

Euroway
academy

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AN ACADEMY FOR HIGHER EDUCATION

Euroway Academy are undertakings of Notch Ventures Pvt. Ltd.

MBBS - SYLLABUS



<i>Nº</i>	<i>Name of Discipline</i>	<i>Study load in hours /weeks for practical training</i>
1.	Foreign Language	361
2.	Physical Culture	408
3.	National History	54
4.	Culturology	90
5.	Political Science, Sociology	57
6.	Legal Science	57
7.	Psychology, Pedagogy	140
8.	Philosophy	222
9.	Bioethics	54
10.	History of medicine and pharmacy	85
11.	Latin language and basic terminology	111
12.	Mathematics	70
13.	Informatics	94
14.	Physics	84
15.	Chemistry: General and Bioorganic	195
16.	Biology and ecology	222
17.	Biological Chemistry	277
18.	Human Anatomy	420
19.	Histology, Embriology, Cytology	277
20.	Normal Physiology	361
21.	Microbiology, Virology, Immunology	277
22.	Pharmacology	245
23.	Pathological anatomy	245
24.	Pathophysiology	245
25.	Hygiene with basic Human ecology, Military hygiene	187
26.	Epidemiology	111
27.	Infectious diseases	213
28.	Clinical Pharmacology	77
29.	Dermatovenerology	136
30.	Therapeutic physical exercise and medical supervision	77
31.	Radiology diagnosis and therapy	108
32.	Autopsy course	31
33.	Neurology, neurosurgery	185
34.	Medical genetics	57
35.	Otorhinolaryngology	102
36.	Ophthalmology	114
37.	Psychiatry and Narcology	134
38.	Forensic medicine	127

39.	Extreme and military medicine	323
40.	Obstetrics and Gynecology	562
41.	Pediatrics	321
42.	General Nursing (therapy)	57
43.	Propedeutics of internal diseases	324
44.	Internal medicine, general physiotherapy, military-field therapy	267
45.	Endocrinology	77
46.	Phthysiopulmonology	127
47.	General Nursing care (surgery)	54
48.	General Surgery, Anesthesiology	244
49.	Reanimation and intensive care	63
50.	Operative surgery and topographic Anatomy	190
51.	Surgical diseases (Sem. 7-8)	219
52.	Dentistry	51
53.	Traumatology and orthopedics, military-field surgery	210
54.	Urology	57
55.	Oncology	96
56.	Internal diseases	692
57.	Surgical diseases (Sem. 9, 10, 11, 12)	420
58.	Patient policlinic therapy	204
59.	Occupational diseases	52
60.	Infectious diseases, epidemiology	76
61.	Public health and health care	134
62.	Medical terminology	54
63.	Economics in Public Health	57
64.	Medical Physics	54
65.	Bioorganical Chemistry in Medicine	114
66.	Clinical Anatomy	27
67.	Transplantology and artificial organs	63
68.	Sports Medicine	51
69.	Philosophy of culture and medicine	54
70.	Course of sports perfection *	51
71.	Internal hemorrhages	26
72.	Hemolytic disease of the fetus and newborn *	25
73.	Accumulation diseases *	28
74.	Endocrinopathy in obstetrics and gynaecology *	95
75.	Diabetology *	51
76.	Selected aspects of Anesthesiology and Emergency medicine	51
77.	Practical training	17 weeks

* - without detailisation of disciplines' content

Foreign language

(Total study hours - 361, practical classes – 241)

Contents:

Practical classes: Introductory-corrective course. Phonetics. Vocabulary and grammar. The main types of reading. Learning to read and translate professional literature. Anatomy. Physiology. Some aspects of pathology. Learning the basics of oral professional communication. Medical education in Russia. Medical education abroad. Medical care in Russia. Medical care abroad.

Physical Culture

(Total study hours - 408, lectures – 10, practical classes – 278)

Contents:

Lectures: Physical education in general cultural and professional training of students. Sociobiological fundamentals of physical culture. Basics of healthy student lifestyle. Physical culture in maintaining health. Psychophysiological elements of academic and intellectual activities. Means of Physical Culture in the regulation of working performance. General physical training and sports in the physical education. Basic methods of individual physical exercise. Sports. Individual choice of sports or exercise systems. Special aspects of chosen sports or physical exercise systems. Self-control of physical exercises and sports. Professional applied physical training of students. Physical culture in the professional activities of a Bachelor and Specialist.

Practical classes: Evaluation of physical condition. Determination of physical working performance. Flexibility and agility, and methods their development and control. Strength, and methods of its development and control. Quickness, and methods of its development and control. Endurance, and methods of its development and control. Drawing a complex of morning exercises. Drawing a complex of industrial gymnastic. The simplest methods of monitoring the state of the cardio-respiratory system. Status of the musculoskeletal system. Fundamentals of self-massage techniques. Methods of correcting eye gymnastics. Methods of composing and carrying out the simplest independent exercises of hygiene or training orientation. Methods of individual approach and the use of means for targeted development of certain physical qualities. Means and methods of muscle relaxation. Methods of independent acquiring certain elements in professional-applied physical training. The methodology of carrying out industrial gymnastic with given set of conditions and nature of work. Basic methods of the organization of refereeing in a chosen sport.

National history

(Total study hours - 54, lectures – 18, seminars – 18)

Contents:

The history of feudal relations in Russia: history as a science; the primitive communal system. Kievan state in IX-XII centuries. The period of “feudal fragmentation” (XII-XIII cc.). Repulse of the German-Swedish aggression. Mongol conquest and system of ruling Russian lands. Estate-representative monarchy in Russia in XIV- beginning XVII centuries. Transformation of estate-representative monarchy to autocracy (XVII- the first quarter XVIII century). Transformation of autocracy to absolutism (XVIII-first half of XIX century). The history of the development of capitalist relations in Russia, pre-industrial and industrial

capitalism in the second half of XIX century: particulars of economic, political, and social development. Monopoly capitalism at the beginning of XX century. The Soviet period: the revolution and the state of the "dictatorship of the proletariat." The flourishing of the state of the "dictatorship of the proletariat." The formation of the USSR (1920-1953). the USSR in 1953-1985. The collapse of the Soviet Union (1985-1991). Russian Federation.

Culturology

(Total study hours - 90, lectures – 28, seminars – 29)

Contents:

Lectures: The theory of culture. Culture as a science. Culture as a subject of study of culturology. Culture as a social system. The main directions of culturological thought. The origins of the world culture and the way of its development.

Seminars: Primitive culture and its specificity. Culture of ancient civilizations. Culture of the oldest civilizations of the East. Antique culture. The development of culture in the Middle Ages. The culture of the Middle Ages. Old Russian culture. The culture of the Renaissance. The culture of modern times. European culture in modern times. Age of Enlightenment in the Russian culture. Russian culture of the 19th - early 20th century. Features of development of culture in the 20th century. The modern social and cultural situation

Political science, sociology

(Total study hours - 57, lectures – 18, seminars – 20)

Contents:

Lectures: The political sphere of society and an individual - the object of study of political science. The history of the development of philosophical and political thought. Political power. Modern political system and freedom of the individual. The political culture of the individual. The political process. The theory of democracy. The art of dialogue and consensus. The theory of anarchism. The individual and the government. Problems of realization of interests. Modern social democracy. Problems of development of federal relations in Russia. Practical importance of the Conflict resolution studies for medical ethics.

Seminars. Competently and independently evaluate the political situation in the country and abroad. To participate, in a conscious and socially responsible manner, in the political process of the civil society as a democratic identity, in accordance with principles of humanity and common human values. Give a comprehensive evaluation to the state's health policy. To conduct a political discussion with democratic and civilized methods, to master political culture skills.

Legal science (Jurisprudence)

(Total study hours - 57, lectures – 26, seminars – 12)

Contents:

Fundamentals of the theory of state and law. Constitutional law. Administrative law. Medical law. Organizational and legal basis of health management in the Russian Federation. Civil law. Financial law. Family law. Labour law and social security law. Environmental Law. Criminal law. Civil process. Criminal process.

Psychology, Pedagogy

(Total study hours - 140, lectures – 42, seminars – 46)

Contents:

Lectures: The subject of psychology. Personality and individuality. Levels of realization. Learning. Activities. Motivating behavior. Cognitive processes. Emotions and feelings. Protective mechanisms of the psyche. Communication. Psychology group. Inter-University Student Conference "Psychology in medicine."

Seminars: The role of psychological knowledge in the work of a doctor. Methods of psychological research. The structure of the psyche. Pedagogy. Medical pedagogy. The subject of psychology. Personality and individuality. Levels of realization. Learning. Activities. Motivating behavior. Cognitive processes. Emotions and feelings. Protective mechanisms of the psyche. Communication. Psychology group. Inter-University Student Conference "Psychology in medicine."

Philosophy

(Total study hours - 222, lectures – 74, seminars – 74)

Contents:

Lectures: The meaning and purpose of philosophy. The status of philosophy in the spiritual culture. The philosophy of the ancient East. Antique philosophy. Philosophizing in the faith. The revival of philosophical thought and the formation of modern philosophy. Maturity of philosophical thought. Marxist philosophy. Non-classical philosophy of XIX - early XX centuries. Philosophy of Russian spirituality. The philosophical alternatives of the XX century. General questions of philosophy. Social being: the essence and core issues. The philosophy of consciousness. The variety of philosophical approaches to the problem of the origin and essence of man. The role of values and attitudes in the process of formation of the human personality. Society as a way of human being existence. Practical philosophy. The philosophical foundation of culture. Moral and aesthetic foundation of culture. Science in the system of knowledge. Religion as a cultural phenomenon. The origins and meaning of love. Union of philosophy and medicine. Philosophical problems of human life. Medicine in the life of a human being and mankind. The philosophical and ethical problems of modern medicine.

Seminars: Philosophy: essence and purpose. Philosophy in culture. The youth of philosophical thought. Medieval philosophy. Philosophy of the Modern Period. Philosophy of the Enlightenment. Classical philosophy. Russian philosophy. Modern Western philosophy. General issues of philosophy. The theory of being. The problem of consciousness. Philosophy of knowledge. Issues related to the perception and knowledge of society. Philosophy of the Human Being. Science as a form of spiritual culture.

Bioethics

(Total study hours - 54, lectures – 24, seminars – 12)

Contents:

Lectures: Introduction to Bioethics. Subject and functions of bioethics. The doctor and society: religious and secular ethical traditions in medicine. Moral reasoning and its levels.

The character and the main types of ethical conflicts in medical practice. Problems mistakes and iatrogenics in the activities of health workers. Basic theory of ethics in a medical context. The principles of bioethics. The moral obligation of doctors and patients' rights. Models of the relationship "doctor-patient". Bioethical issues of procreation, dying, death and resuscitation. New medical technologies and bioethics: ethical problems of new reproductive technologies, transplantation, medical genetics. Experience, experiment, observation and clinical testing from the standpoint of bioethics.

Seminars: Ethical problems of psychiatry and psychotherapy. Topical problems of bioethics in modern medicine

History of Medicine and Pharmacy

(Total study hours - 85, lectures – 26, seminars – 28)

Contents:

The emergence of medical knowledge in ancient times. The history of civilizations. Medicine of Mesopotamia and Egypt. Medicine in ancient Greece. Medicine of Hellenistic world. Medicine of Ancient Rome. Eurocentrism. West and East European Orthodox civilization. Medicine of East (India, China), pre-Columbian America and Africa. Muslim (Arab) medicine. Medicine in medieval Europe. Medicine of Renaissance. Medicine and Pharmacy of modern times. The era of nation-states. A revolution in medicine in the 20th century. Culture, medicine and pharmacy in Old Russia and Moscow state (X-XII century). Medicine in Russia in the XVIII - XIX century. Medicine as an area of activities. Russian national medicine.

Latin language and terminology bases

(Total study hours - 111, practical classes - 74)

Contents:

The pharmaceutical terminology. The contribution of Latin and Ancient Greek languages. Alphabet. Phonetics. Features of reading. Long and shorts vowels. Rules of word accent. Morphology. The verb. Four conjugation. Infinitive. Imperative mood. Conjugation of verbs in the active and passive voice of the indicative mood. Verb *esse*. Subjunctive mood. Verb *feri*. Prescription formulations. Noun. Declination: number and case. Types of declension. 1st declension. Accusative direct object. Nouns of Greek origin in *-e*. 2nd declension noun: case endings. Exceptions to the rules of the gender in the 2nd decline. Neuter gender. Third declension of nouns. Matching adjectives to nouns of different declensions. Gender of nouns of the 3rd declension. Exceptions. The significance of *-itis* suffix in the names of diseases. The significance *-oma* in the names of diseases. The decline in the Greek isosyllabism *-sis*. Particulars of some nouns of the 3rd declension. 4th declension and 5th declension of nouns. The adjective. Inconsistent and coherent definitions. The order of steps in coordination. Adjectives with the suffix *-al*. 2nd group of adjectives - adjectives of two terminations. Degrees of comparison of adjectives. The past participle of the passive voice. Present participle. Inconsistent definition. Prepositions, conjunctions. Brief information about the numerals, adverbs, pronouns. Dosage forms. Personal names in the names of drugs. Nomenclature of drugs. 1st typical sample group: the name of raw materials and products of primary processing. 2nd typical sample

group: extracts from plant raw materials. Names of plants in the nomenclature of medicines. The systematic and trivial names. Adjectives in botanical nomenclature. Names of families. Frequency segments. 3rd typical sample group: a) trivial names glycosides and alkaloids. b) trivial names of synthetic drugs: the frequency characteristics. 4th typical sample group: a) trade names, trademarks. World synonymy. International Nonproprietary names. b) names of the combined drugs, vitamins, hormones, enzymes. Models of multi-references names. Names of pharmacological groups. Frequency segments. 5th typical sample group: the name of serums and vaccines. International Chemical nomenclature in Latin. Names of acids salts, basic salts. Greek numerals - prefixes in chemical nomenclature. The names of some hydrocarbons and radicals. Recipe (recipe structure, prescription formulation, reduction and additional inscriptions in recipes).

Mathematics

(total number of hours - 70; lectures — 15; practical training - 32)

Contents:

Lectures. Advanced mathematics. The concepts of derivative and differential. Indefinite, definite integral. First and second order differential equations. Oscillatory processes. Mechanical waves. Acoustics. Ultrasound. Electromagnetic field. Thermal radiation. Quantum physics. Radiation of energy by atoms. Luminescence. Laser. X-ray radiation. X-ray tomography. Radioactivity. Dosimetry. Mathematical statistics methods. Substance and field in nature.

Practical classes. Basics of mathematical analysis. Function and its derivatives. Instantaneous speed of processes. Gradient of a function Indefinite integral of a function. Rules of integration. The fundamental theorem of calculus. The physical meaning of a definite integral. Differential equations. Mathematical analysis for solving physical problems. Bouguer's law. Derivation of the radioactive decay equation. Pharmacokinetic models: compilation and solution of differential equations for describing the kinetics of the changes of the mass of a drug in the blood, for various methods drug administration. Aortic pressure change during diastole (Frank's model). Preparation and solution of a second-order differential equation describing oscillatory process. Fourier theorem Simple and complex oscillations. Harmonic oscillation characteristics. Statistical methods for biomedical data processing and analysis. The theory of probability. Accidental event. Classical and statistical probabilities. Discrete and continuous random variables. The Gauss law for specifying a continuous random variable. Three-sigma rule Basic concepts of mathematical statistics. The statistical universe and the set sample. Point and interval estimation of the general average. Use of histograms in the diagnostics of diseases. Correlation analysis in medicine. Functional and statistical dependencies. Correlation dependence. The least square method, its application for medical data processing.

Informatics (Computer science)

(Total study hours - 94, lectures – 8, practical classes – 49)

Contents:

Lectures: Introduction to medical informatics. Software and hardware for computer equipment. Key features and capabilities of operating systems and their use in practical work on the computer. The use of text editors for workflow automation in medicine. Processing data sets and modeling processes in medicine using a spreadsheet. Organization of medical

data bases. Development of sampling methods, data processing and presentation. Statistical treatment of data in medicine.

Practical classes: The principles of organization and operation of computer networks. The operating system Windows. The text editor Word. Spreadsheet Excel. Database Access.

Practical skills. Create text documents on a computer (using MS *Word*). Create an electronic spreadsheet using MS *Excel*. Create data bases using MS *Access*. Create charts and graphs. To conduct statistical processing of medical data with the use of statistical software packages.

