifetal pregnancy /Ss/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.51 | Breech presentation of the fetus /Pr/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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| 2.52 | Breech presentation of the fetus /Ss/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.53 | Simulation Training (Breech presentation) /Pr/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.54 | Rh(±) and other blood group alloimmunizations /Pr/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.55 | Rh(±) and other blood group alloimmunizations /Ss/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.56 | Congenital malformations of the fetus /Pr/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.57 | Congenital malformations of the fetus /Ss/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.58 | Operative vaginal delivery: vacuum device or forceps /Pr/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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|------|--|----|---|--|----------------------------------|--|
| 2.59 | Operative vaginal delivery: vacuum device or forceps /Ss/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.60 | Simulation Training (Vacuum extraction, Obstetrical forceps) /Pr/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.61 | Septic diseases of the postpartum period: subinvolution of the uterus, postpartum endometritis. Postpartum mastitis. Sepsis. Septic shock /Pr/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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|------|--|----|---|--|----------------------------------|--|
| 2.62 | Septic diseases of the postpartum period: subinvolution of the uterus, postpartum endometritis. Postpartum mastitis. Sepsis. Septic shock /Ss/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.63 | Conference: Analysis of a clinical case /Pr/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.64 | Practical skills (credit) /Pr/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.65 | Analyze the data. Prepare of history of birth /Ss/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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|---|---|----|---|--|----------------------------------|--|
| 2.66 | Report of patient. Test lesson /Pr/ | 10 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.67 | Control work /Control / | 10 | 0 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 2.68 | Credit with an assessment | 10 | 0 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| Section 3. Emergency in obstetrics | | | | | | |
| 3.1 | Preeclampsia. Pathogenesis. Clinic Intensive care /Lec/ | 11 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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|-----|--|----|---|--|----------------------------------|--|
| 3.2 | Eclampsia. HELLP-Syndrome. Hepatosis /Lec/ | 11 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 3.3 | Premature birth. Modern guideline /Lec/ | 11 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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|-----|--|----|---|--|----------------------------------|--|
| 3.4 | Obstetrical haemorrhage during of pregnancy. Management. Obstetrical haemorrhage during of labor and postpartum haemorrhage. Management. /Lec/ | 11 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 3.5 | Breastfeeding. Postpartum contraception /Lec/ | 11 | 2 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 3.6 | Preeclampsia. Management of pregnancy and childbirth with severe forms of preeclampsia. /Pr/ | 11 | 6 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 3.7 | Preeclampsia. Management of pregnancy and childbirth with severe forms of preeclampsia. /Ss/ | 11 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 3.8 | Eclampsia. HELLP- Syndrome.Hepatosis /Pr/ | 11 | 6 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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|------|---|----|---|--|----------------------------------|--|
| 3.9 | Eclampsia. HELLP- Syndrome.Hepatitis /Ss/ | 11 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 3.10 | Premature birth /Pr/ | 11 | 6 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 3.11 | Premature birth /Ss/ | 11 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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|------|--|----|---|--|----------------------------------|--|
| 3.12 | Bleeding of the I and II stages of labor /Pr/ | 11 | 6 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 3.13 | Bleeding of the I and II stages of labor /Ss/ | 11 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 3.14 | Postpartum haemorrhage. Massive obstetric bleeding. Hemorrhagic shock. DIC syndrome /Pr/ | 11 | 6 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 3.15 | Postpartum haemorrhage. Massive obstetric bleeding. Hemorrhagic shock. DIC syndrome /Ss/ | 11 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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|------|--|----|---|--|----------------------------------|--|
| 3.16 | Obstructed labor. Shoulders dystocia /Ss/ | 11 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 3.17 | Pathology of the fetus and newborn. Birth traumatism. Fetal distress /Ss/ | 11 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 3.18 | Maternal birth injuries (Perineal tears, Rupture uterus, Cervical laceration) /Ss/ | 11 | 4 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 3.19 | Medication abortion. Abortion care guideline (WHS) /Ss/ | 11 | 3 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

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|------|--|----|----|--|----------------------------------|--|
| 3.20 | Conference: Analysis of a clinical case /Pr/ | 11 | 6 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 3.21 | Control work | 11 | 0 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |
| 3.22 | Exam /Exam/ | 11 | 27 | PC-1.1 PC-1.2 PC-3.1 PC-3.2 PC-3.4 PC-4.1 PC-4.2 PC-5.1 PC-5.2 PC-5.4 PC-8.2 | L1.1L2.1 E1 E2 E3 E4 E5 E6 | |

Otorhinolaryngology

P C-1: ability and readiness to implement a set of measures aimed at preserving and strengthening health and including the formation of a healthy lifestyle, prevention of the occurrence and (or) spread of diseases, their early diagnosis, identification of the causes and conditions of their occurrence and development, and also aimed at

eliminating the harmful effects of environmental factors on human health

1. COURSE OBJECTIVES

1.1 -formation of scientific knowledge in otorhinolaryngology and mastery of special methods for diagnosing and treating diseases of the ENT organs. A graduate of a medical university, as a result of basic general medical training in otorhinolaryngology, must have developed medical thinking, the ability to determine the patient's main pathological conditions, symptoms, disease syndromes, nosological forms, as well as the ability to determine tactics for managing patients with various nosological forms.

2. COURSE OVERVIEW

Course code **Б1.О.04**

(inccccccurr2.1:curriculu **Assumed background:**

2.1.1 Adaptive and age-related physiology

2.1.2 Normal physiology

2.1.3 Histology, embryology, cytology

2.1.4 Pathological anatomy

2.2 Post-requisite courses and practice:

2.2.1 Clinical pathological anatomy

2.2.2 Neurology, medical genetics, neurosurgery

2.2.3 Clinical pathophysiology

2.2.4 Ophthalmology

3. 3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

PC -1.1: Demonstrates knowledge of etiology, pathogenesis, diagnostic criteria (clinical subjective, physical, laboratory, instrumental), identifies the patient's main pathological conditions, symptoms, disease syndromes and diagnoses nosological forms in accordance with the International Statistical Classification of Diseases and Related Health Problems, X – XI revisions

PC-1.2: Conducts differential diagnostics, assesses the prognosis (short -, medium- and long-term) of the course of the disease, identifies acute complications and complications of chronic diseases

PC-3: is able to establish a diagnosis, determine the development of complications and take measures for the diagnosis and management of patients.

PC-3.1: Examines the patient (collects and analyzes the patient's complaints, his medical history, physical data based on the results of the examination, determines the necessary examination plan, evaluates the parameters of laboratory, instrumental, pathological-anatomical and other research methods for the purpose of diagnosing diseases, evaluates the prognosis (briefly -, medium-, long-term) its course and outcomes

PC-3.2: Formulates a preliminary and clinical diagnosis in accordance with the International Statistical Classification of Diseases and Related Health Problems X - XI revisions and current clinical classifications

PC -3.3: Conducts early and differential diagnosis of diseases

PC-3.4: Carries out routing and management of patients based on current legislation (standards, procedures for providing medical care, Clinical guidelines)

PC-5: readiness to collect and analyze the patient's complaints, his medical history, examination results, laboratory, instrumental, pathological-anatomical and other studies in order to recognize the condition or establish the presence or absence of the disease

PC-5.1: Demonstrates knowledge of the mechanisms of action, methods of application of pharmacotherapy, therapeutic nutrition, medical devices and methods of non-drug treatment, palliative and personalized medical care

PC-5.2: Provides treatment to various categories of patients with diseases on an outpatient basis, in hospitals and high-tech medical care centers (HTMC) with the use of drugs, medical devices and medical nutrition, taking into account the clinical picture, in accordance with current procedures, standards of medical care assistance, clinical recommendations (treatment protocols)

PC-5.4: Demonstrates knowledge of the side effects of drugs, methods of their administration, knowledge of the duration of their use and evaluates the effectiveness and safety of pharmacotherapy, nutritional therapy and the use of non-drug treatment, nutritional therapy for palliative care

PC-8: ability to determine tactics for managing patients with various nosological forms

PC-8.2: Maintains medical documentation, including in electronic form

By the end of the course students must:

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| 3.1 | know: |
| 3.1.1. | - aetiology, pathogenesis, diagnostic criteria (clinical - subjective, physical, laboratory, instrumental); the patient's main pathological conditions, symptoms, disease syndromes; |
| 3.1.2 | - mechanisms of action, methods of application of pharmacotherapy, medical nutrition, medical devices and methods of non-drug treatment, palliative and personalized medical care; |
| 3.1.3 | - side effects of drugs, methods of their administration, duration of their use and assessment of the effectiveness and safety of pharmacotherapy, medical nutrition and the use of non-drug treatment, medical nutrition of palliative medical care; |
| 3.2 | be able to: |
| 3.2.1 | - diagnose nosological forms in accordance with the International Statistical Classification of Diseases and Related Health Problems, X revisions |
| 3.2.2 | - assess morphofunctional, physiological states and pathological processes in the human body to solve professional problems. |
| 3.2.3 | - formulate a clinical diagnosis; develop a plan of therapeutic (surgical) actions, taking into account the course of the disease and its treatment; |
| 3.2.4 | - carry out differential diagnostics, assess the prognosis (short-, medium- and long-term) of the course of the disease, identify acute complications and complications of chronic diseases. |
| 3.2.5 | -formulate a preliminary and clinical diagnosis in accordance with the International Statistical Classification of Diseases and Related Health Problems, X revisions and current clinical classifications; |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term/Ac. year | Academic hours | Competences | Literature | Interactive | Notes |
|-------------------|---|----------------------|-----------------------|--|--|--------------------|--------------|
| 1. | The organization of otorhinolaryngology service in the health care system of the Russian Federation | 7 | 6 | PC-1 PC-1.1 PC-1.2 PC-3 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5 PC-5.1 PC 5.2 PC-5.4 PC-8 PC-8.2 | L1.1 L1.2 L1.3 L1.4 L2.1 L2.2 L2.3 L3.1 E1 L1.5 L1.6 L1.7. | | |

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| 2. | Clinical anatomy of ENT organs | 7 | 4 | PC-1 PC-1.1 PC-1.2 PC-3 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5 PC-5.1 PC 5.2 PC-5.4 PC-8 PC-8.2 | L1.1 L1.2 L1.3 L1.4 L2.1 L2.2 L2.3 L3.1 E1 L1.5 L1.6 L1.7. | | |
| 3. | Inflammatory diseases of the nose | 7 | 6 | PC-1 PC-1.1 PC-1.2 PC-3 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5 PC-5.1 PC 5.2 PC-5.4 PC-8 PC-8.2 | L1.1 L1.2 L1.3 L1.4 L2.1 L2.2 L2.3 L3.1 E1 L1.5 L1.6 L1.7. | | |
| 4. | Inflammatory diseases of the throat | 7 | 4 | PC-1 PC-1.1 PC-1.2 PC-3 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5 PC-5.1 PC 5.2 PC-5.4 PC-8 PC-8.2 | L1.1 L1.2 L1.3 L1.4 L2.1 L2.2 L2.3 L3.1 E1 L1.5 L1.6 L1.7. | | |
| 5. | Inflammatory diseases of the larynx | 7 | 6 | PC-1 PC-1.1 PC-1.2 PC-3 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5 PC-5.1 PC 5.2 PC-5.4 PC-8 PC-8.2 | L1.1 L1.2 L1.3 L1.4 L2.1 L2.2 L2.3 L3.1 E1 L1.5 L1.6 L1.7. | | |
| 6. | Inflammatory diseases of the ear | 7 | 6 | PC-1 PC-1.1 PC-1.2 PC-3 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5 PC-5.1 PC 5.2 PC-5.4 PC-8 PC-8.2 | L1.1 L1.2 L1.3 L1.4 L2.1 L2.2 L2.3 L3.1 E1 L1.5 L1.6 L1.7. | | |
| 7. | Relative deafness | 7 | 4 | PC-1 PC-1.1 PC-1.2 PC-3 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5 PC-5.1 PC 5.2 PC-5.4 PC-8 PC-8.2 | L1.1 L1.2 L1.3 L1.4 L2.1 L2.2 L2.3 L3.1 E1 L1.5 L1.6 L1.7. | | |
| 8. | Tumours of ENT organs | 7 | 6 | PC-1 PC-1.1 PC-1.2 PC-3 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5 PC-5.1 PC 5.2 PC-5.4 PC-8 PC-8.2 | L1.1 L1.2 L1.3 L1.4 L2.1 L2.2 L2.3 L3.1 E1 L1.5 L1.6 L1.7. | | |
| 9. | Injuries of ENT organs | 7 | 4 | PC-1 PC-1.1 PC-1.2 PC-3 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5 PC-5.1 PC 5.2 PC-5.4 PC-8 PC-8.2 | L1.1 L1.2 L1.3 L1.4 L2.1 L2.2 L2.3 L3.1 E1 L1.5 L1.6 L1.7. | | |

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| 10. | Anomalies of development of ENT organs | 7 | 6 | PC-1 PC-1.1 PC-1.2 PC-3 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5 PC-5.1 PC 5.2 PC-5.4 PC-8 PC-8.2 | L1.1 L1.2 L1.3 L1.4 L2.1 L2.2 L2.3 L3.1 E1 L1.5 L1.6 L1.7. | | |
| 11. | Audiology | 7 | 4 | PC-1 PC-1.1 PC-1.2 PC-3 PC-3.1 PC-3.2 | L1.1 L1.2 L1.3 L1.4 | | |

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| | | | | PC-3.3 PC-3.4 PC-5 PC-5.1 PC 5.2 PC-5.4 PC-8 PC-8.2 | L2.1 L2.2 L2.3 L3.1 E1 L1.5 L1.6 L1.7. | | |
| 12. | Otoneurology | 7 | 6 | PC-1 PC-1.1 PC-1.2 PC-3 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5 PC-5.1 PC 5.2 PC-5.4 PC-8 PC-8.2 | L1.1 L1.2 L1.3 L1.4 L2.1 L2.2 L2.3 L3.1 E1 L1.5 L1.6 L1.7. | | |
| 13. | Industrial diseases | 7 | 4 | PC-1 PC-1.1 PC-1.2 PC-3 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5 PC-5.1 PC 5.2 PC-5.4 PC-8 PC-8.2 | L1.1 L1.2 L1.3 L1.4 L2.1 L2.2 L2.3 L3.1 E1 L1.5 L1.6 L1.7. | | |
| 14. | Phoniatrics | 7 | 6 | PC-1 PC-1.1 PC-1.2 PC-3 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5 PC-5.1 PC 5.2 PC-5.4 PC-8 PC-8.2 | L1.1 L1.2 L1.3 L1.4 L2.1 L2.2 L2.3 L3.1 E1 L1.5 L1.6 L1.7. | | |
| 15 | Control work /Control / | 7 | 0 | PC-1 PC-1.1 PC-1.2 PC-3 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5 PC-5.1 PC 5.2 PC-5.4 PC-8 PC-8.2 | L1.1 L1.2 L1.3 L1.4 L2.1 L2.2 L2.3 L3.1 E1 L1.5 L1.6 L1.7. | | Control work |
| 16. | Exam | 7 | 36 | PC-1 PC-1.1 PC-1.2 PC-3 PC-3.1 PC-3.2 PC-3.3 PC-3.4 PC-5 PC-5.1 PC 5.2 PC-5.4 PC-8 PC-8.2 | L1.1 L1.2 L1.3 L1.4 L2.1 L2.2 L2.3 L3.1 E1 L1.5 L1.6 L1.7. | | Exam |