Physics

(Total study hours – 84, lectures – 24, laboratory workshops – 16, practical classes – 16)

Contents:

Lectures: Review lecture on medical physics. Introduction. The structure and properties of biological membranes (BM). Modern research methods in biophysics. Transport of substances across biological membranes. Biopotential at rest. Biophysics of nerve impulses. Electrical activity of bodies and methods of its study. Autowave processes in the heart. Muscle contraction. The electrical activity of organs and methods of its study. Rheology of biological fluids. Biomechanics of blood circulation. Physical fields of the human body. The phenomenon of transfer and thermodynamics of biological systems. Modeling biological systems. Medical and Biological Physics of radiation effects. Living systems and evolution in the nature.

Practical classes: Mechanical vibrations and waves in medicine. Physical basics of audiometry. Audibility curve. Audiogram. Sound measurements in medicine. Ultrasound in Medicine. The Doppler effect. Cavitation. Electromagnetic radiation in medicine. Lasers in medicine. Mechanisms of excitation. Interaction of X-rays with matter. Coherent scattering, photoelectric effect, Compton effect. Contrast media for diagnosis of gastric blood vessels. Angiography. The principle of X-ray computed tomography. Ionizing radiation. Dosimetry. Doses. Ionization. Artificial radioactive isotopes and their use in medicine. Tracer method for diagnosis. Getting gamma radiation for gamma-therapy (cobalt gun). Fundamentals of Nuclear Medicine. Positron emission tomography. Biophysical processes in biological membranes of cells. Model membranes, liposomes. Active and passive transport of substances in biological cells. Experience ussingite. K-Na - pump, Ca- pump. Autowaves heart. The action potential of cardiomyocytes. Tau model. Moving threads model. Biomechanics of muscle contraction, blood circulation and blood vessels. Isometric isotonic contraction modes, Hill equation. Frank model. Pulse wave velocity of its circulation. Resistive model. Physical fields of the human body. The physical fields produced by the body: the low-frequency electric, magnetic, electromagnetic, acoustic, instruments for measuring them. Modeling biological systems. "Predator-prey" model and its application in medicine. Pharmacokinetic model.

Chemistry: General and bioorganic

(Total study hours – 195, lectures – 32, laboratory workshops – 98)

Contents:

Lectures “General chemistry”: The principles of competition between the different types of life. Chemistry biogenic s-, p-, d-elements. Physical chemistry of surface phenomena.

Adsorption equilibrium on the mobile interface. Physical chemistry of disperse systems. Colloidal surfactants. Application of the laws of chemical thermodynamics in medicine and biology. The use of chemical kinetics in medicine and biology. The doctrine of the solutions. Theories of acids and bases. Protolytic equilibrium processes in life. Heterogeneous equilibrium processes in life. Ligand equilibrium processes in life. Redox equilibrium and redox processes in life. Potentiometry in biology and medicine elements of quantitative analysis.

Laboratory workshops "General chemistry": Safety regulations for the chemistry lab. The term "chemical equivalent". Ways of expression of the solution composition. Acid-base reactions in titrimetric analysis. Redox reactions in titrimetric analysis. Elements of chemical thermodynamics. Energy of chemical reactions. Chemical kinetics. Determination of kinetic parameters of the oxidation reaction I ions with hydrogen peroxide. The properties of the solutions. Osmotic properties of solutions of non-electrolytes. The properties of solutions of non-electrolytes. Protolytic equilibrium processes. Theoretical and experimental determination of pH. Heterogeneous equilibrium processes. The study of the conditions of formation and dissolution of the precipitates. Ligand equilibrium processes. Redox equilibrium processes. Competing processes of various types. Nutrients. The study combined equilibria and the competing processes of various types. Chemistry of nutrients. The principles of qualitative analysis. Colloid - disperse systems. Physical chemistry of high-molecular compounds and their solutions. Determination of weight sodium hydroxide solution. Determination of potassium dichromate solution. Determination of the heat of the neutralization reaction. Chemical equilibrium. Effect of concentration, temperature and catalyst on the reaction rate. Determination of the freezing point of the solution of an unknown substance and the calculation of its molar mass. The observation of phenomena plasmolysis and erythrocyte hemolysis. Determination of pH by fotoelektrokolorimetric method. The study of simple and combined protolytic equilibria. Properties buffers. Buffer capacity solutions. Heterogeneous equilibria in electrolyte solutions. The study of complexation reactions with inorganic ligands. Simple and combined Ligand balance. Redox properties of substances. Determining the direction of the redox processes. Study of the dependence of the redox potential of the ratio of active oxidizing and reducing forms. The study of the influence of the ligand environment on the redox potential. Study of the effect of pH on the redox potential. Potentiometric determination of pH. Changing the solution pH with a glass electrode. Qualitative and group reactions of ions. Adsorption equilibrium on a movable surface adsorption gas-liquid interface. Construction of surface tension and isotherm adsorption isotherm at the gas-liquid interface. Adsorption equilibrium on a fixed interface. Measurement of adsorption of acetic acid on activated charcoal. The influence of various factors on the adsorption from solution.

Chromatography. Preparation, purification and properties of colloidal solutions. Determining the sign of the charge of the colloidal particles. The stability of colloidal systems. Coagulation of sols electrodes. Determination of coagulation threshold. Peptization. Swelling of the Navy. Determination IEP gelatin of swelling. Colloidal protection.

Lectures "Bioorganic chemistry": Pairing as the factor of stability of the molecules. Mutual influence of atoms in organic molecules and methods of transmission. Stereoisomers. Acidic and basic properties of organic compounds. Electrophilic addition and electrophilic substitution. Nucleophilic substitution at sp³-hybridized carbon atoms. Elimination reaction.

Aldehydes and ketones. The reactions of nucleophilic addition. Carboxylic acids and their functional derivatives. Oxidation and reduction of organic compounds. Poly- and Heterofunctional as the cause of the specific properties of hydroxy, amino and oxo. Biologically active heterocyclic compounds. Monosaccharides. Oligo- and polysaccharides. α -amino acids. Peptides. Proteins. Nucleosides. Nucleotides. Nucleic acids. Saponifiable lipids. Steroids. Phospholipids. Non-saponifiable lipids. Terpenoids. Typical reactivity of the most important functional groups characteristic of biologically active compounds. Laboratory workshops "Bioorganic chemistry": Theoretical bases of organic chemistry. Classification, nomenclature, and isomers of organic compounds. The electronic structure of chemical bonds and the mutual influence of atoms in a molecule. Stereoisomers. Working with molecular models. Acidic and basic properties of organic compounds. Reactivity of organic compounds. Oxidation reaction. Electrophilic addition and electrophilic substitution. Nucleophilic substitution at sp^3 -hybridized carbon atoms. Elimination reaction. The reactions of nucleophilic addition to carbonyl compounds. Heterofunctional and heterocyclic compounds. Reactivity of carboxylic acids and their derivatives.

Practical skills. Predict the results of physical & chemical processes in living systems, based on theoretic provisions. Provide scientific explanations for the observed phenomena. Perform physical & chemical measurements characterizing any properties of solutions, mixtures and other objects modeling internal milieus. Have the skills of safe operations in a chemical laboratory. To have skills in handling chemical utensils, reagents, work with gas burners and electrical appliances.

Biology with ecology

(Total study hours – 222, lectures – 48, practical classes – 100)

Contents:

Lectures: The qualitative features and levels of the organization of living. Reproduction as a general property of living. Fundamentals of General Genetics. Laws of Mendel. The interaction of genes. Linked inheritance. Structural levels of compaction of hereditary material. The molecular basis of heredity. The molecular basis of heredity. The phenotype of the organism. The pattern of variability of traits. Basics of Medical Genetics. Developmental Biology. Patterns of embryonic and post-embryonic development. Regeneration and transplantation. Biomedical bases and ecological basis of parasitism. The simplest type. Distribution parasitic forms in nature. Basics of Medical Helminthology. Type of flat worms. Flukes Class. Type of flat worms. Band Class I, II. Roundworms Type I, II Morphofunctional characteristics of medical importance. Type of Arthropods. Origin and Evolution. Class Crustaceans. Class Arachnids. Class Insects. Morphofunctional characteristic. The medical importance. Organic evolution. The concept of form. Population - the basic unit of evolution. Micro- and macro-evolution. Mechanisms and the main results. Phylogeny excretory, reproductive, circulatory and nervous systems of vertebrates. General patterns of vertebrate phylogeny. Regeneration and transplantation. The Descent of Man. Fundamentals of General Ecology. Human ecology as an ecological factor. The doctrine of the biosphere. Man and the Biosphere. Noosphere. Poisonous animals.

Practical classes: Cytology. The levels of organization of biological systems, the qualitative features of the living. Apparatus light microscope. Electron microscope. The cellular level of organization of biological systems. Playing at the cellular level of the organization of living systems. The life cycle of cells. Organismal level. Playing at the organism level of the organization of living systems. Meiosis. Gametogenesis. Patterns of inheritance of traits. An independent inheritance of characters. The types of gene interactions. Basics of cytogenetics. Linked inheritance. Genetics of sex. The organization of hereditary material from pro- and eukaryotes. Basics of molecular genetics. The organization of hereditary material. Implementation of genetic information in the tag and its regulation. Variability and its species. Methods of human genetic research. Developmental Biology. Embryonic development. General patterns of embryonic development. Regeneration and transplantation. Essentials of Medical Parasitology. Medico-biological and ecological basis of parasitism. Fundamentals of medical protozoology. Medico-biological and ecological basis of parasitism. Subkingdom Protozoa. Type Sarcomastigophora. Classes Sarcodina, Flagellata. Distribution parasitic forms in nature, medical importance. Subkingdom Protozoa. Type Apicomplexa. Class Sporozoa. Type Ciliophora. Basics of Medical Helminthology. Type Plathelminthes. Class Trematoda. Type Plathelminthes. Class Cestoda. Type Nematelminthes. Class Nematoda. Methods ovogelmintoskopii. The study of eggs of worms - parasites. Fundamentals of medical arachnoentomology. Origin and Evolution. Type Annelida. Evolutionary and medical value of Representatives type Annelida. Type of Arthropoda. Subtype Branchiata. Class Crustacea. Subtype Chelicerata. Class Arachnida. Subtype Tracheata. Class Insecta. Troop Diptera. Family Culicidae. Organic evolution. Type Chordata. Subtype Vertebrata. Anamniotes and amniotes. Phylogeny of the nervous, circulatory, genitourinary system bodies such as representatives of Vertebrata.

Practical skills. To apply microscopy methods for the purpose of analysis of cells structure, types of chromosomes and chromatin, division stages (mitosis and meiosis), embryonic stages of vertebrates development, for identification of causative pathogens of protozoa invasions. To apply laws of inheritance for determination of probability of manifestation of characters studied and to predict hereditary human diseases when solving genetic problems. To use the methods of medical genetics (genealogical, results of cytological method) in order to establish the heredity pattern of normal and pathological characters in humans. To identify causative pathogens and carriers of diseases, invasive parasitological material, homologous and analogous structures in the organ systems of vertebrates using microscope slides. To make temporary microscope slides: from biological objects of vegetable and animal origin; from living objects of animal origin, belonging to Protozoa subkingdom; to stain the hereditary material for the purpose of its microscopic examination.

Biological Chemistry

(Total study hours – 277, lectures – 46, laboratory workshops – 24, practical classes – 115)

Contents:

Lectores: Proteins (amino acids: structure, classification, structure). Operation of oligomeric proteins, the Bohr effect. Enzymes. Enzyme cofactor: nones metals and coenzymes. Enzyme inhibitors. Phosphorylation and dephosphorylation. Collagen and elastin. Immunoglobulins. The matrix biosynthesis. The genetic code and its properties. Inhibitors of matrix biosynthesis. Cellular differentiation and ontogeny. Features of the structure of DNA.

Polymerase chain reaction. The structural organization of membranes, the main components and their functions. Metabolism and energy. Exergonic and endergonic reactions in living cells. The catabolism of carbohydrates, fats, proteins. The main carbohydrates animals, their content in the tissues, biological role. Catabolism of glucose. Gluconeogenesis. The synthesis of pentoses (oxidative and non-oxidative reactions). Biochemistry of extracellular matrix. The most important lipid tissues. Biosynthesis of fatty acids. Obesity causes of obesity. Mobilization of fat from adipose tissue, regulation of hormones. β -oxidation of fatty acids. Lipid peroxidation, the mechanism of cell damage. Cholesterol. Gallstone disease. Violations of lipid metabolism. The biological value proteins. Exchange ammonia. Features of the exchange of certain amino acids. Exchange nucleotides. Synthesis scheme MFIs. The role of the enzyme of carbomoiiphospat synthase II. Regulation of the synthesis of pyrimidine nucleotides. Basic system of metabolic regulation. Hormones. The role of hormones in the regulation of energy metabolism, water-salt metabolism, metabolism of calcium and phosphate. Mechanisms of neutralization of toxic substances.

Practical classes: Proteins (amino acids: structure, classification, structure). Features of functioning of oligomeric proteins on the example of Hb. The study features the properties of enzymes as biological catalysts. Inhibition of enzyme activity. Regulation of enzyme activity. The use of enzymes in medicine. Structure of nucleic acids. Replication and repair mechanisms as a play and preserve the stability of the genome. Transcription. Biosynthesis of the protein. Completion of post-translational protein. Inhibitors of matrix biosynthesis. The regulation of protein synthesis. Molecular mechanisms of variability. Polymorphism of proteins. Hereditary diseases. The biosynthesis of antibodies. The concept of anabolism and catabolism. Classification of biologically active compounds that affect the rate of metabolism in the cell. Participation membrane organization and regulation of metabolism. The structural organization of membranes. Selective permeability of membranes. Membrane receptors - location, function, mechanism of transformation of the biological signal. Structural organization CPE. Participation of NAD and FAD-dependent dehydrogenases in the transfer of electrons and H^+ on the CPE. Oxidative phosphorylation ATP. Reasons of hypoenergetic states. A common way of catabolism - the main source of the hydrogen donor for CPE. The regulation of energy metabolism. hypoenergetic state. The main carbohydrate food. Digestion. The transmembrane transport of glucose into the cell. Ways of glucose metabolism in cells. The synthesis and breakdown of glycogen, regulation and breach processes. Aerobic and anaerobic glycolysis. Lactate pathway. The regulation of glycolysis and gluconeogenesis in the liver. Pentose phosphate pathway of glucose conversion. The structure of collagen and elastin. Glycosaminoglycans and proteoglycans. Structure and function of lipids in the human body. Digestion, fat resynthesis. Transport of exogenous fats. Higher fatty acid biosynthesis and its regulation. The synthesis of fats in liver and adipose tissue. Role of VLDL in the transport of fat. Hormonal regulation of the deposit of fat. Obesity. Mobilization of fat from adipose tissue, hormonal regulation, β -oxidation of fatty acids. Regulation of metabolism of fatty acids. Ketone bodies. Eicosanoids. Lipid peroxidation. Share and function of cholesterol. The biochemical basis for the development of atherosclerosis. Sources and ways of use of amino acids in the cell. The biological value proteins. The digestion of proteins. The catabolism of amino acids (transamination and deamination). Exchange ammonia. Ways of nitrogen-free exchange of amino acid residues. The biosynthesis of essential amino acids. Exchange nucleotides. Changes in metabolism

during fasting and diabetes. The regulation of water-salt metabolism, metabolism of calcium and phosphate. Neutralization of toxic substances. Biochemistry of blood. Blood coagulation and anticoagulation systems. Fibrinolysis.

Human anatomy

(Total study hours – 420, lectures – 56, practical classes – 168)

Contents:

Lectures: General anatomy of the skeleton. The bones of the body. Features of the structure and functions. The bones of the upper and lower extremities. Features of the structure and functions. The initial stages of human development. The development of the skull in the prenatal and postnatal ontogenesis. Anatomy and topography of the skull base. General questions of medical anthropology. General anatomy of the joints of bones. The development of the skeleton and joints in the prenatal and postnatal ontogenesis. The bones and joints of the X-ray image. General anatomy of muscles and their auxiliary units. The muscles and fascia of the back. Functional anatomy of the respiratory muscles. Aperture. The muscles and fascia of the abdomen. Inguinal canal. The muscles and fascia of the neck. Functional anatomy of masticatory and facial muscles. Functional anatomy, biomechanics of the joints and muscles of the upper and lower limbs, joints and muscles of the trunk. Fascia and cellular spaces of the body, head and neck, of course. General anatomy and development of the digestive system. Functional anatomy of the pharynx, esophagus, stomach, small and large intestines, liver and pancreas. Anatomy and topography of the peritoneum. Functional anatomy and topography of the larynx and pleura. Development and structural features of the urinary, genital organs. Functional anatomy of the immune system. General anatomy of the lymphatic system. Functional anatomy of the heart. General anatomy and the laws of the structure of the arteries. Microcirculation system. Anatomy and topography of the arteries. Arterial anastomoses. General anatomy and structural patterns of veins. The blood supply to the fetus. The system of the portal vein. Porto-caval and cava-caval anastomoses. Ways of outflow of blood from the organs and body parts. General anatomy of the nervous system. Brain and spinal cord and membranes. Pathways of the brain and spinal cord. Functional anatomy of the organ of vision, hearing and balance. General anatomy of the peripheral nervous system. Anatomy and topography of the cranial nerves (I-XII pair). Features of the formation and structure of the spinal nerves and their branches. Cervical and brachial plexus, and their short and long branches. The innervation of the upper limb. Intercostal nerves. Lumbar and sacral plexus, their short and long branches. The innervation of the lower extremities. Functional anatomy of the vegetative (autonomic) nervous system. Anatomical and topographical relationship of blood vessels and nerves of the body, and in the walls of the pelvis, head and neck, of course. Anatomy and topography of the outflow tract of the lymph organs and body parts.

Practical classes. Anatomical terminology. Axes and planes. General plan of the structure of the vertebral column. Vertebrae. Bones of the trunk and extremities. Bones and topography of the skull. Connections of the bones of the trunk, skull, upper and lower extremities. Muscles and fasciae of the trunk, neck and head. Muscles and fasciae of extremities. Anatomy and topography of muscles and fasciae of the human body. Digestive organs, their anatomy and topography. Respiratory organs, their anatomy and topography. Urogenital apparatus, endocrine glands and

organs of the immune system, lymphatic system. Study of anatomy and topography of internal organs by dissection. Heart and pericardium, arteries, anatomy and topography. Veins and venous anastomoses, anatomy and topography. Cerebrum and spinal cord, their meninges, anatomy and topography. Sensory organs and cranial nerves, anatomy and topography. Nerves of the trunk, head, limbs, their anatomy and topography. Study of anatomical and topographic relationships between nerves and blood vessels, walls of the thoracic and abdominal cavities, walls and organs of the pelvis, muscles and organs of the neck.

Histology, Embryology, Cytology

(Total study hours – 277, lectures – 72, practicalclasses – 73)

Contents:

Lectures: The doctrine of the tissues. Epithelial cancer. Blood. Connective tissue. Muscle tissue. Nerve tissue. Senses. Cardiovascular system. Bodies of hematopoiesis. Endocrine system. Digestive system. Respiratory. Skin. The excretory system. The reproductive system. Human Embryology. Problems of regulation.

Practical classes: Technique histological examination. Stages of preparation of histological preparation. Methods and techniques of microscopy. Cytology (cell biology). Cells and non-cellular structures. Cytoplasm. The cell nucleus. Cell division. Epithelial tissue. Glands. Fabrics internal environment. Blood and lymph. Connective tissues. Skeletal tissue. Muscle tissue. Diagnosis of histological slides, electron micrographs and drawings, problem solving. Nerve tissue. Neurocytes. Glial cells. Nerve fibers. Synapses. Nerve endings. Private histology. Nervous system. Nerves. Ganglia. Spinal cord. Nervous system. Brain. The sensor system. Senses. The organ of sight and smell. The organ of hearing, balance and taste. Cardiovascular system. Arteries. Microvascular. Vessels. Lymphatic vessels. Heart. Hematosis (hemocytopoiesis). The central organs of hematopoiesis. Peripheral organs of hemopoiesis and immunogenesis. Endocrine system. Digestive system. Oral cavity. Esophagus. Stomach. Small intestine. Colon. Liver. Pancreas. Respiratory system. Skin and its derivatives. Urinary system. The reproductive system. Male genital organs. Female genital organs. Embryology. Germ cells. Fertilization. Cleavage. Blastula. Gastrulation. The differentiation of germ layers. Histo- and organogenesis. Implantation. Creation of provisional organs. Placenta. Diagnosis of histological preparations, electron micrographs and drawings, problem solving.

Practical skills. Microscopy and reading of histological, histochemical and embryological preparations. Reading histological and embryological microphotographs and drawings corresponding to these preparations. To calculate the leukocyte formula with a blood smear. Drawing of histological and embryological preparations. Reading of electronic microphotographs of cells and non-cellular structures of tissues and organs.

Normal physiology

(Total study hours – 361, lectures – 64, practicalclasses – 177)

Contents:

Lectures: Introduction to normal physiology. The basic principles of the formation and organization of physiological functions. Modern views on the mechanisms of origin of cell

membrane potential and action potential. Changes in excitability in the development of an action potential. Modern views on the mechanism of clonus. Relationship of the clonus amplitude and frequency of muscles stimulations . Features of the structure and function of smooth muscle. Synapses. Features of the structure and function of the central and neuromuscular synapses. Mechanisms of excitation transfer through synapses. General characteristics of the nervous system. Neuron as a structural and functional unit of the central nervous system. Patterns and basic principles of propagation of excitation in the central nervous system. Inhibition in the CNS. The main types of braking current understanding of their mechanisms. General principles for the coordination of the CNS. Multilevel organization of regulation of somatic and autonomic functions. Some questions of private physiology of the central nervous system. The role of various departments in the integrative activity of the brain. Physiology of the autonomic nervous system. General questions of physiology of the endocrine glands. Hypothalamic-pituitary system. Body fluids, their functional significance. Homeostasis and homeokinesis. Protective function of blood. Physiological characteristics and properties of the heart muscle. Regulation of cardiac activity. Features regional circulation. Microcirculation. Systemic circulation. Functional system responsible for maintaining blood pressure. Excretory organs. Physiology of the kidney. Homeostatic functions of kidney: maintaining osmotic pressure, acid-base balance, blood volume. Non-excretory renal functions. Thermoregulation. The physiological mechanisms of heat and heat transfer. A functional system that provides maintenance of a constant internal environment of the body. External respiration. The exchange of gases, transport of gases in blood. Regulation of breathing. A functional system supporting the permanence of blood gas. Digestion, the basic principles and mechanisms of its regulation. Digestion in the mouth and stomach. Digestion 12 duodenum. The role of the liver and pancreas digestion. Digestion in the small intestine and colon. Absorption of nutrients in different parts of the digestive tract. Food motivation. Physiological basis of hunger and satiation. A functional system supporting the consistency nutritious substances in the blood. General questions of physiology of sensory systems (analyzers). Higher nervous activity. The biological basis of behavior. Congenital and acquired behavior. Conditioned reflexes. Braking in GNI. Types of cortical inhibition. Modern views on the mechanisms. Physiology of sleep. Architecture integral behavioral act. Emotion and motivation. The role of different brain structures in their formation. Emotional stress. Physiological basis of human mental functions. Physiological basis of employment rights. Characteristics of mental and physical labor. Modern understanding of nociceptive and antinociceptive systems. The physiology of reproduction.

Practical classes: Methods of study of excitable tissues. Bioelectric phenomena in excitable tissues. Laws stimulation of excitable tissues. Physiological properties of muscle and nerve fiber synapses. Features of propagation of excitation in the central nervous system. The processes of inhibition in the central nervous system. The role of the various departments of the central nervous system in the formation of muscle tonus and phase movements. The function of the endocrine glands. Basic constants of the blood and their mechanisms of self-regulation. Clinical and physiological methods of blood testing. Protective function of blood. Physiological properties of cardiac muscle. Regulation of cardiac activity. Physiological basis of hemodynamics. Microcirculation. Methods of study of the heart and blood vessels

Microbiology, virology, immunology*(Total study hours – 277, lectures – 74, laboratoryworkshops – 111)***Contents:**

Lectures: Introduction to microbiology. The classification of microbes. The structure of the microbes. Physiology of microorganisms. Viruses, bacteria and human. Ecology of microorganisms. Normal microflora. The genetics of microorganisms. The concept of chemotherapy. Antibiotics. The doctrine of the infection. Introduction to immunology factors of nonspecific defense. The immune system. Antigens. The causative agents of typhoid, paratyphoid, salmonellosis, yersiniosis. Infectious agents of colibacillosis, shigellosis, cholera. Infectious agents of Diphtheria, whooping cough, legionellosis. Pathogenic mycobacteria. Pathogenic cocci. Pathogenic anaerobes. Pathogenic spirochetes. Rickettsia and chlamydia. The causative agents of brucellosis, plague, anthrax, tularemia. Pathogens SARS. The influenza virus. Viruses pathogens intestinal infections. HIV infection and viral hepatitis B, C, D. Arboviruses. The rabies virus. Herpesvirus. The measles virus, rubella. Prions. Oncogenic viruses.

Laboratory workshops: The morphology of the bacteria. Forms of bacteria. Simple staining methods. The morphology of the bacteria. Sophisticated (differential) staining methods. The cell wall of bacteria. The morphology of the bacteria. The structure of the bacterial cell. Methods for detection of various structures of bacteria. The morphology of fungi, protozoa and viruses. Principles of cultivation of bacteria. Isolation of pure cultures of bacteria and their identification. Sterilization. The microflora of air and water. The microflora of the human body. Determination of the sensitivity of bacteria to antibiotics. The use of molecular genetics to identify the bacteria. Principles of cultivation of obligate intracellular parasites. Infection. Non-specific protection factors of the body. Immune reactions (agglutination reaction and its modifications, precipitation reaction). Immune reactions (reactions lysis, complement fixation, immunofluorescence, enzyme immunoassay, immunoblotting). Medical immunobiological preparations. The causative agents of intestinal infections: typhoid, salmonella. The causative agents of intestinal infections: colibacillosis, shigellosis, cholera. Pathogenic and opportunistic mycobacteria. Diphtheria, pertussis and parapertussis; tuberculosis, leprosy, legionellosis. Pathogenic cocci (staphylococci, streptococci, Neisseria). Pathogens anaerobic clostridial infections (tetanus, gas gangrene, botulism) nonclostridial and anaerobic infections. Fundamentals of Clinical Microbiology. Bacteriological examination of sputum. Blood and urine tests. Pathogenic spirochetes (syphilis, relapsing fever, spirochetosis). The causative agents of zoonotic diseases: plague, tularemia, brucellosis, anthrax. Ricketts and chlamydia. The structure and biology of the virus. The methods of cultivation and display of viruses, identification of viruses. Serological and their use in virology. Methods of diagnosis of viral infections. Pathogens of respiratory viral infections. Pathogens enteroviral infections and hepatitis.

Practical skills. Work with a light-optical microscope, with the use of conventional and immersion lenses. To prepare the main growth media for bacteria and fungi. Observe the rules of asepsis. Inoculate microorganisms and transfer them to the substrate (compacted and liquid). To prepare native and stained preparations of microorganisms on slide plates. To observe native and stained microorganisms under the microscope. To assess bactericidal and bacteriostatic effects of physical (temperature, ultraviolet rays), chemical (antiseptics, preservatives) and biological (bacteriophages) factors on microorganisms; determine the carbolic coefficient of antiseptics.

Sterilize various objects with the use of different methods. To determine the micro flora of the air, water, soil, medicinal plants and medicinal raw materials, human body, lavage from various objects. Determine the sanitary-indicative microorganisms in (on) objects of the external environment, in the swabs from such objects and from human hands. Determine qualitative and quantitative microbial load of various medicines (powders, infusions and decoctions, ointments, tablets, granules, injectable forms). To differentiate the main groups of microorganisms based on their morphology.

Pharmacology

(Total study hours – 245, lectures – 55, laboratoryworkshops – 108)

Contents:

Lectures: History of pharmacology. Problems and methods of modern pharmacology. General pharmacology. Hypnotics. Antiepileptics. Antiparkinsonian agents. Painkillers. Psychotropic drugs. Means for causing drug addiction. Hormonal agents. Drugs affecting respiratory function. Cardiac. Antiarrhythmics. Antianginal drugs. Antihypertensives. Diuretics. Antiatherosclerotics. Drugs affecting the function of the gastrointestinal tract. Means, which influence on the tone and contractile activity of the myometrium. Drugs affecting the blood system. Drugs affecting the immune processes. Anti-inflammatory agents. General principles of chemotherapy. Antibiotics. Synthetic antibacterials. Anti-TB drugs. Antifungal agents. Antiviral agents. Drug interactions. Basic principles of treatment of drug poisoning.

Laboratory Practicums. General formulations. Solutions. Liquid pharmaceutical forms. Pharmaceutical forms for injection. Soft and solid dosage forms. General pharmacology. The main consistent patterns of pharmacokinetics, pharmacodynamics, side effects and toxic action of drugs. Particular pharmacology. Medicines that have an influence upon efferent innervation. Hypnotic drugs. Ethanol. Antiepileptic agents. Antiparkinsonian agents. Pain relievers. Antipsychotic drugs. Antidepressants. Antimanic agents. Antianxiety agents. Sedatives. Psychogogic agents. Psychoactivators. Preparations of hormones of polypeptide structure, derivatives of amino acids, their synthetic analogues, derivatives, substitutes. Preparations of hormones of steroid structure, their synthetic analogues, derivatives, substitutes. Hormone antagonists. Agents which influence the respiratory system. Cardiotonic drugs. Antiarrhythmic agents. Pharmaceutical products used in coronary circulation deficiency. Hypotensive drugs. Diuretics. Antiatherosclerotic agents. Agents which influence the functions of the digestive organs. Agents which influence blood system. Agents which influence the tone and contractile activity of the myometrium. Anti-inflammatory agents. Agents which influence immune processes. Main principles of balanced chemotherapy. Antibiotics that interfere with cell wall synthesis in microorganisms. Antibiotics that disrupt protein synthesis and permeability of the cytoplasmic membrane of microorganisms. Synthetic antibacterial agents. Antituberculosis remedies. Antiviral agents. Antifungal agents. Drug-to-drug interactions.

Practical skills. To predict pharmacokinetic and pharmacodynamic processes on the basis of the knowledge of the properties of the matter and the properties of the organism. To analyze the effect of drugs based on the total of their pharmacodynamic and pharmacokinetic properties. Assess the possibilities of using drugs for pharmacotherapy. To make prescriptions for medicines in various forms of administration. To prescribe medicinal products for specific pathological conditions based on the particular pharmacodynamics and pharmacokinetics of the preparations.

Assess the possibility of toxic effects of drugs and pharmacotherapy methods against poisoning.

Pathological Anatomy

(Total study hours – 245, lectures – 55, practical classes – 108)

Contents:

Lectures: Damage and death of cells and tissues. Reversible damage to cells and tissues. Intracellular accumulation. Hemosiderosis, hemochromatosis. Jaundice. Pathological calcification. Hyaline changes. Circulatory disorders. Acute and chronic inflammation. Granulomatosis. Regeneration and repair. Pathology of the immune system. Hypersensitivity reactions. Autoimmunity and autoimmune disease. Immune syndromes. AIDS. The process of adaptation. Tumours: definition, nomenclature, classification principles. Tumors of tissues derived mesenchyme. Tumours from the epithelium. Cancer, its types. Apudoma. Introduction to nosology. The doctrine of the diagnosis. The concept of iatrogenic. Diseases of the blood vessels. Etiology, pathogenesis, morphological characteristics. Heart disease, heart valves, myocardium and pericardium. Pathology of the blood cells and bone marrow. Infectious and parasitic diseases. Zoonotic and vector-borne infections: classification. Children infections: measles, scarlet fever, diphtheria, meningococcal infection. Bacterial and viral airborne infection. Respiratory diseases. Diseases of the digestive system. Bowel disease. Diseases of the urinary tract and the male reproductive system. Diseases of the female genital organs and mammary glands. Pathology of pregnancy and the postpartum period. Endocrine diseases. Diabetes. Diseases of the musculoskeletal system.