Fundamentals of project activities in healthcare

| 1. COURSE OBJECTIVES | |
|----------------------|--|
| 1.1 | The aim of the course Pathologic Syndromes in Clinical Medicine is to study the pathogenetic mechanisms of various extreme conditions, etiology and clinical manifestations. The comparison of the pathogenic and clinical manifestations at all stages allows developing students' abilities of clinical and pathogenetic analysis. |

| | |
|-----|---|
| 1.2 | The course is based on the achievements of medicine, biology, genetics, immunology, chemistry and physics, as well as modern pathogenetic mechanisms. |
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| 2. COURSE OVERVIEW | |
|---|-------------------------------------|
| Course code (in curriculum) | Б1.О.ДВ.01 |
| 2.1 Assumed background: | |
| | Anatomy |
| | Chemistry |
| | Biology |
| | Microbiology, Virology |
| | Hominal Physiology |
| | Biochemistry |
| 2.2 Post-requisite courses and practice: | |
| | Department of Internal Medicine |
| | Faculty Surgery |
| | Obstetrics |
| | Gynecology |
| | Hospital Surgery, Pediatric Surgery |
| | Occupational diseases |
| | Urology |
| | Oncology, radiation therapy |
| | Traumatology and Orthopedics |
| | Hospital Therapy |
| | Endocrinology |

| 3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE) | |
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| GPC-5.6. | Demonstrates knowledge and skills to identify: the structure of the human body, morphological macro- and microscopic parameters in pathology; diagnose criteria of general pathological pathophysiological processes in various nosologies; on the basis |
| GPC-5.8. | Demonstrates understanding of mechanisms of development of general pathological processes, knowledge of issues of pathogenesis of various human diseases and pathological conditions, ability to identify the leading links of pathogenesis in their |
| GPC-5.9. | Demonstrates knowledge of the theoretical foundations of immunology and allergology, understanding of immune defense mechanisms, types of immunological reactions and their role in the pathogenesis of human disease; |
| GPC-5.10. | Demonstrates knowledge of the etiology and pathogenesis of diseases, which is necessary to assess physiological state and pathological processes in order to diagnose treatment and prevention of diseases. |

By the end of the course students must:

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| 3.1 know: | |
| | terms used in the course of the studied discipline; |
| | methods of pathogenetic research; |
| | the importance of the discipline for the development of medicine and public health and its relationship with other biomedical and medical disciplines; |
| | the general patterns of development and manifestations of various pathological reactions, processes, conditions and diseases; |
| | the mechanisms of developing pathological systems and violations of the information process when exposed to various pathological agents. |
| 3.2 be able to: | |

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| | analyze pathological processes and individual diseases at different structural and morphofunctional levels; |
| | draw clinical and pathogenetic parallels of the common pathological syndromes; |
| | carry out pathophysiological analysis of clinical and laboratory, experimental and other data and to formulate a conclusion on their basis on the possible causes and mechanisms of pathological processes (diseases); |
| | carry out differentiated diagnostics of pathological conditions on the basis of pathogenesis mapping; |
| | substantiate the pathogenetic approach to the treatment of pathological process (disease); |
| | analyze the role of causes, conditions, reactivity of the body, development and completion (outcome) of diseases; |
| | analyze the etiology, pathogenesis, manifestations and outcomes of the most common forms of pathology of the organs and physiological systems, the principles of their etiological and pathogenetic therapy. |

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

| Class Code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Notes |
|------------|---|----------------------|----------------|---|---|-------|
| | Section1. | | | | | |
| 1.1 | Anaemic syndrome. Blood loss. Hypoxia and acid - base disorder /Lec/ | 7 | 2 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.2 | Respiratory distress syndrome of adults and newborns. Respiratory obstruction syndrome. Chronic Obstructive Pulmonary Disease. Bronchial asthma /Lec/ | 7 | 2 | GPC-5.6 . GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.3 | Thrombohemorrhagic syndrome. Disseminated intravascular coagulation syndrome. Deep vein thrombosis and pulmonary embolism /Lec/ | 7 | 2 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.4 | Systemic inflammatory response syndrome. Multiple organ failure syndrome /Lec/ | 7 | 2 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.5 | Syndrome of ischemic and perfusion damage to the brain, myocardium /Lec/ | 7 | 2 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.6 | Hypertensive syndrome /Lec/ | 7 | 2 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.7 | Symptoms of heart rhythm disorders (arrhythmia) /Lec/ | 7 | 2 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.8 | Acute and chronic pancreatitis /Lec/ | 7 | 2 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |

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| 1.9 | Anaemic syndrome. Blood loss. Hypoxia and acid - base disorder /Pr/ | 7 | 4 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.10 | Respiratory distress syndrome of adults and newborns. Respiratory obstruction syndrome. Obstructive Pulmonary Disease. Bronchial asthma /Pr/ | 7 | 4 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.11 | Thrombohemorrhagic syndrome. Disseminated intravascular coagulation syndrome Deep vein thrombosis and pulmonary /Pr/ | 7 | 4 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.12 | Systemic inflammatory response syndrome. Multiple organ failure syndrome /Pr/ | 7 | 4 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.13 | Syndrome of ischemic and perfusion damage to the brain, myocardium. /Pr/ | 7 | 4 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |

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| 1.14 | Symptoms of heart rhythm disorders (arrhythmia) /Pr/ | 7 | 3 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.15 | Hypertensive syndrome /Pr/ | 7 | 3 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.16 | Acute and chronic pancreatitis /Pr/ | 7 | 3 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.17 | Final lesson (Test) /Pr/ | 7 | 3 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.18 | Anaemic syndrome. Blood loss. Hypoxia and acid - base disorder. /Self-study/ | 7 | 3 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.19 | Respiratory distress syndrome of adults and newborns. Respiratory obstruction syndrome. Bronchial asthma /Self-study/ | 7 | 3 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.20 | Thrombohemorrhagic syndrome. Disseminated intravascular coagulation syndrome Deep vein thrombosis and pulmonary embolism /Self-study/ | 7 | 3 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |

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| 1.21 | Systemic inflammatory response syndrome. Multiple organ failure syndrome /Self-study/ | 7 | 3 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.22 | Syndrome of ischemic and perfusion damage to the brain, myocardium /Self- study/ | 7 | 3 | GPC-5.6 . GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.23 | Hypertensive syndrome /Self-study/ | 7 | 3 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.24 | Symptoms of heart rhythm disorders (arrhythmia) /Self-study/ | 7 | 3 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.25 | Acute and chronic pancreatitis /Selfstudy/ | 7 | 3 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |
| 1.26 | Control work /Control / | 7 | 0 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | Control work |
| 1.27 | Credit | 7 | 0 | GPC-5.6. GPC-5.8. GPC-5.9. GPC-5.10 | L 1.1., L 1.2., L1.3. E1 E2 E3 E4 | |

Pediatrics

1. OBJECTIVES OF MASTERING THE DISCIPLINE

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| 1.1 | The aims of the discipline are: to study the basics of physical and neuropsychic development of children and their deviations in children of different ages, anatomical and physiological features and methods of research of organs and body systems of children of different age groups, to study the basics of childhood diseases, diagnosis, treatment and prevention of the most common diseases of childhood, including urgent issues conditions and childhood infections. |
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2. PLACE OF THE DISCIPLINE IN THE STRUCTURE OF OOP

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| Cycle (section) OOP: | Б1.О.04 |
| 2.1 | Requirements for preliminary training of a student: |

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| 2.1.1 | Radiation diagnostics |
| 2.1.2 | Pathological anatomy |
| 2.1.3 | Pathophysiology |
| 2.1.4 | Propaedeutics of internal diseases |
| 2.1.5 | Pharmacology |
| 2.1.6 | Biochemistry |
| 2.1.7 | Microbiology, virology |
| 2.1.8 | Normal physiology |
| 2.1.9 | Human Anatomy |
| 2.1.10 | Histology, Embryology, Cytology |
| 2.1.11 | Biology |
| 2.1.12 | Nursing. Theoretical foundations of studying patient care |
| 2.1.13 | Chemistry |
| 2.2 | Disciplines and practices for which the development of this discipline (module) is necessary as a preliminary: |
| 2.2.1 | Faculty therapy |
| 2.2.2 | Hospital therapy |

3. STUDENT'S COMPETENCIES FORMED AS A RESULT OF MASTERING THE DISCIPLINE (MODULE)

PC-1.1: Demonstrates knowledge of the etiology, pathogenesis, diagnostic criteria (clinical – subjective, physical, laboratory, instrumental) determines the patient's main pathological conditions, symptoms, syndromes of diseases and diagnoses nosological forms in accordance with the International Statistical Classification of Diseases and Health-related Problems, X-XI revisions of

PC-1.2: Performs differential diagnostics, evaluates the prognosis (short-, medium - and long-term) of the course of the disease, identifies acute and chronic complications

PC-2.1: Evaluates the patient's condition that requires urgent or emergency medical care, diagnoses a condition that poses a threat to the patient's life, including the state of clinical death of PC-2.1: Evaluates the patient's condition that requires emergency or emergency medical care, diagnoses a condition that poses a threat to the patient's life, including the state of