Practical classes: Morphology of reversible and irreversible damage to cells and tissues. Necrosis and apoptosis. Morphology pathological accumulation of endogenous and exogenous product. Pathological calcification. Hyaline changes. Circulatory disorders: venous stasis, bleeding, hemorrhage. Circulatory disorders: stasis, thrombosis, embolism. Shock. Ischemia. Heart attack. Acute inflammation. Morphology of exudative inflammation. Chronic inflammation. Granulomatosis. Regeneration and repair. Pathology of the immune system. Hypersensitivity reactions. Autoimmune diseases. Amyloidosis. The process of adaptation. Tumors of tissues derived mesenchyme. Tumors of neural and melanin forming tissues. Tumours from the epithelium. Atherosclerosis and arteriosclerosis. Hypertension and arteriosclerosis. Coronary artery disease. Heart disease. Valvular heart disease attack. Rheumatism. Autopsy. Hemoblastosis. Tuberculosis. Sepsis. Children infections: measles, scarlet fever, diphtheria, meningococcal infection. Bacterial and viral airborne infection. Bacterial pneumonia, lobar pneumonia. Influenza, parainfluenza, adenovirus infection. Obstructive lung disease and restrictive lung cancer. Diseases of the stomach: gastritis, peptic ulcer disease, gastric tumors. Diseases of the intestine. Infectious enterocolitis (bacterial dysentery, typhoid fever, cholera). Ulcerative colitis. Appendicitis disease. Diseases of the liver and biliary system: hepatitis, cirrhosis, liver cancer, cholelithiasis. Kidney disease: glomerulonephritis, nephrotic syndrome. Acute and chronic renal failure. Pyelonephritis. Diseases of the uterus. Endocervicoses. Glandular endometrial hyperplasia. Endometriosis. Uterine tumors. Fibrocystic disease, fibroadenoma, breast cancer. Pathology of pregnancy, postpartum and placenta. Diseases of the endocrine glands. Diabetes. Thyroid disease.

Tumors of the endocrine glands. Diseases of the nervous system. Myocardial and cerebral hemorrhage. Infectious diseases.

Pathophysiology

(Total study hours – 245, lectures – 55, practicalclasses – 108)

Contents:

Lectures: Subject matter, objectives and basic concepts of the pathophysiology. Damage to the cells. Heredity and pathology. Inflammation. Immunopathology. Fever. Hypoxia. Disturbances of carbohydrate metabolism. Diabetes. Disorders of fat metabolism. Atherosclerosis. Disorders of water metabolism. Edema. Disturbances of acid-base balance. Tumor growth. Extreme states. Pathophysiology of red blood cells. Anemia. Pathophysiology of leukocytes: leukocytosis, leukopenia, leukemoid reaction leukemia. Pathophysiology of hemostatic system. Coronary insufficiency. Heart failure. Cardiac arrhythmias. Pathology of vascular tone. Pathophysiology of external breathing and digestion. Pathophysiology of the liver. Jaundice. Pathophysiology of the kidney and the endocrine system. Violations of the functions of the adrenal and thyroid glands. Pathophysiology of the nervous system. Neuroses.

Practical classes: General nosology. Damage to the cells. Hereditary forms of pathology. Violation of organ and tissue blood flow. Microcirculatory disorders. Inflammation. Typical violations of immunobiological surveillance. Fever. Hypoxia. Disturbances of carbohydrate metabolism. Diabetes. Lipid metabolism. Atherosclerosis. Disruption of water and electrolyte metabolism. Edema. Disturbances of acid-base status. Violations of tissue growth. Tumors. Pathophysiology of red blood cells. Pathophysiology of hemostasis. Coronary insufficiency. Arrhythmias. Heart failure. Arterial hypertension and hypotension. Violation of the gas exchange function of the lungs. Disorders of the digestive function of the stomach and intestines. Impaired liver function. Jaundice. Impaired renal function. Glomerulonephritis. Violations of the pituitary and adrenal glands. Thyroid dysfunction. Neurogenic disorders of sensation, movement and trophism. Neuroses.

Hygiene with the basics of human ecology, Military hygiene

(Total study hours – 187, lectures – 55, practicalclasses – 70)

Contents:

Lectures: The content and objectives of hygiene. Environmental factors and their influence on health. The role of hygiene in the sanitary and epidemiological welfare of the population. Scientific basis for a healthy diet. Nutritional status as an indicator of health. Alimentary-dependent diseases. Causes and conditions of, preventive measures. Water and health. Hygienic bases for water supply of populated areas. Hygiene air environment. Influence of atmosphere pollution on sanitary conditions of living and health of the population. Hygiene of soil. Basics of cleaning residential areas. Environmentally caused human disease. The criteria for proof of cause-and-effect relationships in the analysis of health status. Climate and weather, their impact on public health. Hygienic aspects of acclimatization. Health Risk Assessment of the environment pollution in public health monitoring. Hygiene of residential and public buildings. The microclimate chambers hospitals. Nonspecific prevention of

nosocomial infections. Basics of healthy lifestyle. Hygienic aspects of protecting the environment from radioactive contamination. Urban environment. Hygienic problems of urbanization. Health of children and adolescents. Radiation safety. Military hygiene. Occupational health.

Practical classes: Food hygiene. Determining the needs of nutrients and energy in ensuring a healthy diet. Assessing the adequacy of the individual power of macronutrient composition and energy calculation. Assessing the adequacy of supply of micronutrients: vitamins, minerals and dietary fiber. Food and biological value of products. Forecast formation of nutritional status and characteristics of the health risks. Hygienic characteristics of food quality. Food poisoning and prevention. The impact of drinking water quality on public health. Integrated chemical load in multipath scenarios of exposure. Hygienic estimation of the location and layout of the hospital site. The physical development of children. Health Groups. Professional intoxication, dust. Noise, vibration. Radiation safety.

Practical skills. To estimate the probability (identify and characterize the hazard) of adverse effects on the body of natural, social and anthropogenic environmental factors in specific conditions of human activities. To perform hygienic control of the organization of nutrition and water conditioning in the field (military hygiene, extreme situations). To substantiate the need for adequate medical and preventive measures according to the hygienic characteristics of the working conditions and the early changes in health and work capacity, as well as in the event of occupational poisoning (occupational diseases). Provide recommendations for health promotion with the use of water, air, and sun and adaptation to unfavorable climatic and geographical factors during travel, holidays, or when moving to a new place of residence. To conduct hygienic education and training of the population on issues related to healthy lifestyle and personal hygiene.

Epidemiology

(Total study hours – 111, lectures – 18, clinical practical classes – 56)

Contents:

Lectures: The epidemiological approach to the study of human diseases. Evidence-based medicine. Database. Search for evidence-based medicine. The incidence of infectious diseases in Russia and the world. Epidemiology and prevention of infections with vertical transmission.

Clinical practical classes: The indicators used in epidemiological studies. Design and basis for the organization of epidemiological studies. Descriptive epidemiological studies. Observational analytical epidemiological studies (identification and evaluation of risk factors). Experimental studies (efficacy and safety of drugs and preventive medicines). Experimental studies (efficacy and safety of diagnostic tests). Systematic reviews. Meta-analysis. Epidemic process. Epidemiology. Immunization. Disinfection. Epidemiology and Prevention of anthroponoses with fecal-oral and aerosol transmission mechanism.

Practical skills. Identify the causes (risk factors) of the disease. To assess the potential effectiveness and safety of preventive and medicinal products, preventive and clinical measures, diagnostic and screening tests. To conduct primary preventive and antiepidemic measures in the foci of the most common infectious diseases.

Infectious diseases

(Total study hours – 213, lectures – 42, clinical practical classes – 100)

Contents:

Lectures: Foodborne diseases. Salmonellosis. Cholera. Shigellosis. Typhoid fever. Iersinioza. Viral hepatitis. Botulism. Leptospirosis. Erysipelas. HIV infection. Influenza. HFRS.

Meningococcal disease. Malaria. Plague. Tularemia. Lyme's ticks, borrelioses. Typhus.

Clinical practical classes: Intestinal infections and infestations: Cholera. Foodborne diseases, Salmonellosis, Shigellosis. Typhoid fever, paratyphoid A, paratyphoid B. Iersinioza, Botulism. Amebiasis, balantidiasis, giardiasis. Viral gastroenteritis. Helminth infections (trichinosis, opistorhoz, enterobiasis, hydatid disease, ascariasis, cestodosis). Acute viral hepatitis A, B, D, C, E. influenza and other acute respiratory diseases: Parainfluenza.

Adenovirus infection, rhinovirus infection, Respiratory syncytial viral infection, Ornithosis (psittacosis), legionellosis. Mycoplasma respiratory pneumonia. Meningococcal disease. Tularemia. Plague. Carrion's disease (cat scratch disease). Anthrax. Rickettsial diseases.

Epidemic typhus. Brill-Zinsser disease. Tick-borne rickettsiosis. Ixode ticks borreliosis.

Malaria. Hemorrhagic fever with renal syndrome, and other hemorrhagic fevers (Crimea-Congo, Lhasa, Marburg, Ebola, dengue, yellow). Leptospirosis. Erysipelas. Brucellosis. Q-fever. Tetanus. Rabies. HIV infection and opportunistic diseases. Differential diagnosis of diseases proceeding with a syndrome of meningitis, meningoencephalitis. Differential diagnosis of diseases that occur: jaundice syndrome in the clinic of infectious diseases; with exanthema, enanthema; diarrheal syndrome. Children's respiratory infection in adults.

Differential diagnosis of fever. Laboratory diagnosis of infectious diseases in the clinic.

Practical skills. To collect and analyze information about the patient's health condition. To have an algorithm for determining a clinical diagnosis and treatment of uncomplicated forms. To diagnose and provide emergency medical care at the prehospital and hospital stages and determine the tactics of further medical care in emergency conditions. To know the algorithm for the establishment of a preliminary diagnosis with subsequent referral of patients to an infectious diseases hospital for diagnostic, therapeutic, or anti-epidemic purposes. To solve deontological tasks in the communication with a contagious patient and his relatives. To be able to use personal preventive methods when working with infectious patients.

Clinical Pharmacology

(Total study hours – 77, lectures – 4, clinical practical classes – 44)

Contents:

Lectures: Introduction to clinical pharmacology. Pharmacokinetics. Pharmacodynamics.

NLR. The interaction and the use of drugs (medicines) by pregnant and lactating women.

Pharmacogenetics. Clinical pharmacoeconomics and pharmacoepidemiology / principles of evidence-based medicine.

Clinical practical classes: Clinical pharmacology of drugs affecting vascular tone. Clinico-pharmacological approaches to the selection and use of drugs in patients with arterial hypertension (basic therapy and treatment of hypertensive crises). Clinical pharmacology of antianginal drugs, drugs that affect hemostasis, lipid-lowering drugs. Clinico-pharmacological approaches to the selection and use of drugs in patients with ischemic heart disease (angina, unstable angina, acute myocardial infarction). Clinical pharmacology of

drugs affecting the basic functions of the myocardium (cardiac glycosides, antiarrhythmics). Clinical pharmacology of diuretics. Clinico-pharmacological approaches to the selection and use of drugs in patients with CHF. Clinical pharmacology of NSAIDs and corticosteroids. Clinical pharmacology of drugs used in diseases of the gastrointestinal tract. Clinical pharmacology of antibacterial drugs. Clinico-pharmacological approaches to the selection and use of antimicrobial drugs. Clinical pharmacology of bronchodilators. Clinico-pharmacological approaches to the selection and use of drugs in patients with asthma and COPD.

Practical skills. Assess the possibilities of using drugs for pharmacotherapy. To prescribe medicinal products in various forms of administration for specific pathological conditions based on the particular pharmacodynamics and pharmacokinetics of the preparations. Assess the possibility of toxic effects of drugs and pharmacotherapy methods against poisoning.

Dermatology

(Total study hours – 136, lectures – 30, clinical practical classes – 61)

Contents:

Lectures: Propaedeutics of skin diseases. Dermatitis, drug reaction. Itching and skin diseases. Fungal infections and skin. Viral infection. Sexually transmitted disease. The pathogenesis of syphilis infection. Diagnosis of early syphilis. Diagnosis of late forms of syphilis. Congenital syphilis. Modern therapy and prevention of syphilis. Gonorrhoea and NGU in men.

Clinical practical classes: Principles of diagnostics of dermatoses. Primary and secondary morphological components. Methods of examination of skin diseases. Methods of examination of a patient with a venereal disease. Principles of topical treatment of dermatoses. Skin diseases. Infectious parasitic skin disease. Pyoderma. Scabies. Pediculosis. Tinea. Viral and cystic dermatosis. TB skin. Leishmaniasis. Leprosy. Occupation and skin. Allergodermatoses. Dermatitis. Eczema. Pruritic dermatoses. Professional dermatoses. Psoriasis. Lichen planus. Pink zoster. Seborrhea. Acne. Rosacea. Erythematous, scleroderma. Skin Syndrome diffuse connective tissue diseases. Neoplasms of the skin. Diseases of hair. Sexually transmitted disease. The pathogenesis of syphilis infection. Diagnosis of early syphilis. Diagnosis of late forms of syphilis. Congenital syphilis. Modern therapy and prevention of syphilis. Gonorrhoea and NGU in men.

Practical skills. To collect anamnesis and examine the patient with cutaneous and venereal disease. To describe the clinical picture of skin and mucous membrane lesions in adults. To compile an out-patient medical history of a patient with dermatosis. To clinically determine the primary and secondary morphological elements on the skin, lips and mucous membrane of the oral cavity. To diagnose diseases, make a plan for treatment and secondary prevention for patients with dermatoses. To make prescriptions for main formulations for general and topical use. To apply topical formulations for various dermatoses. To determine dermographism. To cause psoriatic phenomena. To evaluate Koebner isomorphic phenomenon. To use Wood lamp to diagnose microsporia and perform differential diagnosis of lupus erythematosus and flat lichen on the vermilion border of the lips. To provoke Nikolsky's sign. To collect pathological samples for investigation to identify scabies mites, pathogenic fungi and gonococci.

Therapeutic physical exercise and medical supervision

(Total study hours – 77, lectures – 6, clinical practical classes – 42)

Contents:

Lectures: Medical control. Organization of medical exercises service. Physical culture and sports as a means of health promotion, disease prevention, preservation and improvement of physical performance. Investigation of physical development, build, features of the musculoskeletal system and their assessment in relation to physical culture and sports. Functional tests of the cardiovascular and respiratory systems and their importance in the evaluation of the physical condition, in the selection and justification of an exercise program. Medical-pedagogical monitoring in the process of physical education, sport and exercise therapy. Drawing up a medical report. Medical examination of different segments of the population for assessing readiness for physical culture and sports. The history of physical therapy services in the country and abroad. The organization of medical-sports service in the country.

Clinical practical classes: Fundamentals of medical physical training. Exercising in the medical rehabilitation of patients with cardiovascular diseases. Exercising in the medical rehabilitation of patients with respiratory diseases. Exercising in the rehabilitation of patients with diseases of the digestive and metabolic disorders. Exercising in the rehabilitation of patients with diseases and injuries of the musculoskeletal system. Exercise therapy in abdominal surgery. Exercising in the rehabilitation of patients with diseases and injuries of the central and peripheral nervous systems. Physical training during pregnancy.

Practical skills. To examine and evaluate physical development of healthy and sick people. To select an appropriate functional test for the patient's condition, conduct it and evaluate the results. To define the medical group for physical exercise and give recommendations on the motor regimen and on the correction of the deficiencies revealed. To conduct medical and pedagogical observations of the persons doing physical therapy, physical training and sports, to evaluate the results and give recommendations to the methodologist, the teacher of physical education, the trainer and the patient. To prescribe physical activity regimen to the patient taking into account his/her household and occupational motor activities. To prepare a plan for the correction of the defects identified. To choose the necessary means of physical rehabilitation for the patient. Teach a patient how to perform exercises properly: respiratory, relaxation, aimed at improving peripheral circulation, draining pain in the lungs in localized breathing, improving air intake, exhaling and breathholding. To compose a set of physical exercises for the patient, taking into account the existing abnormalities (myopia, flat feet, impaired posture).

Radiology diagnostics and therapy

(Total study hours – 108, lectures – 24, clinical practical classes – 48)

Contents:

Lectures: Computed tomography. Magnetic resonance tomography. Ultrasound examinations. Methods of X-Ray diagnostics. Angiography.

Clinical practical classes: Normal bone in Ray image. Radiological diagnosis of diseases of bones and joints. Traumatic injuries of bones and joints. Lungs in Ray image. Radiation syndrome lung damage. Radiological diagnosis of diseases of the lungs. Heart in the Ray image. Radiological diagnosis of diseases of the heart and major blood vessels. Esophagus, stomach, intestines in the Ray image. Radiological diagnosis of diseases of the esophagus,

stomach, intestines. Work in the office of radiation diagnosis. X-ray method of investigation. Computed tomography. Angiography. Interventional radiology. Mammography. Radionuclide diagnostics. Ultrasonic method of examination. Magnetic resonance imaging. Complex radiological examination of hepato-biliary system. Integrated diagnostics uronefrologii. Work at the clinic of radiodiagnostics.

Practical skills. To determine the appropriateness of radiodiagnosis, the type and sequence of its use. To determine the type of radiation study. To establish contraindications to the use of X-ray diagnostics methods; give recommendations. To recognize the images of human organs, indicate their main anatomical structures, find changes in the presented radiographs, in the images produced by radiation imaging (tomography, roentgenography, sonography). To recognize the radiography signs of "emergency conditions" (intestinal obstruction, free gas in the abdominal cavity, pneumo-hydrothorax, injuries of bones and joints, cholelithiasis, urolithiasis).

Autopsy course

(Total study hours – 31, clinical practical classes – 18)

Contents:

Clinical practical classes: Fundamentals of legislation on pathoanatomical service, tasks, objects and methods. Autopsy. Meeting the challenges of clinical and anatomical analysis. The study of biopsy, operational materials and afterbirth.

Neurology, Neurosurgery

(Total study hours – 185, lectures – 34, clinical practical classes – 89)

Contents:

Lectures: Acute cerebrovascular disorders. Transient ischemic attack. Circulatory encephalopathy. Dementia. Head and facial pain. Back pain. Diseases of the peripheral nervous system. Toxic damage to the nervous system. Somatoneurological disorders. Infectious diseases of the nervous system. Tumors of the brain and spinal cord. Paroxysmal disorders of consciousness. Central and peripheral paralysis. Movement disorders. Extrapyramidal syndromes. Incoordination. Violation of the sensitivity. Pain. Peripheral autonomic dysfunction. Neurological disorders of the pelvic organs. Cerebrospinal fluid. Meningeal syndrome. Hypertensive syndrome. Violations of higher brain functions. Disturbances of consciousness. Violations of sleep and wakefulness.

Clinical practical classes: Methods of examination of neurological patients. Central and peripheral paresis. Extrapyramidal disorders. Ataxia. Sensitivity disorders. Pain. Spinal cord. Symptoms of damage at various levels of the spinal cord. Caudal group of cranial nerves (IX-XII pairs). Bulbar and pseudobulbar palsy. V, VII and VIII pair of cranial nerves. Oculomotor nerves (III, IV and VI of the pair). I and II, a pair of cranial nerves. Higher brain functions. Ischemic stroke. A hemorrhagic stroke, subarachnoid space. Transient ischemic attack. Encephalopathy. Dementia. Head and facial pain. Back pain. Diseases of the peripheral nervous system. Neuromuscular diseases. Multiple sclerosis. Traumatic brain injury. Tumors of the brain and spinal cord. Paroxysmal disorders of consciousness. Self Supervision patients.

Practical skills. To conduct an inquiry and collect anamnesis from a neurological patient, to study the neurological status, to reveal the symptoms of the nervous system impairment, to identify neurologic syndromes, to establish a topical and preliminary clinical diagnosis. To make

a plan for examining a neurological patient, to evaluate the results of the main supplementary test methods. To establish clinical diagnosis of the basic neurological diseases, to perform emergency treatment of acute neurological disorders. To organize care for a neurological patient, to take prevention measures against major neurological diseases.

Medical genetics

(Total study hours – 57, lectures – 16, clinical practical classes – 22)

Contents:

Lectures: Genetic diseases. Etiology, pathogenesis and laboratory diagnosis of genetic diseases. The clinical picture and treatment of genetic diseases. Chromosomal disease. Chromosomal abnormality. Cytogenetic diagnostic methods. Diseases with hereditary predisposition. The value of a genetic predisposition to common human pathologies. Genetic polymorphism of populations as a basis for inheritance. Predisposition. Monogenic conditioned predisposition. Ecogenetics and pharmacogenetic reactions. Fundamentals of prevention of hereditary and congenital diseases. Mass diagnosis of hereditary and congenital diseases. Medical Genetics and organizational framework for the prevention of hereditary and congenital diseases. Prenatal diagnosis.

Clinical practical classes: The phenomenology of the clinical manifestations of hereditary diseases. Semiotics of hereditary diseases. Clinical-genealogical method. Human Genome. The molecular basis of hereditary diseases. Molecular-genetic and biochemical methods of diagnosis of hereditary diseases. Monogenic diseases. Chromosomal disease. Cytogenetic methods of diagnosing chromosomal aberrations. Diseases with hereditary predisposition. Ecogenetic pathology. Principles of treatment of hereditary diseases. Prevention of hereditary diseases.

Practical skills. To examine patients and their relatives in order to identify congenital and hereditary pathology, to assess the diagnostic and prognostic significance of the detected symptoms and morphogenetic variants for the development of the condition. To collect genealogical data in an appropriate manner, to compile a genealogy and conduct its genetic analysis, to formulate a tentative diagnosis. To determine the indications for the prescription of special cytogenetic, molecular-genetic and biochemical diagnostic methods and for referral to medical genetic counseling. To identify individuals with an increased risk of developing multifactorial diseases.

Otorhinolaryngology

(Total study hours – 102, lectures – 24, clinical practical classes – 44)

Contents:

Lectures: Methods of research, clinical anatomy and physiology of the throat, nose and paranasal sinuses. Methods of research, clinical anatomy and physiology of the larynx, outer and middle ear. Methods of study, anatomy and physiology of the auditory analyzer. Methods of study, anatomy and physiology of the vestibular analyzer. Acute and chronic diseases of the nose. Acute and chronic diseases of the paranasal sinuses. Acute diseases of the throat. Chronic diseases of the throat. Acute and chronic diseases of the larynx. Disorders of the outer ear, acute otitis media, mastoiditis. Chronic suppurative otitis media. Otogenic

rhinogenous and intracranial complications. Purulent diseases of the ear. ENT-oncology. Emergency care in otorhinolaryngology.

Practical skills. To collect and analyze information about the condition of the patient's ENT organs. To know the algorithm for the establishment of clinical and epidemiological diagnosis, prescription of treatment and preventive measures, to conduct therapeutic and preventive measures to people of any age who have diseases. To conduct anterior rhinoscopy, pharyngoscopy, indirect laryngoscopy, otoscopy, tuning forks tests, study of vestibular function, interpretation of the threshold tone audiogram, tympanograms, radiographs, CT of paranasal sinuses, examination of eustachian tube patency by otoscope, pressure tests.

Ophthalmology

(Total study hours – 114, lectures – 26, clinical practical classes – 50)

Contents:

Lectures: Anatomy and physiology of the visual organ. The functions of the visual organ. Clinical refraction. Accommodation. Diseases of the eye adnexa: eyelids, lacrimal organs and orbit. Syndrome of "red eye": diseases of the conjunctiva, cornea, vascular tract. The gradual decline in vision: glaucoma, cataract. The change in the body of common diseases. The sudden painless decrease in vision. Eye injuries.

Clinical practical classes: General Ophthalmology. Introduction to the profession. The history of ophthalmology. Anatomy and physiology of the visual organ. The optical system of the eye. Refraction. Accommodation. Private ophthalmology. Diseases of the eye adnexa. The syndrome of gradual decline. Changes in the body of common diseases and intoxications. The sudden painless decrease in visual acuity. Traumatic and professional damage to the organ of vision.

Practical skills. To produce a preliminary diagnosis of common eye diseases and injuries, provide first medical help and make a decision about the further medical tactics. To perform measures aimed at the prevention of the development of many eye diseases and damage to the eye, as well as the development of severe disabilities due to blindness and impaired vision. To perform exterior examination of the eye and its appendages; of the anterior part of the eye by the method of lateral illumination; of the optical media in transmitted light; of the conjunctiva of the upper eyelid with eyelid eversion. Determination of intraocular pressure (by palpation); of the width of the angle of the anterior chamber, by orientation method; of the presence of contents in the lacrimal sac (by palpation); of the patency of the tear ducts with tubular and nasal samples, their evaluation; of the central visual acuity; of the boundaries of peripheral vision by orientation method; of color vision with the use of Rabkin polychromatic tables; refraction by subjective method; interpupillary distance; position of the near point. The use of a trial spectacle lenses set. Determination of the type and refractive power of a spectacle lens. Investigation of binocular vision by the following methods: a) "hole in the palm", b) test with wheel spokes, c) fixative eye movements. To administer drops into the conjunctival sac. To place ointment in the conjunctival sac. Application of a monocular bandage (sticker). To prescribe the most common medicines used in ophthalmology. To issue prescriptions for glasses.

Psychiatry and Narcology

(Total study hours – 134, lectures – 34, clinical practical classes – 55)

Contents:

Lectures: The object and purpose of Psychiatry. Classification of mental disorders. The organization of mental health care in Russia. Mental Health Act. General Psychopathology: registers psychopathological disorders, productive and negative symptoms, disorders cognitive activities. General Psychopathology: affective syndromes, disorders of motor-volitional sphere, syndromes of disordered consciousness. Endogenous diseases: schizophrenia and affective psychoses. Psychoorganic syndrome. Organic brain disease caused by external factors (trauma, intoxication, infection). Personality disorders - psychopathy. Neurotic and other psychogenic diseases. Psychotherapy.

Psychopharmacotherapy and other methods of treating mental disorders. Medical and social aspects of alcohol and other substances abuse. Features of mental disorders, appearing at different ages: childhood, adolescence, maturity, involution, senile. Mental disorders in medical, surgical and gynecological practice. Somatoform psychiatric disorders.

Clinical practical classes: Concepts syndrome, psychosis, productive and negative symptoms. Disorders of sensation. Disorders of perception. Illusions, hallucinations. Psychosensory disorders. Derealization and depersonalization. Syndrome of hallucinosis. Violations of the associative process. Delusion, obsessions, overvalued ideas. Classification of delirium. Delusional syndromes (paranoiac, paranoid, paraphrenic, Kandinsky-Clerambault). Memory impairment. Korsakoff's syndrome. Assessment of intelligence. Disorders of intelligence. Oligophrenics. Dementia. Pathology of will inclinations. The symptoms of emotional disorders. Syndromes affective disorders (manic, depressive, apathy abulia). Movement disorders catatonic syndrome. Criteria for impairment of consciousness. Syndromes of disorders of consciousness. Classification of mental disorders. Maniac-depressive psychosis. Schizophrenia (principles of diagnosis). Schizophrenia (syndromes, forms, types of course, prognosis, treatment). The concept of psycho-organic syndrome. Organic cerebral affection ((atrophy, vascular, infectious diseases, tumors, trauma, intoxication). Epilepsy (definition, basic options paroxysms of change lich-treatment). The concept of status epilepticus and its treatment. Psychogenic, diagnostic criteria. Reactive psychosis. Neuroses (definition, classification, differential diagnosis with indolent Schizophrenia treatment). Psychopathy (definition, etiology, the main course, classification, ways of correction, clinical types). Exogenous organic lesions (trauma, infection, somatic diseases). The concept of exogenous type reactions. Alcoholism, alcoholic psychosis. Drug and substance abuse.

Practical skills. Use psychotherapy elements in complex treatment of various diseases (including somatic ones). To establish a productive contact with a mentally ill patient. To identify basic mental functions disorders and collect subjective and objective anamnesis. To organize the supervision, holding and transportation of an agitated and socially dangerous patient; To provide primary medical care in an urgent situation (psychomotor agitation, aggressive and suicidal behavior, refusal to eat, epileptic status, severe delirium, psychoactive substance poisoning).

Forensic Medicine

(Total study hours – 127, lectures – 26, clinical practical classes – 52)

Contents:

Lectures: Forensic thanatology, toxicology. The subject of "Forensic medicine" and the

history of its development. Remedial and organizational bases of forensic examination. Forensic Traumatology. Gunshot injuries. Professional violations of health workers in the health sector.

Clinical practical classes: Mechanical asphyxia. Newborn. Place of occurrence. Forensic examination of the corpse. Assessment of damage to health. Traumatology. Gunshot injuries. Deontology. Extreme factors.

Practical skills. To assist the investigator in the discovery, collection and packing of physical evidence of biological origin. To state the fact of biological death and to determine the approximate time of death on the basis of cadaveric changes. To explain to the parties (the prosecution and the defense) and the court any issues falling within the professional competence. To establish the nature of the damages, to describe their morphological features, to determine the mechanism, time frame and sequence of their formation. To identify and describe morphological changes in soft tissues, internal organs and bones of the skeleton in cases of violent and non-violent death. Use the basics of deontology in forensic medicine (in the study of corpses, living persons, during the work of forensic authorities, with the relatives of victims, etc.).

Extreme and military medicine

(Total study hours – 323, lectures – 68, clinical practical classes – 147)

Contents:

Lectures: Medical Service of civil defence. Medical tactical characteristics of damaging factors of modern weapons. Protecting the population in wartime. Medical care of the population in civil defense. Mobilization training of health care service. The nature of modern wars and armed conflicts. Modern means of warfare. Special form of health care. The role and place of base hospitals in the modern system of medical evacuation support of troops. Preparation of a medical facility for use in emergency situations. Organization of the medical-evacuation support of the population in emergency situations. Medical sanitary support of the population in recovering from the aftermaths of human-caused emergencies. Medical sanitary support of the population in recovering from the aftermath of natural emergencies (natural disasters). Organization of sanitary and anti-epidemic security in emergency situations. Medical supply units and institutions for health care for the population in emergency situations.

Clinical practical classes: Organization of medical evacuation support of the population. MSCD groups in conducting rescue operations in affected areas. The organization and provision high skilled and specialized medical care at time of war. Organization of sanitary and epidemiological protection of population in wartime. Toxicology and health protection. The basic laws of interaction of organism and chemicals. Toxic chemicals with irritating, pulmonotoxic, general poison, cytotoxic, neurotoxic effects. Poisonous technical liquids. An introduction to radiobiology. Fundamentals of biological effects of ionizing radiation. Radiation injuries as a result of external general (total) radiation. Lesions resulting from internal radioactive contamination. Local radiation injuries. Medical means for prophylactic, prevention and care in chemical and radiation injuries. Technical PPE. Activities of the medical service in the centers of chemical and radiation exposure. Emergency Medicine. Medical protection of population and rescue personnel in emergency situations.

Practical skills. To calculate the possible quantity and structure of sanitary losses, depending on the nature of the focus of the disease. To perform medical sorting and preparation for medical

evacuation. To use personal respiratory protection, skin protection, individual eye protection. To provide medical care in the area of the outbreak and at the stages of medical evacuation, to know the purpose, structure and operation of devices for indication of toxic chemicals. To use devices of chemical and radiation investigation for expert examination of water and foodstuff. To use methods, techniques and means for special treatment. To assess the chemical and radiation situation. To conduct medical sorting of the affected (sick) individuals in emergency situations. To provide primary medical care, first aid and first medical assistance to the affected population in wartime and natural disasters or anthropogenic emergency situations. To determine the development of mental disorders among the affected persons, medical personnel and rescuers in emergency situations of different nature. To keep inventory of the medical equipment and supplies. To use medical and other types of property in the possession of located on the provision of the emergency medicine facility.

Obstetrics and gynecology

(Total study hours – 562, lectures – 76, practical classes – 293)

Contents:

Lectures “Obstetrics”: Obstetric hemorrhage: pathogenesis, treatment and prevention.

Etiology and pathogenesis of preeclampsia. The clinic, diagnosis, prevention and treatment of preeclampsia. Placental insufficiency. Fetal hypoxia. Fetal growth retardation.

Extragenital diseases and pregnancy. Postnatal inflammatory diseases. Premature termination of pregnancy. Premature birth. Perinatal mortality and ways to reduce it. Gynecology. Non-immediate gynecology. The physiology of the female reproductive system. Research Methods and propedeutics in gynecology. Dysfunctional uterine bleeding. Pelvic inflammatory disease. Hypomenstrual syndrome. Neuroendocrine syndrome. Barren marriage. Modern methods of birth control.

Lectures “Gynecology”: Operative gynecology. Endometriosis. Uterine fibroids. Background precancerous lesions and cancer of the uterus (the cervix and uterus). Anomalies of the genitals. The failure of the pelvic floor muscles. "Acute abdomen" in gynecology. Benign and malignant ovarian tumors.

Practical classes: Occupation Obstetrics. Physiological Obstetrics. The system of care for pregnant women in the Russian Federation (working principle and structure of the women's clinic, maternity home). Performance obstetric hospital. Embryos and organogenesis, the formation of the placenta. The mother-placenta-fetus. Research Methods in pregnancy. Changes in the body of a pregnant woman. Structure and function of the pelvic organs. The anatomy of the pelvic floor. The birth canal. Fruit of the object of delivery. Obstetric propedeutics. Biomechanism delivery (flexion). Hospital births. Physiological postpartum period. The neonatal period. Changes in a woman's body during pregnancy. The course and management of pregnancy by trimester of development. Physiological birth. Contractile function of the uterus. Management Principles generic act. Ideas about the formation of a single functional system "mother-placenta-fetus". Pathological Obstetrics. Biomechanism of delivery (extensor). Breech presentations. Assistance at breech presentation. Bleeding I and II half sequence and the early postpartum period of pregnancy. Toxemia of pregnancy. Preeclampsia. Anomalies labor. The narrow pelvis. Obstetric injuries of mother and fetus. Isoserological incompatibility of mother and fetus. Extragenital diseases and pregnancy. Postnatal inflammatory diseases. Premature birth. Prolonged pregnancy. Forceps. Cephalic.