PC -3.1: Examines the patient (collects and analyzes the patient's complaints, medical history, physical data based on the clinical death results of the examination, determines the necessary examination plan, evaluates the parameters of laboratory, instrumental, patho-anatomical and other research methods for the diagnosis of diseases, evaluates the prognosis (short -, medium -, long-term) of its course and outcomes

PC -3.2: Formulates a preliminary and clinical diagnosis in accordance with the International Statistical Classification of Diseases and Health Problems X-XI current clinical classifications

PC-3.3: Performs early and differential diagnosis of diseases

PC-3.4: Performs routing and management of patients based on current legislation (standards, procedures for providing medical care, Clinical recommendations)

PC-5.2: Provides treatment for various categories of patients with diseases on an outpatient basis, in hospitals and high-tech medical care centers (HMP) using medicines, medical devices and therapeutic nutrition, taking into account the clinical picture, in accordance with current procedures, standards of medical care, and clinical recommendations (treatment protocols)

PC-7.2: Organizes and controls the implementation of immunoprophylaxis of infectious diseases in the adult population in accordance with the current procedures for providing medical care, clinical recommendations (treatment protocols) on the provision of medical care, taking into account the standards of medical care, and determine medical indications for the introduction of restrictive measures (quarantine) and indications for referral to a specialist doctor in the event of infectious (parasitic) diseases

PC-8.2: Maintains medical documentation, including in electronic form

As a result of mastering the discipline, the student should

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| 3.1 | Knowledge: |
| 3.1.1 | -theoretical foundations of the chosen specialty; |
| 3.1.2 | -legal issues in pediatrics; |
| 3.1.33 | -modern methods of supporting and stimulating breastfeeding, modern methods of basic care for newborns, indications and contraindications to vaccination, national vaccination calendar; |
| 3.1.4 | -clinical picture, functional and laboratory diagnostics of disorders and diseases characteristic of children, methods of their treatment and prevention; |
| 3.1.55 | -clinical and pharmacological justification of the use of medicines in the treatment of children; |
| 3.1.6 | -modern methods of intensive care for various diseases and critical conditions in pediatrics. |
| 3.2 | Abilities: |
| 3.2.1 | -predict and implement measures to improve the child's health status. |
| 3.2.2 | - conduct an objective examination of the child. |
| 3.2.3 | -assess the severity of the child's condition. |
| 3.2.4 | -provide the necessary emergency care. |
| 3.2.5 | -determine the need for additional tests (laboratory, radiological, functional, etc.) and interpret their results. |
| 3.2.6 | -establish a diagnosis. |
| 3.2.7 | -justify the scheme, plan and tactics of management and treatment of the child. |
| 3.2.8 | -carry out the necessary medical and preventive measures. |
| 3.2.9 | -use medical and diagnostic equipment. |
| 3.2.10 | -draw up medical documentation. |
| 3.3 | Skills: |
| 3.3.1 | - the appointment and calculation of the diet for children. |
| 3.3.2 | - the distribution of patients according to the appropriate health groups. |
| 3.3.3 | - carrying out diagnostic and therapeutic measures for the treatment of various diseases in accordance with the standards of medical care for children. |
| 3.3.4 | - preparation of medical documentation, preparation of plans and reports. |
| 3.3.5 | - the use of drug therapy for local and general effects. |
| 3.3.6 | - computer skills. |

4. STRUCTURE AND CONTENT OF THE DISCIPLINE (MODULE)

| Class code | Topics / Class type | Term / Academic year | Academic hours | Competencies- of Competence | Literature | Note |
|------------|---|----------------------|----------------|-----------------------------|---------------------------------|------|
| | Section 1.1.1 | | | | | |
| 1.1 | Physical and neuropsychic development of children of different ages. Semiotics of deviations in the physical and neuropsychic development of children of different ages. / Lek/ | 7 | 2 | PC – 1, PC – 2 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |

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| 1.2 | Physical development of children of different ages. Semiotics of deviations in the physical development of children of different ages /Pr/ | 7 | 4 | PC – 7, PC - 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 1.3 | Features of physical development of children in the North / S.w./ | 7 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| | Section 2.2.1 | | | | | |
| 2.1 | Neuropsychic development of children of different ages. Semiotics of deviations of neuropsychic development of children of different ages /Pr/ | 7 | 4 | PC – 1, PC – 2 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |

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| 2.2 | Features of neuropsychic development of children in the conditions of the North / S.w./ | 7 | 4 | PC – 7, PC - 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| | Section 3.3.1 | | | | | |
| 3.1 | Anatomical and physiological features of the skin and subcutaneous fat in children. Semiotics of skin and subcutaneous fat lesions in children / Lek / | 7 | 2 | PC – 1, PC – 2 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 3.2 | Anatomical and physiological features of the skin and subcutaneous fat in children. Semiotics of skin and subcutaneous fat lesions in children /Pr/ | 7 | 4 | PC – 7, PC - 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 3.3 | Features of the skin and subcutaneous fat of children in the North / S.w./ | 7 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| | Section 4.4.1 | | | | | |
| 4.1 | Anatomical and physiological features of the musculoskeletal system in children. Rickets in children. Rickets -like diseases. Hypervitaminosis D /Lek/ | 7 | 2 | PC – 7, PC - 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 4.2 | Anatomical and physiological features of the musculoskeletal system in children. Rickets in children. Rickets -like diseases. Hypervitaminosis D /Pr/ | 7 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 4.3 | Features of the musculoskeletal system of children in the conditions of the North / S.w./ | 7 | 4 | PC – 1, PC – 2 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| | Section 5.5.1 | | | | | |
| 5.1 | Anatomical and physiological features of respiratory organs in children. Acute respiratory diseases in children. / Lek/ | 7 | 2 | PC – 7, PC - 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 5.2 | Anatomical and physiological features of respiratory organs in children /Pr/ | 7 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 5.3 | Features of respiratory organs y in children in the North / S.w./ | 7 | 4 | PC – 7, PC - 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| | Section 6.6.1 | | | | | |

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| 6.1 | Acute respiratory diseases in children (rhinitis, pharyngitis, laryngitis, tracheitis, bronchitis, bronchiolitis) /Pr/ | 7 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 6.2 | On the severity of the etiology of acute respiratory diseases in children in the North/ S.w./ | 7 | 4 | PC – 1, PC – 2 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| Section 7.7.1 | | | | | | |
| 7.1 | Pneumonia in children. /Lek/ | 7 | 2 | PC – 1, PC – 2 | C. – 1,2,3,4. S – | |
| 7.2 | Pneumonia in children. /Pr/ | 7 | 4 | PC – 7, PC – 8 | 1C. ,2. M – 1,2,3,4. S 1,2. – 1,2. M – 1,2. | |
| 7.3 | Features of the etiology of pneumonia in children in the North/ S.w./ | 7 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| Section 8.8.1 | | | | | | |
| 8.1 | Chronic and recurrent non-specific respiratory diseases in children (recurrent bronchitis, chronic bronchitis). Congenital and hereditary lung diseases /Pr/ | 7 | 4 | PC – 1, PC – 2 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |

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| 8.2 | Features of the etiology of chronic of chronic and recurrent non-specific заболеваний respiratory diseases in children in the North / S.w./ | 7 | 4 | PC – 7, PC – 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| Section 9.9.1 | | | | | | |
| 9.1 | Allergic diseases in children (atopic dermatitis, allergic rhinitis). Bronchial asthma in children /Lek/ | 7 | 2 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 9.2 | Allergic diseases in children (atopic dermatitis, allergic rhinitis). Bronchial asthma in children /Pr/ | 7 | 4 | PC – 7, PC – 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 9.3 | Features of allergic diseases in children in the North / S.w./ | 7 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| Section 10.10.1 | | | | | | |
| 10.1 | Anatomical and physiological features of the cardiovascular system in children. Congenital heart defects. /Lek/ | 7 | 2 | PC – 1, PC – 2 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 10.2 | Anatomical and physiological features of the organs of the cardiovascular system in children /Pr/ | 7 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 10.3 | Features of the cardiovascular system in children in the North / S.w./ | 7 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| Section 11.11.1 | | | | | | |
| 11.1 | Congenital heart defects /Pr/ | 7 | 4 | PC – 7, PC – 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 11.2 | Modern methods of surgical treatment of congenital heart defects in children/ S.w./ | 7 | 4 | PC – 1, PC – 2 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| Section 12.12.1 | | | | | | |
| 12.1 | Rheumatism in children. Non-rheumatic arthritis in children. Acquired heart defects in children /Lek / | 7 | 2 | PC – 7, PC – 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |

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| 12.2 | Rheumatism in children. Acquired heart defects in children. /Pr/ | 7 | 4 | PC – 1, PC – 2 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 12.3 | Features of rheumatism in children in the North / S.w./ | 7 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| | Section 13.13.1 Non- | | | | | |
| 13.1 | Rheumatic carditis in children. Arthritis in children (infectious and reactive). /Pr/ | 7 | 4 | PC – 1, PC – 2 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 13.2 | Features of non-rheumatic carditis in children in the North / S.w./ | 7 | 4 | PC – 7, PC – 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| | Section 14.14.1 | | | | | |
| 14.1 | Chronic arthritis in children. /Pr/ | 7 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 14.2 | Features of chronic arthritis in children in the North / S.w./ | 7 | 4 | PC – 1, PC – 2 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 14.3 | / Control work. / | 7 | 12 | PC – 1, PC – 2, PC – 3, PC – 5, PC – 7, PC – 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | Control work. |
| 14.4 | /Credit/ | 7 | 4 | PC – 1, PC – 2, PC – 3, PC – 5, PC – 7, PC – 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | Oral answer, tests |
| | Section 15.15.1 | | | | | |
| 15.1 | Anatomical and physiological features of the digestive system in children. Feeding children under 1 year of age and older. /Lek/ | 8 | 2 | PC – 1, PC – 2 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |

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| 15.2 | Anatomical and physiological features of the digestive system in children. Feeding children under 1 year and older /Pr/ | 8 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 15.3 | Features of nutrition in children in the North / S.w./ | 8 | 2 | PC – 7, PC – 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| | Section 16.16.1 | | | | | |
| 16.1 | Diseases of the gastrointestinal tract in young children /Pr/ | 8 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| | Section 17.17.1 | | | | | |
| 17.1 | Gastritis, gastric ulcer in children. Cholepathy in children. /Lek/ | 8 | 2 | PC – 7, PC – 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 17.2 | Gastritis, gastric ulcer in children /Pr/ | 8 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 17.3 | Features of diseases of the digestive system in children in the North / S.w./ | 8 | 2 | PC – 1, PC – 2 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| | Section 18.18.1 | | | | | |
| 18.1 | Cholepathy in children. Chronic inflammatory bowel diseases in children | 8 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| | Section 19. | | | | | |
| 19.1 | Infectious 19.19.1 Infectious diseases in pediatrics /Lek/ | 8 | 2 | PC – 7, PC – 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 19.2 | Intestinal infections in children /Pr/ | 8 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |

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| 19.3 | Features of intestinal infections in children in the North / S.w./ | 8 | 2 | PC – 7, PC - 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| | Section 20.20 | | | | | |
| .1 | Airborne infections in children. Differential diagnosis of infectious rashes in children /Pr/ | 8 | 4 | PC – 1, PC – 2 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| | Section 21.21.1 | | | | | |
| 21.1 | Anatomical and physiological features of the digestive system in children. Microbial-inflammatory diseases of the urinary tract in childhood /Lek/ | 8 | 2 | PC – 7, PC - 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 21.2 | Anatomical and physiological features of the digestive system in children. Microbial-inflammatory diseases of the urinary tract in childhood /Pr/ | 8 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 21.3 | Features of urinary organs in children in the North / S.w./ | 8 | 2 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| | Section 22.22.1 | | | | | |
| 22.1 | Acute and chronic glomerulonephritis in children /Lek/ | 8 | 2 | PC – 7, PC - 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 22.2 | Acute glomerulonephritis for children /Pr/ | 8 | 4 | PC – 1, PC – 2 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 22.3 | Features of urinary tract diseases in children in the North / S.w./ | 8 | 2 | PC – 1, PC – 2 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| | Section 23.23.1 | | | | | |
| 23.1 | Chronic glomerulonephritis in children /Pr/ | 8 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| | Section 24.24.1 | | | | | |
| 24.1 | Anatomical and physiological features of the hematopoietic and blood system in children. Hematology in pediatrics /Lek/ | 8 | 2 | PC – 7, PC - 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 24.2 | Anatomical and physiological features of the system of hematopoietic organs and blood in children. Anemia in children /Pr/ | 8 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 24.3 | Features of functioning of hematopoietic organs in children in the conditions of the North / S.w./ | 8 | 2 | PC – 7, PC - 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| | Section 25.25.1 | | | | | |
| 25.1 | Hemorrhagic diatheses in children. Leukemia's in children /Pr/ | 8 | 4 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| | Section 26.26.1 | | | | | |
| 26.1 | Anatomical and physiological features of endocrine system organs in children. Diabetes mellitus in children /Lek/ | 8 | 2 | PC – 1, PC – 2 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 26.2 | Anatomical and physiological features of endocrine system organs in children. Diabetes mellitus in children /Pr/ | 8 | 4 | PC – 7, PC - 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 26.3 | Features of the endocrine system in children in the North / S.w./ | 8 | 2 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| | Section 27.27.1 | | | | | |

| | | | | | | |
|------------------------|---|---|----|--|---------------------------------|---------------|
| 27.1 | Acute allergic reactions and emergency conditions in pediatrics /Lek/ | 8 | 2 | PC – 3, PC – 5 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 27.2 | Acute allergic reactions in children (urticaria, angioedema, anaphylactic shock, toxic epidermal necrolysis) /Pr/ | 8 | 4 | PC – 7, PC – 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 27.3 | Features of providing care for allergic reactions in young children / S.w./ | 8 | 2 | PC – 1, PC – 2 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| Section 28.28.1 | | | | | | |
| 28.1 | Emergency conditions in pediatrics (fever/hyperthermia, convulsive syndrome, toxicosis in children) /Pr/ | 8 | 4 | PC – 7, PC – 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | |
| 28.2 | / Control work / | 8 | 12 | PC – 1, PC – 2, PC – 3, PC – 5, PC – 7, PC – 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | Control work. |
| 28.3 | /Credit with an assessment / | 8 | 8 | PC – 1, PC – 2, PC – 3, PC – 5, PC – 7, PC – 8 | C. – 1,2,3,4. S – 1,2. M – 1,2. | Oral answer |

Topographic Anatomy, Operative Surgery

1. COURSE OBJECTIVES

| | |
|-----|---|
| 1.1 | The aim of Topographic Anatomy, Operative Surgery is to study the applied issues of the mutual arrangement of organs and tissues in various areas of the human body, as well as the basics of surgical operations, which ensures the continuity of teaching general theoretical and clinical disciplines. As a result of the training, students acquire specific topographic and anatomical knowledge necessary to justify the diagnosis, understand the pathogenesis of the disease, possible complications, mechanisms of development, compensatory processes, as well as the choice of the most rational methods of surgical treatment. |
| 1.2 | The task of topographic anatomy, operative surgery: to give the basic concepts about the subject: the area and its boundaries, external and internal landmarks, the projection of anatomical formations on the skin integuments, their holotopy, syntopia, skeletotopy, fascial vaginas, cellular spaces, collateral blood circulation, etc. In addition, the tasks of the study include the study of individual anatomical variability, age-related structural features, topography of organs and systems. |

2. COURSE OVERVIEW

| | |
|---|---|
| Course code (in curriculum) | Б1.О.04.13 |
| 2.1 Assumed background: | |
| 2.1.1 | Histology, Embryology, Cytology |
| 2.1.2 | Human Anatomy |
| 2.2 Post-requisite courses and practice: | |
| 2.2.1 | Neurology, Medical genetics, Neurosurgery |
| 2.2.2 | Gynecology |
| 2.2.3 | Faculty Therapy |
| 2.2.4 | Faculty Surgery |

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

GPC-5.1: Knows the histological structure of organ tissues - knows how to differentiate them microscopically; the anatomy of the human body - the macroscopic structure and topography of organs and body parts; human physiology - the mechanisms of homeostasis regulation and the functional systems of the body in the normal condition