The extraction of the fetus for pelvic end. Vacuum extraction. The concept of embryotomy operations. Cesarean section. Studies in the Center of practical skills.

Practical skills. To perform physical examination of a woman; external obstetric examinations, measurement of the large pelvis, vaginal examination, determination of the term of pregnancy and date of childbirth, estimation of intrauterine fetal weight; examination with the use of mirrors, sample taking from the urethra, cervical canal, vagina. To diagnose and provide emergency medical care to women at the prehospital and hospital stages, with the determination of tactics for the provision of further medical care in emergency conditions: pre-eclampsia, eclampsia, physiological labor, obstetric hemorrhages; with the performance of the following manipulations: to assist in physiological delivery, to perform the primary toilet of the newborn. To solve deontological tasks relative to the collection of information, diagnosis, treatment, prevention and care for patients with gynecological diseases, pregnant women, parturients and new mothers.

Paediatrics

(Total study hours – 321, lectures – 72, clinical practical classes – 142)

Contents:

Lectures: Diphtheria. Infectious mononucleosis. SARS. Feeding. Enterovirus infections. Polio. Emergency conditions. Meningococcal disease. Measles. Rubella. Herpes infection. HIV. GPB. Chronic hepatitis. Scarlet fever. OCI. Pertussis. Tuberculosis. Mumps. Diseases of the digestive tract. Vaccination. COPD. Violations of growth and development in children. Respiratory diseases in infants. Urinary infection. Glomerulonephritis. Chronic eating disorder. Anemia. Topical issues of Pediatrics. Problems of Neonatology. Diseases of the cardiovascular system in children. DBST. Rickets. Features of rheumatic diseases in children. The anomalies of the constitution. Bronchial asthma. Diseases of the blood. Systemic vasculitis. Isolation. Hematopoiesis. Breathing. Immunity. Skin, bone, n / a, n / a, muscles. Circulation. Digestion. Endocrine system. Physical and mental development. Diseases of the newborn. Eating disorders. Allergic diseases. The anomalies of the constitution.

Practical classes: Excretion. Hemopoiesis. Respiration. Immunity. Skin, bones, subcutaneous, lymph nodes, muscles. Blood circulation. Digestion. Endocrine system. Physical and psychic development. Anemias. Diseases of the newborn. Nutritional disorders. Allergic diseases. Constitutional anomalies. Rickets. Diphtheria. Infectious mononucleosis. SARS. Feeding. Enterovirus infections. Polio. Emergency conditions. Meningococcal disease. Measles. Rubella. Herpes infection. HIV. GPB. Chronic hepatitis. Scarlet fever. OCI. Pertussis. Tuberculosis. Mumps. Diseases of the digestive tract. Vaccination.

Practical skills. To keep the medical history and the outpatient card of a child. To collect and analyze the information on the condition of the patient. To evaluate a child's neuropsychic and physical development. Give recommendations: on child care, nutrition; disease prevention. To determine anti-epidemic measures and plan vaccination. Master the algorithms of establishing clinical diagnosis; therapeutic and preventive measures in respect of childhood diseases; the provision of medical assistance at the prehospital stage and the tactics of further medical care for children in urgent conditions. The tactics of dispensary observation of children with chronic diseases.

General nursing care (therapy)*(Total study hours – 57, lectures – 8, clinical practical classes – 30)***Contents:**

Lectures: The value of nursing. Features of the organization of work of therapeutic hospital. Medical ethics. The sanitary and epidemiological regime of therapeutic hospital, and particularly its enforcement in different units and buildings. Total care for medical patients. Measuring body temperature, design temperature of the sheet. The simplest measure of physical therapy effects on the body of the patient. Observation and care of patients with diseases of the respiratory and digestive system.

Clinical practical classes: Organization of the medical institutions. Wet cleaning wards, corridors and common areas. Control of the sanitary condition of cabinets. Transporting patients. Using the tools to create a comfortable position the patient. Sanitization sick and personal hygiene of the patient. Meals patients. Measuring body temperature, design temperature of the sheet. Measure the impact on the patient's banks, mustard, compresses. Enema: types, machinery production. Organization of nursing post. Storage and organization distributing medicine. Organization of the treatment room. The device, sterilization and preparation of syringes. Typesetting collection syringes and drugs from vials, bottles. Method subcutaneous, intramuscular injections. Methods of intravenous injection and intravenous drip infusion. Features care with respiratory, cardiovascular, digestive. The methodology of the gastric and duodenal intubation. Preparing patients for X-ray examination. Features of care for patients with diseases of the urinary organs. Procedures for urine collection for general analysis and research by Nechiporenko. Procedures for collecting daily urine, 2 options of urine collection for the study by Addis-Kakovsky. Conducting Zimnitsky tests. Preparing patients for radiological research. Features of care for seriously ill and moribund.

Practical skills. Preparation of chlorinated disinfecting solutions for practical use. Determination of the patient's height and weight. Determination of the circumference of the chest. Respiratory rate calculation. Transportation of a patient on a wheelchair, on a gurney and manually (on stretchers). Changing undergarment and bed linen for a seriously ill patient. Bed-pan placement. Intimate washing of the patient. Oral cavity hygiene procedures. Eye drops administration and eye irrigation. The ability to place eye ointment on the lower eyelid from the tube and with an eye spatula. Administering drops in the ears. Otic toilet. Nasal toilet. Administering drops in the nose. Measurement of body temperature and recording of the measurement data in the temperature sheet. Administration of mustard plasters. Cupping therapy performance. The setting of leeches. Administration of a local warming compress on the limbs and ear. Cold compress administration. Preparation and administration of a hot-water bag for a patient. Preparation and administration of an ice pack to the patient. To rub, spread a medical product on the skin or cover the skin with a medical product. To test the quality of cleaning of syringes and needles from blood and the cleaning solution. Collection of a sterile syringe from the kraft bag and from a sterile table. Filling the syringe with a medicinal solution from an ampoule and from a vial. Dilution of antibiotics. Intradermal injection. Subcutaneous injection. Intramuscular injection. Intravenous injection. Filling the intravenous drip system with medicinal substances. Conducting intravenous drip infusion. Application of a tourniquet on the upper arm. Provision of first aid in case of sudden dyspnea (asphyxia). Collection of phlegm for laboratory testing. Provision of first aid for patients with hemoptysis and pulmonary hemorrhage. Administration of oxygen therapy

by various methods. Ability to use a pocket inhaler. Determination of the characteristics of the arterial pulse on the radial artery. Measuring arterial blood pressure. Registration of the results of the examination of the arterial pulse and arterial pressure in the temperature sheet. Provision of the first aid in cases of vomiting. Examination of the oral cavity. Taking smears from the pharynx and nose for bacteriological examination. To perform gastric lavage with a thick gastric tube. Conducting a fractional study of gastric juice. Probing the stomach with a thin probe. Duodenal sounding performance. Blind enema. The use of cleansing enema. The use of siphon enema. Administration of oil enema and saline enema. The use of medicinal enema. Determination of the fluid balance. Collection of urine for laboratory testing. Zimnitsky test performance. Performance of urinary bladder catheterization with a soft catheter. Conducting the indirect cardiac massage. Performing artificial ventilation of the lungs.

Propaedeutics of Internal Medicine

(Total study hours – 324, lectures – 72, clinical practical classes – 144)

Contents:

Lectures: The value of internal medicine in general medical education. Preventative health care. Tasks of propaedeutic clinic. The concept of diagnosis and diagnostics. The concept of medical ethics. Fevers. The syndrome of harden lung tissue (symptomatology and diagnosis of pneumonia). Bronchial obstruction syndrome (symptomatology and diagnosis of bronchitis, bronchial asthma). Syndrome of increased airiness of the lung tissue (symptomatology and diagnosis of emphysema). Syndrome of failure of external breathing. Syndrome in the lung cavity (symptomatology and diagnosis of bronchiectasis, lung abscess). Syndromes of accumulation of fluid and gas in the pleural cavity (symptomatology and diagnosis of exudative pleurisy, hydro and pneumothorax). Diseases of the cardiovascular system. Schedule and methods of examination of patients. The main symptoms and syndromes. Echocardiography. Symptomatology and diagnosis of mitral, aortic, tricuspid heart defects. The main syndromes in acute and chronic heart failure. Hypertension syndrome: pathogenesis, clinical symptoms. Syndrome of acute and chronic coronary insufficiency.

Diseases of the digestive system. Modern laboratory and instrumental methods of diagnostics of diseases of the gastrointestinal tract. The main symptoms and syndromes in diseases of the pancreas. The main symptoms and syndromes in liver disease jaundice, hepatolienalny (hepato-splenic) syndrome, cholestasis. Hepatocellular insufficiency. The main symptoms and syndromes in diseases of the biliary system. The main syndromes in diseases of the kidney. The syndrome of acute and chronic renal failure. The main symptoms of anemia and hemorrhagic diathesis. Symptomatology and diagnosis of myeloproliferative syndrome (myeloid leukemia) and lymphoproliferative syndrome (lymphocytic leukemia). The main symptoms and syndromes in diseases of the endocrine system. Syndrome of hypo- and hyperglycemia.

Clinical practical classes: Regimen for patient history. Questioning and general examination of the patient. Questioning patients with respiratory diseases. General inspection. Methods of studying the respiratory system. Inspection and palpation of the chest, percussion and auscultation of the lungs. Symptomatology of diseases of the respiratory system. Questioning and examination of patients with diseases of the circulatory system. Palpation of the heart. Percussion and auscultation of the heart. Research arterial pulse. Measuring blood pressure.

Electrocardiographic methods. Functional methods of research of the circulatory system: PCG, echocardiography, radiological, radionuclide and dr.metody. The concept of rheumatism. Symptomatology mitral heart defects: stenosis of the left atrioventricular opening and mitral valve insufficiency. Tricuspid valve (organic and functional). The value for the diagnosis of echocardiography, PCG. Symptomatology of diseases of the circulatory system. Questioning and examination of patients with diseases of the digestive system. Percussion of the abdomen. Methods for determination of ascites. Palpation of the abdomen (the estimated surface and methodical deep sliding by V. Obratsov and N.Strazhesko). Syndromes of lesions of the esophagus, stomach, intestine, syndrome of "acute abdomen." Questioning and examination of patients with diseases of the liver and biliary tract. Percussion and palpation of the liver and spleen. Modern laboratory and instrumental methods of investigation of the digestive system. Symptomatology of diseases of the digestive system. Questioning, examination of patients with diseases of the urinary flow. Percussion and palpation of the kidneys and bladder. Lab: Analysis of urine. Biochemical analysis of blood under pathological syndromes. The general idea of the X-ray and ultrasound of the kidneys and urinary tract. Symptomatology of glomerulonephritis (acute and chronic). Nephrotic and nephritic syndrome. Chronic pyelonephritis. Chronic renal failure. Questioning, examination of patients with diseases of the blood. The diagnostic value of the clinical trial of a blood test. Understanding the sternal puncture trepanobiopsy; interpretation of the results. Understanding coagulogram. Symptomatology of anemia. Symptomatology of leukemia. Hemorrhagic syndrome. Symptomatology of certain diseases of the endocrine and metabolic diseases. Diabetes. Thyrotoxic goiter. General concepts of adrenal insufficiency, hypo- and hypervitaminosis. Emergency conditions in internal medicine. Diagnosis and first aid. Anaphylactic shock, and sudden death. Principles of resuscitation. Features of examination of patients with "allergies" and diseases of the musculoskeletal system and joints.

Practical skills. To collect and analyze the information on the condition of the patient. Ask the patient and the patient's relatives: to identify complaints, to collect a history of the development of the disease and the life anamnesis. To perform physical examination of the patient (percussion, palpation, auscultation), detecting the main symptoms. To state the data obtained in the examination and testing of the patient in the sections of the medical history. Analyze the results (identify the main symptoms) of auxiliary research methods. Identify the main clinical and laboratory syndromes. To observe the deontological procedures associated with the collection of information about the patient and the results of the tests and examination.

Internal medicine, general physiotherapy, military-field therapy

(Total study hours – 267, lectures – 42, clinical practical classes – 136)

Contents:

Lectures: Pneumonia. Bronchial asthma. Chronic bronchitis. ECG. Hypertrophy of different parts of the lungs. Rhythm and conduction disturbances. Rheumatism. Mitral heart disease. Aortic valvular heart disease. Infective endocarditis. Hypertonic disease. CHD. Angina. CHD. Acute myocardial infarction. Congestive heart failure. Chronic gastritis. GERD. Peptic ulcer and duodenal ulcer. Syndromes in liver disease. Chronic hepatitis. Cirrhosis of the

liver. Syndromes in diseases of the bowel. Chronic pancreatitis. Syndromes in diseases of the kidney. AGN. Fe-deficiency anemia and sideroachrestic anemia. B12-deficiency anemia. Rheumatoid arthritis. Systemic lupus erythematosus. Modern approach to the treatment of hypertension. Acute coronary insufficiency. Symptomatic hypertension. Differential diagnosis and treatment of pulmonary embolism syndrome. Acute coronary syndrome. Differential diagnosis of arrhythmias and conduction. Differential diagnosis of bronchial obstruction syndrome, disseminated lesions in the lungs. The differentiated approach to the treatment of pneumonia and asthma. Diagnosis and treatment of drug-disease. Differential diagnosis with joint syndrome, NDCs and noncoronary myocardial damage; constipation, hepatomegaly, edema, with cardiomegaly, syncope, anemia, komah, lymphadenopathy, pain in the chest, fever of unknown origin and accelerated erythrocyte sedimentation rate, urinary syndrome.

Clinical practical classes: Pneumonia. Bronchial asthma. Chronic bronchitis. ECG. Hypertrophy of different parts of the lungs. Rhythm and conduction disturbances. Rheumatism. Mitral heart disease. Aortic valvular heart disease. Infective endocarditis. Hypertonic disease. CHD. Angina. CHD. Acute myocardial infarction. Congestive heart failure. Chronic gastritis. GERD. Peptic ulcer and duodenal ulcer. Syndromes in liver disease. Chronic hepatitis. Cirrhosis of the liver. Syndromes in diseases of the bowel. Chronic pancreatitis. Syndromes in diseases of the kidney. AGN. Fe-deficiency anemia and sideroachrestic anemia. B12-deficiency anemia. Rheumatoid arthritis. Systemic lupus erythematosus.

Practical skills. To diagnose the most common diseases in their typical course. Assess the activity of the pathological process, its form and stage in accordance with officially approved classifications, the presence and severity of complications. To interview the patient and their relatives identifying complaints, life anamnesis, anamnesis of the disease; to perform physical examination of the patient; to make a plan for laboratory and instrumental studies of the patient; to analyze the results of all modern laboratory and instrumental studies. To produce a scheme of medicamentous and non-medicamentous treatment of the patient in accordance with the diagnosis, including the determination of indications and therapeutic contraindications to surgical treatment and the urgency of such treatment. To develop a set of measures for primary and secondary prevention of the disease and its complications. To prognosticate in respect of the patient's life and work capacity. To keep the patient's medical history. To have the skills required for the provision of emergency medical care in certain emergency situations.

Endocrinology

(Total study hours – 77, lectures – 18, clinical practical classes – 33)

Contents:

Lectures: Semiotics of endocrine diseases. Plan of inspection of patient. Classification, diagnosis, pathogenesis of diabetes. The reasons for the prevalence of growth. Periods of diabetes. Diagnosis, differential diagnosis. Type 2 diabetes mellitus. Clinical manifestations and treatment. Treatment of diabetes. Diet. Insulin therapy. Oral hypoglycemic agents. Ketoacidosis and ketoacidotic coma. Hyperosmolar coma, hypoglycemic state, and coma. Late complications of diabetes. Acute complications of diabetes. Thyroid disease. Etiology, pathogenesis, classification. Thyroiditis. The syndrome of hypothyroidism. Graves' disease, etiology, pathogenesis, diagnosis, treatment principles. Hypothyroidism congenital, acquired, primary,

secondary. Iodine deficiency disorders. The syndrome of hyperthyroidism. Obesity. The pathogenesis, clinical features, treatment of diseases of the hypothalamic-pituitary system. The syndrome of hyperprolactinemia. Diseases of the adrenal glands. Cushing's syndrome. Acromegaly. Tumors of the adrenal glands. Adrenal insufficiency.