4. STRUCTURE AND CONTENT OF THE DISCIPLINE (MODULE)

| Class Code | Topics /Class type | Term / Academic year | Academic hours | Competences | Literature | Notes |
|--|--|-----------------------------|-----------------------|--------------------|-------------------------|--------------|
| Section 1. Introduction | | | | | | |
| 1.1 | Introductory lecture. The subject, the tasks of Topographic Anatomy. Subject, tasks of Operative Surgery. /Lecture/ | 6 | 2 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | |
| 1.2 | Introductory class. The contribution of Russian scientists to the development of the discipline. Basic concepts of Topographic Anatomy (boundaries of regions, landmarks, projections, holotomy, skeletotomy, syntopy of organs). Basic concepts and definitions of Operative Surgery. Classification of operations. Surgical instruments and their classification. The technique of separation and connection of tissues. Prevention of bleeding in the wound and throughout. Primary, secondary and delayed suture. /Practical classes/ | 6 | 6 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | |
| 1.3 | Writing an /Self-study/ | 6 | 2 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | |
| Section 2. Topographic Anatomy and Operative Surgery of the extremities | | | | | | |
| 2.1 | Topographic Anatomy of the upper limb, the main ways of spreading of purulent processes on the upper limb. Surgical treatment of purulent processes on the upper limb. Topographic Anatomy of fascia and cellular spaces of the lower limb. Ways of spreading of purulent processes on the lower limb. /Lecture/ | 6 | 4 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | |
| 2.2 | Topographic Anatomy of the upper limb. Subclavian region, deltoid region: external landmarks, borders, layers, fascia and cellular spaces. Neurovascular formations. Shoulder: borders, anteromedial surface, projection of the brachial artery, layers. Topography of neurovascular formations in the upper, middle and lower third. The forearm area. Projection of the median nerve, radial and ulnar arteries. Layers, fascial beds, muscle layers. Topography of neurovascular formations in the upper, middle and lower third. The palm surface of the hand. Topographic Anatomy of the lower limb: gluteal region, hip, knee area. External landmarks, borders. Projections of blood vessels and nerves. Layers, fascia, cellular spaces. Skarpovsky triangle, Gunterov Canal. Femoral canal. Topographical Anatomy of the lower leg and foot (channels). /Practical classes/ | 6 | 6 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | |

| | | | | | | |
|-----|---|---|---|--------------------|-------------------------|--|
| 2.3 | Surgical interventions on blood vessels. Vascular suture technique. Plastic surgery, bypass surgery. Operations on peripheral nerve trunks, muscles, tendons, bones. Amputations of limbs. Exarticulations of the extremities /Lecture/ | 6 | 2 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | |
|-----|---|---|---|--------------------|-------------------------|--|

GPC-5.6: Knows the structure of the human body, morphological macro- and microscopic parameters in health and in pathology, criteria for general pathological pathophysiological processes in various nosologies, knows how to differentiate them macro- and microscopically, has skills to solve problems of operative surgery on the basis of knowledge of topographic anatomy

By the end of the course students must:

| | | | | | | |
|------------|---|--|--|--|--|--|
| 3.1 | know: | | | | | |
| 3.1.1 | the structure, topography and development of cells, tissues, organs and systems of the body in interaction with their function in norm and pathology, features of the organizational and population levels of the organization of life; | | | | | |
| 3.1.2 | anatomical and physiological, age-sexual and individual features of the structure and development of a healthy and sick organism; | | | | | |
| 3.1.3 | functional systems of human organism, their regulation and self-regulation when exposed to the external environment in normal and pathological conditions | | | | | |
| 3.2 | be able to: | | | | | |
| 3.2.1 | palpate the main bone landmarks on a person; | | | | | |
| 3.2.2 | outline the topographic contours of the organs and the main vascular and nerve trunks; | | | | | |
| 3.2.3 | explain the nature of deviations in the course of development that can lead to the formation of variants of anomalies and defects | | | | | |
| 3.3 | have skills of: | | | | | |
| 3.3.1 | medical and anatomical conceptual apparatus; | | | | | |
| 3.3.2 | the simplest medical instruments (phonendoscope, spatula, neurological hammer, scalpel, tweezers, probe, clamp, expander, etc.) | | | | | |

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| 2.4 | Technique of vascular suture and seamless connection of arteries. Operations for varicose veins. Nerve operations: accesses, neurolysis, nerve suture, plastic surgery and displacement. Sutures of tendons. Primary surgical treatment of wounds of the upper and lower extremities. Surgical treatment of abscesses and phlegmon of various levels of the limb, opening of panaritria and phlegmon of the hand. Amputation of limbs at various levels, general rules. Primary and secondary indications, reamputation. Methods of amputation. Exarticulation in the interphalangeal and metacarpophalangeal joints. Separation of the foot in the joints, arthrotomy /Practical classes/ | 6 | 4 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | |
| 2.5 | Preparation for the oral survey. Writing research papers. / Self-study / | 6 | 4 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | |

Section 3. Topographic Anatomy and operative head surgery

| | | | | | | |
|-----|---|---|---|--------------------|-------------------------|--|
| 3.1 | Surgical anatomy of the head. Principles of operations on the skull. /Lecture/ | 6 | 2 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | |
| 3.2 | Topographic anatomy of the cerebral part of the head. Veins of the head. The Krenlein diagram. Topographic Anatomy of the facial part of the head. Lateral, parotidchewing areas, deep facial area. /Practical classes/ | 6 | 8 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | |
| 3.3 | Types of operations on the cerebral part of the head, their anatomical and physiological justification. Decompressive trepanation of the skull, bone-plastic trepanation. /Practical classes/ | 6 | 6 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | |
| 3.4 | Preparation for the oral quiz. Writing research papers. / Self-study / | 6 | 5 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | |

Section 4. Topographic Anatomy and operative neck surgery

| | | | | | | |
|-----|--|---|---|--------------------|-------------------------|--|
| 4.1 | Topographic and anatomical features of the neck and its organs. Topographic and anatomical justification of surgical interventions on the neck /Lecture/ | 6 | 2 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | |
| 4.2 | Topographic anatomy of the neck. Borders, division into regions. Neck triangles. Fascia of the neck. Cellular spaces, their connection with the cellular spaces of the head, chest and upper limb. Neck surgery. Incisions with ulcers. Tracheostomy technique. Operations on the thyroid gland. /Practical classes/ | 6 | 6 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | |
| 4.3 | Preparation for the oral survey. Writing research papers. / Self-study / | 6 | 1 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | |

Section 5. Topographic Anatomy and operative chest surgery

| | | | | | | |
|-----|--|---|---|--------------------|-------------------------|--|
| 5.1 | Topographic anatomy of the chest and mediastinum. /Lecture/ | 6 | 2 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | |
| 5.2 | Operations on the chest wall and organs of the chest cavity. /Lecture/ | 6 | 2 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | |

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|---|---|---|---|--------------------|-------------------------|--------------------------------------|
| 5.3 | Topographic anatomy of the breast. Chest wall (layers), the structure of the intercostal space. Thoracic gland, lymphatic outflow. Lung topography, borders, surfaces, syntopy. Division of the bronchi, lobes, zones, segments. Lung root, composition, syntopia. Topographic anatomy of the mediastinum. Boundaries and division into sections, fascia and cellular gaps. Topography of the heart, position, borders, valves, blood supply and venous outflow. Topography of the aorta and esophagus, interrelation, skeletotopy. The course of the vagus, diaphragmatic nerve and sympathetic trunk in the mediastinum. Surgical interventions on the organs of the chest and mediastinum. Operations: puncture of the pleural cavity and drainage. Operation: pericardial puncture. /Practical classes/ | 6 | 4 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | |
| 5.4 | Preparation for the oral survey. Writing research papers. / Self-study / | 6 | 4 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | |
| 5.5 | Control work / Control work / | 6 | 0 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 E1 | Oral quiz. Abstract protection |
| Section 6. Topographic anatomy and operative abdominal surgery | | | | | | |
| 6.1 | Surgical anatomy of the anterior abdominal wall and abdominal organs. Abdominal hernias. The main types of operations /Lecture/ | 7 | 4 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |
| 6.2 | Topographic anatomy of the anterior abdominal wall and external abdominal hernias. The boundaries of the region, division into departments, layers. Blood supply, venous outflow, innervation. Inguinal canal, walls, rings, contents. The concept of external abdominal hernias. Topographic anatomy of inguinal hernias. /Practical classes/ | 7 | 2 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |
| 6.3 | Surgical treatment of external abdominal hernias. Operations for inguinal hernia with inguinal canal plastic surgery according to Girard-Spasokukotsky, Martynov, Bassini. Features of surgery for congenital hernia, Winkelman surgery. Surgery for an umbilical hernia with plastic surgery according to Mayo, Sapezhko, Lexer. Features of surgery for a strangulated hernia /Practical classes/ | 7 | 4 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |
| 6.4 | Topographic Anatomy of the abdominal organs. Surgical anatomy of the liver. The main operations on the liver and biliary tract. Surgical anatomy of the pancreas. Topographic Anatomy of the organs of the lower floor of the abdominal cavity. Mesenteric sinuses, abdominal channels and pockets of the lower floor of the abdominal cavity /Lecture/ | 7 | 2 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |

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|--|--|---|----|--------------------|----------------------|--|
| 6.5 | Topographic Anatomy of the abdominal cavity. The boundaries of the region, the division into floors. Bags of the upper floor, walls. Channels, sinuses, pockets. Topography of the upper floor organs: stomach, duodenum, pancreas, liver and extrahepatic bile ducts (holotomy, syntopia, relation to the peritoneum, ligaments, skeletotopy, departments, vascularization, venous outflow, innervation, lymphatic outflow). Topography of the abdominal trunk, veins, skeletotopy, syntopia. /Practical classes/ | 7 | 10 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |
| 6.6 | Topographic anatomy of the abdominal cavity (continued). Topography of the organs of the lower floor: the large and small intestines, the ileocecal angle, the vermiform process (position options). Topography of the upper and lower mesenteric artery. Topography of the portal vein, origins, syntopia, natural portocaval anastomoses. /Practical classes/ | 7 | 8 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |
| 6.7 | Principles of surgical interventions in abdominal surgery. Sutures of hollow and parenchymal organs. GEA. / Lecture/ | 7 | 2 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |
| 6.8 | Operations on the abdominal organs. Surgery for a perforated ulcer of the stomach or duodenum (operative access, operative reception). Operation of gastrostomy according to Witzel. /Practical classes/ | 7 | 4 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |
| 6.9 | Intestinal suture. Types, equipment. Surgery for suturing a stab and cut wound of the intestine. Interstitial anastomoses, types, technique. Appendectomy operation (operative access, options, operative reception: typical appendectomy and retrograde). /Practical classes/ | 7 | 4 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |
| 6.10 | Preparation for the oral quiz. Writing research papers. / Self-study / | 7 | 4 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |
| Section 7. Topographic Anatomy and Operative Surgery of the lumbar region and retroperitoneal space | | | | | | |
| 7.1 | Topographic anatomy of the lumbar region and retroperitoneal space /Lecture/ | 7 | 2 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |
| 7.2 | Topographic anatomy of the lumbar region and retroperitoneal space. Borders, layers, weak points, fascia and cellular gaps. Topography of the kidney (holotomy, skeletotopy, syntopia, capsules, vascularization, fixing apparatus). /Practical classes/ | 7 | 4 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |

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|--|---|---|----|--------------------|---------------------------|--|
| 7.3 | The main types of operations on the organs of the retroperitoneal space /Lecture/ | 7 | 2 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |
| 7.4 | Surgical interventions on the organs of the lumbar region and retroperitoneal space. Lumbar paranephral block. Kidney surgery. Suture of the kidney wound, kidney resection, nephrectomy, decapsulation, pyelotomy. Operations on the ureters. Suture of the ureter wound. /Practical classes/ | 7 | 4 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |
| 7.5 | Preparation for the oral survey. Writing research papers. / Self-study / | 7 | 2 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |
| Section 8. Topographic Anatomy and Operative Surgery of the pelvis and perineum | | | | | | |
| 8.1 | Topographic anatomy of the pelvic organs. /Lecture/ | 7 | 2 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |
| 8.2 | Topographic Anatomy of the pelvis, boundaries, division into floors. The course of the peritoneum. Fascia and cellular spaces of the pelvis. Topography of the bladder, rectum, prostate, uterus with appendages /Practical classes/ | 7 | 8 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |
| 8.3 | The main types of operations on the pelvic organs /Lecture/ | 7 | 2 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |
| 8.4 | Operations on the bladder (puncture, cystotomy, cystostomy). Intra-phase blockade according to ShkolnikovSelivanov (indications, equipment). Operations on the prostate gland. Operations on the uterus and its appendages. Operations on the rectum. Operations on the testicle (with cryptorchidism, dropsy of the testicular membranes). /Practical classes/ | 7 | 4 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |
| 8.5 | Final lesson /Practical classes/ | 7 | 4 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |
| 8.6 | Preparation for the oral survey. Writing research papers / Self-study / | 7 | 3 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | |
| 8.7 | Control work / Control work / | 7 | 0 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.3 E1 | Abstract protection |
| 8.8 | Oral survey, case-studies and delivery of surgical instruments. /Exam/ | 7 | 27 | GPC-5.1 GPC-5.6 | L1.1 L2.1 L2.2 L2.3 E1 | Interview on examination questions, solution of a situational problem and delivery of surgical instruments |

Infectious Diseases

| 4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE) | | | | | | |
|--|---|------------|------------|-----------------------------------|---|------------|
| Class Code | Class Code | Class Code | Class Code | Class Code | Class Code | Class Code |
| | Section 1. General questions. Diagnosis of infectious diseases. | | | | | |
| 1.1 | Introductory lesson. Acquaintance with the clinic of the infectious diseases station (structure and mode of operation). Classification of infectious diseases. /pr/ | 9 | 4 | UC-1 GPC- 6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| | Section 2. Acute infections. Intestinal infections. | | | | | |
| 2.1 | Typhoid fever. Paratyphs A and B. /lecture/ | 9 | 2 | UC-1 GPC- 6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| 2.2 | Intestinal infections. Etiology, epidemiology, pathogenesis, clinical picture, diagnosis and treatment of typhoid and paratyphoid fever. /pr/ | 9 | 4 | UC-1 GPC- 6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, | |
| 2.3 | Intestinal infections. Etiology, epidemiology, pathogenesis, clinical picture, diagnosis and treatment of typhoid and paratyphoid fever /Selfstudy/ | 9 | 4 | UC-1 GPC- 6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, | |
| 2.4 | Salmonellosis /lecture/ | 9 | 2 | UC-1 GPC- 6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 2.5 | Intestinal infections. Etiology, epidemiology, pathogenesis, classification, clinic, diagnosis and treatment of salmonellosis. /pr/ | 9 | 4 | UC-1 GPC- 6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, | |
| 2.6 | Salmonellosis. /Self-study/ | 9 | 4 | UC-1 GPC- 6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 2.7 | Acute and chronic dysentery. /lecture/ | 9 | 2 | UC-1 GPC- 6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |

| | | | | | | |
|------|---|---|---|---------------------------|---|--|
| 2.8 | Intestinal infections. Etiology, epidemiology, pathogenesis, classification, clinic, diagnosis and treatment of acute and chronic dysentery. /pr/ | 9 | 4 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, | |
| 2.9 | Cholera. /lecture/ | 9 | 2 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 2.10 | Intestinal infections. Etiology, epidemiology, pathogenesis, clinic, diagnosis and treatment of cholera. Features of the course of cholera El Tor. Hypovolemic shock. /pr/ | 9 | 4 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, | |
| 2.11 | Cholera. /Self-study/ | 9 | 4 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 2.12 | Intestinal infections. Etiology, epidemiology, pathogenesis, classification, clinic, diagnosis and treatment of foodborne toxoinfections. /pr/ | 9 | 2 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, | |
| 2.13 | Etiology, epidemiology, pathogenesis, classification, clinic, diagnosis and treatment of botulism. /pr/ | 9 | 2 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 2.14 | Intestinal infections. Etiology, epidemiology, pathogenesis, classification, clinic, diagnosis and treatment of escherichiosis. /pr/ | 9 | 4 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, | |
| 2.15 | Pseudotuberculosis, yersiniosis /lecture/ | 9 | 2 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 2.16 | Intestinal infections. Etiology, epidemiology, pathogenesis, classification, clinic, diagnosis and treatment of intestinal yersiniosis and pseudotuberculosis. /pr/ | 9 | 4 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, | |
| 2.17 | Pseudotuberculosis, yersiniosis /Self-study/ | 9 | 4 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 2.18 | Enterovirus infections. /pr/ | 9 | 4 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 2.19 | Opisthorchiasis /lecture/ | 9 | 2 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 2.20 | Helminthiasis. Toxocarosis. Diphylobothriosis. Teniarinchosis, teniosis. Hymenolipedosis. Echinococcosis. Alveococcosis. Opisthorchiasis. Schistosomiasis. Ascariasis. Enterobiosis. Trichocephalosis. Hookworm disease. strongyloidosis. Trichinosis. Dirofilariasis. /pr/ | 9 | 8 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 | |
| | Section 3. Airborne infections. | | | | | |
| 3.1 | Influenza and acute respiratory viral infections /lecture/ | 9 | 2 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |

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| 3.2 | Etiology, epidemiology, pathogenesis, classification, clinic, diagnosis and treatment of influenza and acute respiratory viral infections /pr/ | 9 | 4 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
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| 3.3 | Etiology, epidemiology, pathogenesis, classification, clinic, diagnosis and treatment of influenza and acute respiratory viral infections /Self-study/ | 9 | 4 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, |
| 3.4 | Etiology, epidemiology, pathogenesis, classification, clinic, diagnosis and treatment of diphtheria and angina. /pr/ | 9 | 4 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, |
| 3.5 | Meningococcal infection /lecture/ | 9 | 2 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, |
| 3.6 | Etiology, epidemiology, pathogenesis, clinic, diagnosis and treatment of meningococcal infection. /pr/ | 9 | 4 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, |
| 3.7 | Differential diagnosis of diseases with angina syndrome /pr/ | 9 | 4 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, |
| 3.8 | Meningococcal infection /Self-study/ | 9 | 4 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, |
| 3.9 | Herpesvirus infections.Etiology, epidemiology, pathogenesis, clinic, diagnosis and treatment of herpes simplex, chickenpox, herpes zoster, infectious mononucleosis, cytomegalovirus infection. /pr/ | 9 | 4 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, |
| | Section 4. Blood infections. Infections with parenteral transmission. Viral hepatitis. | | | | E10 |
| 4.1 | HIV infection. /lecture/ | 10 | 2 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, |
| 4.2 | Prevention of hemocontact infections in medical workers /lecture/ | 10 | 2 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, |
| 4.3 | HIV infection. Etiology, pathogenesis, epidemiology, risk groups. The algorithm of the doctor's actions in case of an emergency.HIV infection. Classification, clinical picture, diagnostic criteria for diagnosis, treatment: indications for the appointment of ART, basic groups and drug regimens. /pr/ | 10 | 4 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 |
| 4.4 | HIV infection. /Self-study/ | 10 | 6 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, |
| 4.5 | Viral hepatitis. /lecture/ | 10 | 2 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, |
| 4.6 | Viral hepatitis A and E, etiology, epidemiology, pathogenesis, clinical picture, diagnosis, treatment /pr/ | 10 | 4 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, |
| 4.7 | Acute and chronic forms of liver failure /lecture/ | 10 | 2 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, |
| 4.8 | Viral hepatitis. /Self-study/ | 10 | 6 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, |
| 4.9 | Viral hepatitis B and C and D, etiology, epidemiology, pathogenesis, clinical picture, diagnosis, treatment. The outcomes of viral hepatitis. /pr/ | 10 | 4 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, |

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| 4.10 | Differential diagnosis of diseases accompanied by jaundice syndrome /pr/ | 10 | 2 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 4.11 | Hemorrhagic fevers /lecture/ | 10 | 2 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 4.12 | Hemorrhagic fevers. Crimean and Omsk fevers. Etiology, epidemiology, pathogenesis, clinic, diagnosis, treatment, preventive measures. /pr/ | 10 | 2 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, | |
| 4.13 | Hemorrhagic fevers. Hemorrhagic fever with renal syndrome. Etiology, epidemiology, pathogenesis, clinic, diagnosis, treatment, preventive measures. /pr/ | 10 | 2 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, | |
| 4.14 | Hemorrhagic fevers. Ebola, Marburg, Lassa fever. Etiology, epidemiology, pathogenesis, clinic, diagnosis, treatment, preventive measures. /pr/ | 10 | 4 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, | |
| 4.15 | Hemorrhagic fevers as particularly dangerous infections. The tactics of a doctor in an emergency. /Self-study/ | 10 | 2 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 4.16 | Typhus, rickettsiosis. Etiology, epidemiology, pathogenesis, clinical picture, diagnosis, treatment /pr/ | 10 | 4 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 4.17 | Typhus, rickettsiosis. Etiology, epidemiology, pathogenesis, clinical picture, diagnosis, treatment /Self-study/ | 10 | 2 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 4.18 | Malaria. Etiology, epidemiology, pathogenesis, clinical picture, diagnosis, treatment /pr/ | 10 | 4 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 4.19 | Malaria. Etiology, epidemiology, pathogenesis, clinical picture, diagnosis, treatment /Self-study/ | 10 | 2 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| | Section 5. Other infectious diseases | | | | | |
| 5.1 | Tularemia. The plague. Brucellosis /lecture/ | 10 | 2 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 5.2 | Etiology, epidemiology, pathogenesis, classification, diagnosis and treatment of tularemia, plague, brucellosis. /pr/ | 10 | 4 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 5.3 | Ornithosis, chlamydia. Etiology, epidemiology, pathogenesis, clinical picture, diagnosis, treatment /pr/ | 10 | 2 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 5.4 | Etiology, epidemiology, pathogenesis, classification, diagnosis and treatment of anthrax /pr/ | 10 | 2 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 5.5 | Legionellosis, mycoplasma infection. Etiology, epidemiology, pathogenesis, clinical picture, diagnosis, treatment. /pr/ | 10 | 2 | UC-1 GPC-6 PC-5 PC-6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |

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| 5.6 | Anthrax. Anti-epidemic measures. The threat of bioterrorism / Self-study / | 10 | 2 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 5.7 | Tetanus. Etiology, epidemiology, pathogenesis, clinical picture, diagnosis, treatment / pr / | 10 | 2 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 5.8 | Tick-borne encephalitis / lecture / | 10 | 2 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 5.9 | Leptospirosis. Etiology, epidemiology, pathogenesis, clinical picture, diagnosis, treatment / pr / | 10 | 4 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |

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| 5.10 | Leptospirosis. Etiology, epidemiology, pathogenesis, clinical picture, diagnosis, treatment / Self-study / | 10 | 2 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 5.11 | Toxoplasmosis. Etiology, epidemiology, pathogenesis, clinical picture, features of the course of toxoplasmosis during pregnancy - effect on the fetus, diagnosis, treatment. / pr / | 10 | 2 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, E7, E8, E9, | |
| 5.12 | TORCH infections in immunodeficiency conditions, in older people / Self-study / | 10 | 2 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 5.13 | Lyme disease. Etiology, epidemiology, pathogenesis, clinic, diagnosis, treatment, preventive measures. / pr / | 10 | 2 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 5.14 | Lyme Disease / lecture / | 10 | 2 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 5.15 | Lyme disease. Etiology, epidemiology, pathogenesis, clinic, diagnosis, treatment, preventive measures. / Self-study / | 10 | 2 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 5.16 | Erysipelas. Etiology, epidemiology, clinical classification, diagnosis, differential diagnosis of erysipelas. Treatment and prevention. / pr / | 10 | 4 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, | |
| 5.17 | Tick-borne encephalitis. Etiology, epidemiology, pathogenesis, clinic, diagnosis, treatment, preventive measures. / pr / | 10 | 2 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, | |
| 5.18 | Tick-borne encephalitis. Etiology, epidemiology, pathogenesis, clinic, diagnosis, treatment, preventive measures. / Self-study / | 10 | 2 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, E4, E5, E6, | |
| 5.19 | Urgent conditions in infectious diseases / pr / | 10 | 4 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 5.20 | Differential diagnosis of infectious diseases / pr / | 10 | 4 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |
| 5.21 | Vaccination of infectious diseases according to epidemiological indications / Self-study / | 9 | 4 | UC-1 GPC-6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |

| | Section 6. Exam | | | | | |
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| 6.1 | Exam | 10 | 36 | UC-1 GPC- 6 PC-5 PC- 6 PC-8 | L1.1, L2.1, L3.1 E1, E2, E3, | |