Clinical practical training. Diabetes mellitus. Etiology of type I and II diabetes. Epidemiology. The causes of increased prevalence of the disease. The pathogenesis of its clinical manifestations. Classification. Periods of diabetes mellitus. Diagnostics, differential diagnostics. Treatment of diabetes mellitus. Nutritional care Insulin therapy. Oral hypoglycemic agents. Ketoacidosis and ketoacidotic coma. Hyperosmolar coma, hypoglycemia and coma. Lactacidosis. Pathogenesis, diagnosis, treatment, prevention. Late complications. Thyroid gland diseases. Diffuse toxic goiter, etiology, pathogenesis, diagnosis, principles of treatment. Hypothyroidism: congenital, acquired, primary, secondary. Thyroiditis. Iodine deficiency disorders. Goiter in goitrogenous regions. Clinical picture, diagnostics, treatment. Diseases of adrenals. Adrenal cortex diseases. Hypercorticism: total, partial. Itsenko-Cushing syndrome. Diagnostics. Differential diagnostics. Treatment principles. Congenital adrenal hyperplasia, acute and chronic adrenal cortex deficiency. Renal medulla diseases. Pheochromocytoma. Diseases of the hypothalamic-pituitary system. Acromegaly. Hyperprolactinemia syndrom. Somatotrophic hormone deficiency in children and adults. Diabetes insipidus. Obesity. Metabolic syndrome. Diagnostics. Differential diagnostics. Treatment principles.

Practical skills. To use the most important methods of endocrinological patients examination and to evaluate the results of the special testing methods. To diagnose, treat, organize the prevention of type I diabetes and type II endemic goiter, diffuse toxic goiter, hypothyroidism, obesity. To provide emergency aid to children and adults at prehospital and hospital stages, to determine the tactics of further medical care in cases of diabetic ketoacidotic and hyperosmolar coma, hypoglycemic states and coma, acute adrenocortical insufficiency, thyrotoxic crisis. To provide supportive (anti-relapse) therapy determined in cooperation with an endocrinologist.

Phthisiopneumology

(Total study hours – 127, lectures – 18, clinical practical classes – 60)

Contents:

Lectures: Prevention, detection and diagnosis of tuberculosis. The clinical forms of tuberculosis. TB care. Methods of treatment of TB patients. Organization of TB care. The epidemiology of tuberculosis. Methods of examination.

Clinical practical classes: Primary tuberculosis, differential diagnosis. Disseminated tuberculosis, the differential diagnosis. Focal TB, the differential diagnosis. Infiltrative tuberculosis, differential diagnosis. Lung tuberculoma, differential diagnosis. Caseous pneumonia, differential diagnosis. Cavernous, fibro-cavernous pulmonary tuberculosis, the differential diagnosis. Cirrhotic tuberculosis, differential diagnosis. Complications of tuberculosis in the state of emergency Phthisiopulmonology. Tuberculosis of peripheral lymph nodes, tuberculosis, urinary tract, bone and joint tuberculosis, ocular tuberculosis. Polyserositis TB, TB meningitis, TB of the abdomen, skin.

Practical skills. To assess the health status of various age/sex and social groups to determine the risk of infection with Mycobacteria tuberculosis and development of tuberculosis; to form and observe risk groups for tuberculosis. To interpret the results of immunological, microbiological,

radiological, clinical laboratory, instrumental and morphological test methods for latent tuberculosis infection and tuberculosis. To perform specific and non-specific prevention of tuberculosis. To diagnose, perform dispensary observation and treat patients with tuberculosis . To perform diagnostic and treatment activities to provide first medical aid in case of emergency and life-threatening conditions associated with tuberculosis.

General nursing care (surgery)

(Total study hours – 54, lectures – 6, clinical practical classes – 30)

Contents:

Lectures: Total care for surgical patients in the postoperative period, the prevention of pressure ulcers. The methods of care aimed at preventing complications of the cardiovascular system. The methods of care aimed at prevention of pre- and post-operative complications in the gastrointestinal tract and their treatment.

Clinical practical classes: Requirements for students in the surgical hospital. Organization of the surgical clinic. The concept of aseptic and antiseptic. General questions of ethics in surgery. Organization of work in the surgical department of the office of the receiver. Transporting patients from receiving the surgical department. Shifting the patient with a stretcher to the bed. Features care of elderly. Care moribund patients. Features hygienic preparation of patients for surgery. Features care in the operating room and dressing room. The methods of care aimed at reducing the risk of wound infections in surgical patients. Features care and transportation of surgical patients who are in serious condition after anesthesia and surgery. First aid in the event of a collapse, fainting, apparent death. Total care for surgical patients in the postoperative period, the prevention of pressure ulcers. The methods of care aimed at preventing complications of the respiratory system. First aid in case of complications in surgical patients: bleeding from the surgical wound, easing bandages, vomiting after anesthesia. Fundamentals of bandages. First aid for bruises, sprains, fractures. The methods of care aimed at preventing complications of the cardiovascular system. Prevention of complications from the urinary system. The methods of care aimed at prevention of pre- and post-operative complications in the gastrointestinal tract and their treatment.

Practical skills. To be able to fill in: the case history of a hospital patient; dictated surgical procedure report; out-patient medical record; blood transfusion protocol. To sanitize: hands with disinfectant solutions; pressure sores; hands before surgery; the operating field. Use: surgical mask; a tilting bed; individual first aid dressing package. To perform: sanitary treatment of a patient admitted to the inpatient department; disinfection of medical instruments and means for patient care; sanitization and disinfection of bed-pans, urinals; hygienic treatment of the body of the operated patient; changing undergarment and bed linen; hygienic intimate washing of patients; gas removal from the large intestine; urinary bladder catheterization; preoperative preparation of the operating field; air disinfection with a source of ultraviolet radiation; a test for the individual compatibility of donor and recipient blood; peripheral vein catheterization; puncture of superficial hematomas and abscesses of soft tissues; centesis of the pleural and abdominal cavities; dialysis of a wound through the flow-irrigation system; active and passive tetanus prevention. To put on: and change sterile gloves; sterile overalls, independently and with the help of a surgical nurse. To prepare: patient for testing with instrumental methods; and fill the infusion system. Transfer the patient: from the bed to the

gurney and back; from the gurney to the operating table and back; with a system of intravenous infusion and drainage. To perform: cleansing, siphon, laxative and medicinal enemas; pre-sterilization preparation of medical and surgical instruments; physical examination of the surgical patient; digital rectal examination; temporary control of external hemorrhage; anterior nasal packing in case of nasal hemorrhage; local cold skin anesthesia with chloroethyl; local infiltration anesthesia of superficial soft tissues; removing drainage tubes and packings; conduction anesthesia by the method of Oberst-Lukashevich; elastic compression of the lower limbs; gastric intubation and lavage; subcutaneous and intramuscular injections. To place and remove incontinence bag; transport frames; wound dressings and cravat bandages. To administer: artificial airway; medicines through drains and micro-irrigators. To collect medical background information. To monitor the condition of patients during blood transfusions. To select instruments for primary surgical treatment of a wound. To restore upper airway patency.

General surgery, anesthesiology

(Total study hours – 244, lectures – 38, clinical practical classes – 125)

Contents:

Lectures: The history of surgery. General questions aseptic and antiseptic. Bleeding. Acute blood loss. Complications of blood transfusion. Temporary hemostasis. Methods of ongoing bleeding control. Blood transfusion. Emergency care in critical health. Shock. Blood substitutes. Infusion therapy. Principles of parenteral nutrition. Preoperative period. Surgery. The postoperative period. General questions of diagnosis and treatment of traumatic injuries. Closed injuries to the soft tissues. Traumatic toxicosis. Fractures and dislocations. Burns. Frostbite. Electrocutation. Wounds. General questions of wound healing process. Acute and chronic arterial insufficiency. Basics of anesthesia. Fundamentals of resuscitation. General questions of surgical infection. Treatment of wounds. Acute purulent diseases of the soft tissues. Acute purulent diseases of the hand and fingers. Purulent peritonitis. Purulent pleurisy. Principles of treatment and prophylaxis of infectious wounds festering complications. Purulent diseases of the joints. Features of the survey. Osteomyelitis. Arthritis. Sepsis. The specific surgical infection. Insufficiency of the venous circulation. Violations lymph limbs. General questions Oncology. Necrosis, gangrene, fistulas, trophic ulcers. Plastic surgery. Parasitic diseases.

Clinical practical classes: Antiseptic (mechanical, physical, chemical). Biological antiseptic. The antibacterial and immune therapy in surgery. Asepsis. The device is operating. Sterilization. Processing of the surgeon's hands. Features inspection of surgical patients. General clinical research methods. Special investigation techniques in surgical patients. Transport immobilization. Desmurgy. Local anesthesia. Development of practical skills. Emergency conditions and fundamentals of resuscitation. Fundamentals of general anesthesia. Working in the operating room. General questions of wound healing process. Acute and chronic arterial insufficiency. Basics of anesthesia. Fundamentals of resuscitation. General questions of surgical infection. Treatment of wounds. Acute purulent diseases of the soft tissues. Acute purulent diseases of the hand and fingers. Purulent peritonitis. Purulent pleurisy. Principles of treatment and prophylaxis of infectious wounds festering complications. Purulent diseases of the joints. Features of the survey. Osteomyelitis. Arthritis. Sepsis. The specific surgical infection. Insufficiency of the venous circulation. Violations lymph limbs. General questions Oncology.

Practical skills. The student has to know and be able to use: the aseptic and antiseptic rules and methods; the general principles of diagnosis, the main clinical manifestations, etiology, pathogenesis, classification of pyoinflammatory processes, neoplastic diseases, trauma; the main principles of surgical treatment of patients and the basic concepts of surgical operation and wound process; the basic principles and types of anesthesia used in the treatment, diagnosis of diseases studied at the department, indications for the use of anesthesia types. To perform artificial ventilation of the lungs by the use of the simplest methods, and closed-chest cardiac massage; temporary arrest of haemorrhage, dressing and tamponing of wounds; application of bandages to different parts of the body; transport immobilization with standard frames and improvised makeshift materials; intravenous and infusion administration of medicines; determination of blood group and Rh-factor; transfusion of blood and blood substitutes.

Reanimation and intensive care

(Total study hours – 63, lectures – 4, clinical practical classes –38)

Contents:

Lectures: Resuscitation and intensive care. Pain treatment of acute and chronic pain. Modern methods combined anesthetic management.

Clinical practical classes: Postoperative analgesia. Principles of cardiopulmonary and cerebral resuscitation in the prehospital and hospital stage. Intensive therapy of postresuscitative disease. Acute respiratory failure. The definition, pathogenesis, diagnosis. General principles of intensive therapy. Acute cardiovascular insufficiency. Intensive therapy shocks. Coma. Differential diagnosis and general principles of intensive therapy comatose states of different genesis. Efferent methods of detoxification. Infusion-transfusion therapy of critical states. Intensive therapy of endo- and exotoxicosis.

Practical skills. To collect and analyze the information on the condition of the patient. To promptly question the patient, if he/she is conscious, the patient's escorts, or ambulance staff in order to establish the cause of the development of the critical condition. To perform physical examination of the patient. To analyze the results of laboratory tests of blood, urine, cerebrospinal fluid, etc. The results of electrocardiograms, physical and instrumental examination of patients. To diagnose clinical, theological and biological death, types of circulatory arrest. To perform artificial ventilation of lungs by the basic methods and with portable hand-held devices (including in the infected atmosphere), by the method of injection: mouth to mouth, mouth to nose, with the use of air duct, S-tube, AMBU bag. To conduct resuscitation of blood circulation with the use of closed-chest cardiac massage. To perform intracardiac, intravascular, intratracheal medicamentous therapy for clinical death. To perform a comprehensive cardiopulmonary-cerebral resuscitation in adults and children at prehospital and hospital stages. To determine the effectiveness of the resuscitation performed (based on clinical signs) and the criteria for termination of the resuscitation. To intubate trachea (in the mannikin). To perform a complex of manipulations to restore the patency of the oropharynx and tracheobronchial tree (head position, removal of foreign bodies, triple technique, introduction of an air duct, etc.). To know how to use the simplest neonatal resuscitation methods in cases of birth asphyxia (with a mannikin). To perform transportation of comatose patients, patients with cervical spine injury. To access the vascular bed (in the mannikin). To calculate and conduct infusion therapy, parenteral and enteral nutrition in the early postoperative period and in patients with critical conditions. To stop painful condition. To provide medical aid in cases of

hypovolemic, cardiogenic and anaphylactic shock.

Operative surgery and topographic anatomy

(Total study hours – 190, lectures – 18, clinical practical classes – 109)

Contents:

Lectures: General questions of operative surgery and topographic anatomy. The history of the department. Fascia and cellular spaces. The venous system of the limbs and veins surgery. The principles of primary surgical treatment of wounds of the extremities. Surgical anatomy of the major joints. Surgeries on the joints and amputation. Topographic anatomy of the head. Craniotomy. Principles of surgical interventions in the gastrointestinal tract. Surgical anatomy of the pelvis. Operations on the pelvic organs. Topographic anatomy of the neck. The operations on the organs of the neck. Surgical anatomy of the thoracic wall.

Mastectomy. Surgical anatomy of the mediastinum.

Clinical practical classes: The main elements of the operational equipment. Primary debridement. Topographic anatomy and operative surgery of the upper limb. The principles of primary surgical treatment of wounds of the extremities. Surgical anatomy of the major joints. Surgery on joints and amputation. Topography areas girdle: subclavian, deltoid, shoulder, underarm, shoulder joint. The topography of the front and rear areas of the shoulder, front and back elbow area of the elbow. The topography of the front and rear areas of the forearm. The topography of the palms and the back of your hand, wrist. Accesses to the neurovascular bundle of the upper limb. Puncture of the shoulder and elbow joints.

Primary debridement. Topographic anatomy of the lower limb. Topographic anatomy of the anteromedial thigh area, buttocks, hip. Topographic anatomy of the back of the thigh, front and back of the knee, the knee joint. Topographic anatomy of the leg and foot, ankle.

Accesses to the neurovascular bundle of the lower limb. Puncture of the hip and knee joints. The handling of the soft tissues in amputation. Topographic anatomy of the head. Craniotomy. Topographic anatomy of the cranial vault, the operations on the vault of the skull. The topography of the face: the area of the orbit, the nose, the mouth, buccal region, parotid-masticatory area, deep facial region. Topographic anatomy of the neck. The operations on the organs of the neck. Topographic anatomy of the breast. Surgical anatomy of the thoracic wall. Mastectomy. Surgical anatomy of the mediastinum. Topographic anatomy of the thoracic wall, pleura, lung, mediastinum and abdomen. Principles of surgical interventions on the organs of the gastrointestinal tract. The topography of the front side wall of the abdomen, inguinal canal, abdominal cavity. Quick access through the front side wall of the abdomen to the formations of the abdominal cavity of the abdomen, retroperitoneum, pelvis. Hernia surgery in the abdominal wall. The concepts of the laparoscopic technique operating abdominal hernias. Revision of the peritoneal cavity. The operations on the organs of the peritoneal cavity. Intestinal suture technique: suturing wounds small and large intestine with the formation of intestinal anastomosis by type: the end-to-end, side-to-side. Topographic anatomy of the lumbar region and the retroperitoneal space, pelvis.

Practical skills. To perform, on biomodels (anatomical material), the main elements of surgical technology with the use of general surgical tools and suture material. To name the instruments, their parts, purpose and use for surgical intervention the instruments of the following groups: for tissue dissection; auxiliary; for temporary arrest of haemorrhage; for connection of soft tissues.

To dissect soft tissues (skin, subcutaneous tissue, fascia, muscles, aponeuroses). To perform temporary and final arrest of haemorrhage in a wound. To make surgeon's knots (simple knot, sailor's knot and double surgeon knot). To connect soft tissues with stitches. To close a wound of the small intestine by stitches. To puncture joints (glenohumeral and knee joints). To perform primary surgical debridement of wounds on an anatomical biomodel.

Surgical diseases (7, 8 Sem.)

(Total study hours – 219, lectures – 20, clinical practical classes – 126)

Contents:

Lectures: Surgical treatment of peptic ulcer. Stomach cancer. Appendicitis. Hernias. Complications of hernia. Gallstone disease. Acute pancreatitis. Chronic pancreatitis. Pancreatic cancer. Diseases of the colon. Cancer of the colon. Diseases of the rectum. Cancer of the rectum. Intestinal obstruction. Peritonitis. Occlusive arterial disease of the lower extremities. Chronic venous insufficiency. Suppurative lung disease. Tumors of the lung and pleura. Diseases and esophageal cancer. Breast disease. Thyroid disease. Examination of practical skills.

Clinical practical classes: Diseases of the digestive tract. Diseases of the esophagus. Acute appendicitis. Diseases of the hepatobiliary area. Diseases of the liver and biliary tract. Acute cholecystitis. Pancreatic diseases. Breast disease. Diseases of the lung, pleura and mediastinum. Non-specific lung disease. Non-specific pleural disease. Lung cancer. Diseases of the mediastinum. Acute and chronic occlusion of blood vessels. Diseases of the arteries. Diseases of veins. Heart disease. Emergencies in surgery. Peritonitis. Intestinal obstruction. Gastrointestinal bleeding.

Practical skills. To fill in the patient's medical history, including all its sections except for "Diary" and "Epicrisis". Identify typical symptoms and syndromes of surgical diseases in patients.

Stomatology (dentistry)

(Total study hours – 51, lectures – 6, clinical practical classes – 28)

Contents:

Lectures: Introduction to dentistry. Inflammatory diseases of maxillofacial organs. Traumatology of Maxillofacial bodies. Oncology of maxillofacial organs.

Clinical practical classes: Oral and Maxillofacial Surgery. A survey of dental patients. Diseases of teeth and oral mucosa. Diseases of hard tissues of the teeth and oral mucosa. Operation tooth extraction. Inflammatory diseases of maxillofacial organs. Odontogenic and non-odontogenic inflammatory diseases of maxillofacial organs. Odontogenic inflammation of the maxillary sinus. Specific diseases of maxillofacial organs. Traumatic injuries of maxillofacial organs. Non-ballistic soft tissue injuries of maxillofacial and mandibular fractures. Non-ballistic fractures of midface. Tumors, tumor-like lesions maxillofacial organs.

Practical skills. To interview the patient; to identify complaints. To perform examination, palpation of the maxillofacial area and oral cavity, including with the use of instruments; make conclusions and assess the findings. To assist in emergency conditions (fainting, collapse,

anaphylactic shock, arrest of haemorrhage, fixing the tongue in case of asphyxia, elimination of upper airway obstruction, anti-shock measures). To apply transport immobilization. To remove a tooth in the absence of a dentist in cases when a risk of complications is present.

Traumatology and orthopedics, military field surgery

(Total study hours – 210, lectures – 30, clinical practical classes – 110)

Contents:

Lectures: Introduction in traumatology and orthopedics. Recent advances in trauma and orthopedics. Rehabilitation of patients with trauma and diseases of the musculoskeletal system. The problem of the treatment of fractures. Traumatic shock. Pathogenesis, clinic, prognosis. Antishock therapy. Uncomplicated and complicated spinal injury. Polytrauma. Methods of examination in traumatology and orthopedics. Structural and functional abnormalities of vertebral column. Osteochondrosis. Congenital orthopedic diseases in children. Scoliosis. Degenerative diseases of the joints. Inflammatory joint disease. Violations of the consolidation of fractures. The concept of disaster . Disaster Medicine Service. Fundamentals of medical care to victims in emergency situations (emergencies). First aid to victims. Bleeding. Stop the bleeding. Payment bleeding in the aftermath. Thermal destruction. Their treatment in cleaning-up consequences of emergencies. The wounds and their treatment during mass destruction. Martial soft tissue injuries. Wound infection. Prevention and treatment of accidents. Injuries and damage to the closed basin. Their treatment. Victim assistance with the syndrome prolonged compression of emergency. Damage to the head and neck. Their treatment in emergency situations. Injuries and closed abdominal injury. Their treatment. Injuries and closed chest injuries.

Clinical practical classes: Evaluation of patients with injuries and diseases of the musculoskeletal system. Cycle Supervision. Damage to the chest. Damage to the shoulder girdle, shoulder joint and shoulder. Traumatic dislocations. Damage to the elbow, forearm and hand. Thigh and hip. Injuries and diseases of the knee joint. Damage to the lower leg, ankle and foot. Acquired deformities of the feet. Damage to the spine. Damage to the pelvis. Diagnosis and treatment of injuries of the musculoskeletal system in children. Defects posture. Congenital dislocation of the hip. Congenital deformities of the limbs. Treatment and rehabilitation of patients of ortopedotraumatological profile in an outpatient setting. Traumatic shock. Antishock measures in disasters. Methods and means of pain relief during medical evacuation. Organization of intensive care to victims in emergency situations. Combined radiation and chemical destruction. Methods of treatment in emergency situations. Thermal injuries (burns, cold injury). Their treatment in emergency situations. Diagnosis and treatment of the syndrome prolonged compression of Disaster. Damage to the spine. To assist in the aftermath of emergencies. Injuries and closed chest injuries. Respiratory failure. Treatment in disasters.

Practical skills. To establish a preliminary diagnosis in cases musculoskeletal system injuries, thermal trauma; to determine the scope, nature and priority of medical assistance to victims, conduct intra-site and evacuation transport sorting at the stages of medical evacuation while providing first aid and qualified medical assistance. To assess the severity of the injury and determine the prognosis of treatment and life of the victim. To provide first medical aid to victims (adults and children) with mechanical, thermal and combined injuries, including anti-shock and resuscitation measures; to perform the necessary diagnostic and therapeutic

manipulations, to issue medical documentation. To be able to read and interpret the plan and tactics of treatment of patients and victims, to make decisions related to the necessity of out-patient or stationary treatment. To determine deviations from the norm in cases of congenital and acquired orthopedic conditions, consequences of injuries, and to control the course of conservative treatment in typical cases. In emergency situations, to participate as an assistant surgeon. To perform independently: anesthesia of the place of the fracture; transport immobilization in cases of various types of injuries of limbs, pelvis, spine; application (without repositioning) and removal of basic plaster casts; temporary control of external hemorrhage; to supervise, in hospital and in out-patient facilities, the traction, plaster bandages, devices of extra-focal fixation, the position of bone fragments, the course of fracture fusion during the treatment.

Urology

(Total study hours – 57, lectures – 10, clinical practical classes – 28)

Contents:

Lectures: Nephrolithiasis. Hyperplasia and prostate cancer. Tumor of kidney and bladder. The trauma of the genitourinary system. Pyelonephritis.

Clinical practical classes: Semiotics of urological diseases. Diagnostics of urological diseases. Emergency Urology (trauma of genitourinary system, hematuria, ischuria, anuria and acute renal failure). Radiological diagnosis of urological diseases. Diseases of the scrotum and penis (orchiepididymitis, hydrocele, varicocele, testicular cancer, phimosis, paraphimosis, balanoposthitis, erectile dysfunction). Prostate hyperplasia and prostate cancer. Urolithiasis, hydronephrosis, and chronic renal failure. Non-specific inflammatory diseases of kidneys, upper urinary tract and bladder (cystitis, pyelonephritis, paranephritis). Renal tumors, the upper urinary tract and bladder.

Practical skills. To examine urological patients and identify the symptoms of genitourinary system involvement. To make a preliminary diagnosis with the subsequent referral to a specialist doctor, for diseases of the kidneys, urinary tract, male genital organs.

Oncology

(Total study hours – 96, lectures – 18, clinical practical classes – 42)

Contents:

Lectures: Modern condition and problems of oncology. Drug therapy of malignant tumors. And melanoma skin cancer. Tumors of bone and soft tissue. Head and neck tumors. Mastitis and breast cancer.

Clinical practical classes: Lymphomas. General questions of Oncology. The organization of cancer care. Precancerous diseases. Methods for diagnosing malignant tumors. Principles of treatment of malignant tumors. Particular oncology. Tumors of the skin, bone and soft tissue. Head and neck tumors. Lung cancer. Tumors of the digestive tract. Tumors biliopankreatoduodenal zone. Liver cancer. Tumors of the female reproductive system. Hematology.

Practical skills. To collect medical history of an oncological patient. To prepare a plan for clinical and instrumental examination of a patient with suspected malignant tumor. To evaluate the results of instrumental research methods, including radiographic, endoscopic and histological methods. To master the algorithm of establishing a preliminary diagnosis (followed by the

referral to a specialist): to establish groups of people at an increased risk of malignant tumor development. To analyze the causes of delayed diagnosis of cancer. To solve deontological tasks related to the collection of information about the patient, diagnosis, treatment and prevention of cancer. To have practical skills in the analysis of pain sensations, organ function disorders and the pathological discharge, the skills of physical examination and description of the local status of the primary oncological patient, taking into account the primary localization of the tumor and the areas of possible metastasis; skills of differential diagnosis of benign and malignant tumors.

Internal illnesses

(Total study hours – 692, lectures – 112, clinical practical classes – 340)

Contents:

Lectures: Options for the course and treatment of coronary heart disease. Myocarditis. Syndrome of pulmonary hypertension and pulmonary heart. The course and treatment of chronic obstructive pulmonary disease (COPD). Diagnosis and treatment of nosocomial pneumonia. Interstitial lung disease (ILD). Multiple myeloma. Hemolytic anemia. Acute leukemias. Myeloproliferative disease. Lymphoproliferative disorders. Diseases of esophagogastrointestinal area. Liver disease drug genesis. Rheumatic diseases. Kidney disease. Military field therapy. Radiation sickness and radiation injury. Diseases of the respiratory system. Hematologic disease. Diseases of the cardiovascular system. Diseases of the gastrointestinal tract. Implementation of drug therapies in the clinic of internal diseases. Hemorrhagic syndrome. Pericarditis. Acute radiation sickness and radiation injury. New technologies in the treatment of chronic heart failure. Diffuse diseases of connective tissue. DIC. Malabsorption syndrome. Systemic vasculitis. The defeat of the internal organs of the abuse of alcohol. Inflammatory bowel disease. Congenital heart disease in adults.

Amyloidosis.

Clinical practical classes: Curation of patients. Violation of cardiac conduction. Current and pharmacotherapy of chronic heart failure. Crohn's Disease. Ulcerative colitis. Diseases esophagogastrointestinal area. Chronic pyelonephritis. Nephrotic syndrome. Chronic renal failure. Heart rhythm disorders. Cardiomyopathy. Variants of clinical course and treatment of coronary artery disease. Variants of clinical course and treatment of COPD. The course and treatment of pneumonia. Hemolytic anemia. Multiple myeloma. Chronic glomerulonephritis. Osteoarthritis. Gout.

Practical skills To collect and analyse the patient's complaints, anamnesis and the data of a physical examination. Analysis and interpretation, from the point of view of the presumptive diagnosis, of the results of laboratory examination of the patient (peripheral blood, urine, biochemical blood assay, immunological indicators). analysis and interpretation of the results of echocardiography, ultrasound of the abdominal cavity organs and kidneys, endoscopy of the gastrointestinal tract, X-ray imaging of thoracic organs and gastrointestinal tract. Analysis and interpretation of the results of monitoring of blood pressure and ECG. Analysis and interpretation of spirometry studies and pharmacological tests. Analysis and interpretation of the results of bicycle ergometry and treadmill test. Performance and analysis of ECG, conducting pharmacological tests. Blood types determination. Analysis of the findings of cytological and histological studies. Resuscitation (external chest compression and artificial ventilation). Therapy of the main groups of diseases.

Surgical diseases (9, 10, 11, 12 Sem.)*(Total study hours – 420, lectures – 62, clinical practical classes – 212)****Contents:***

Lectures: Questions of medical ethics in surgery. High medical technologies in surgery. The syndrome of dysphagia. Surgery diaphragm. Chest trauma - the pandemic of the XXI century. Modern methods of diagnosis and surgical treatment of lung cancer. Surgical treatment of congenital heart defects. Surgical treatment of acquired heart disease. Benign and malignant tumors of the lungs, surgical treatment. Chronic inflammatory diseases of the trachea, lung and pleura. Occlusive disease of the aorta and its branches. Renovascular hypertension, abdominal angina. Thrombosis and embolism. Aneurysms of the aorta and its branches. Chronic venous insufficiency. Coronary artery disease. Congenital heart defects. Acquired heart defects. CHD. Aneurysms, tumors of the heart. Surgical treatment of diseases of the mediastinum. Cicatricial strictures of the esophagus. Esophageal achalasia. Cardiospasm. Benign and malignant tumors of the esophagus. Chronic inflammatory diseases hepatoduodenal zone. Benign and malignant neoplasms hepatoduodenal zone. Plastic microsurgery.

Clinical practical classes: Syndrome of airway obstruction and superior vena cava in benign and malignant tumors of the lung, chronic suppurative diseases of the lung and pleura, diseases of the mediastinum, trachea, and when combined chest trauma. The syndrome of dysphagia when congenital and acquired diseases of the esophagus tumoral nature of cancer and benign tumors of the esophagus. The syndrome of chronic heart failure in congenital and acquired heart defects and vascular, coronary heart disease, and others. Heart disease. The syndrome of vascular insufficiency. Syndrome of chronic ischemia of organs and tissues. Syndrome of acute ischemia of organs and tissues. Post-thrombophlebitic syndrome. The syndrome of vascular insufficiency in aneurysms of the aorta. Syndrome of obstructive jaundice in the non-neoplastic diseases of the gallbladder and extrahepatic bile duct cancer and benign tumors of the pancreas, benign and malignant liver tumors and parasitic diseases of the liver. Syndrome of abdominal pain in the intra-abdominal diseases, Extra-abdominal diseases. Syndrome of gastrointestinal bleeding ulcer and non-ulcer etiology.

Practical skills. To present a preliminary diagnosis and plan for laboratory and instrumental research methods, evaluate test results. To determine the algorithm for diagnosing diseases and justify the diagnosis of the disease, to produce a differential diagnosis. Assess the activity of the pathological process, its form and stage in accordance with officially approved classifications, the presence and severity of complications. To determine indications and contraindications for surgical intervention. To determine the plan and tactics of surgical treatment of the patient, depending on the severity and prevalence of the disease, as well as the scope of the planned surgical intervention. To evaluate the effectiveness of surgical treatment and, if necessary, take corrective measures. To develop a set of measures for primary and secondary prevention of diseases and their complications. To assess the patient's capacity to work, provide a prognosis for life. To write a patient's discharge diagnosis, taking into account the data of histological studies.

Outpatient Therapy*(Total study hours – 204, lectures – 20, clinical practical classes – 106)****Contents:***

Lectures: General practice: goals, objectives, features. Principles of the organization of general practice in the conditions of insurance medicine. The legislative framework and principles of the organization of outpatient care. The role of the institute of district physicians in the health system. Examination of temporary and permanent disability. Expert work therapist district. Problems typical mistakes. Features of the diagnostic process in outpatient practice. Principles and methods of individual and family counseling. Special relationship "doctor-patient". Fever in outpatient physician practice. Chest pain. Outpatient diagnostic cause of the disease. Modern technologies of treatment, primary and secondary prevention of coronary heart disease. Prevention and treatment of uncomplicated essential hypertension outpatient conditions. Viral diseases in outpatient practice. Optimum standards of patients, prevention and treatment of infectious and non-infectious complications. Primary prevention of viral diseases. Diseases of the joints and spine. Primary, secondary prevention of osteoarthritis. Diseases of the liver and biliary tract in outpatient practice. Primary and secondary prevention of hepatitis, fatty liver, cholelithiasis. Diseases of the mouth, tongue, esophagus, stomach, duodenum in outpatient practice. Acute intestinal infections, helminth infections in outpatient practice. Diagnosis, tactics of the patients, treatment, prevention. Diseases of the blood, the tactics of the patients. Primary, secondary prevention of B-12, folio- and iron deficiency anemia.

Clinical practical classes: Diagnosis and treatment of diseases of the liver and biliary tract in outpatient conditions. Clinical examination of patients. Medical-diagnostic tactics GP in diseases of the eye. Ocular symptoms of somatic diseases. Daily reporting and documentation of the general practitioner. Rules of registration. Examination of temporary disability. Diagnostic and treatment tactics GP in hypertension. Secondary prevention of arterial hypertension in patients with the presence of comorbidities. The syndrome of bronchial obstruction. The diagnostic, therapeutic tactics GP. Secondary prevention of chronic obstructive pulmonary disease. Respiratory viral diseases, management of patients, prevention of complications. The diagnostic, therapeutic tactics of a general practitioner at festering diseases, injuries, foreign bodies of the ear, nose and throat. Outpatient diagnosis of diseases that manifest hepatic dyspepsia, pain in the right quadrant of the epigastric region, including in conjunction with a fever, jaundice. Primary prevention of cholelithiasis, biliary dyskinesia. Rehabilitation of patients who underwent acute hepatitis. Outpatient diagnosis of diseases that manifest gastric dyspepsia. Primary, secondary prevention of peptic ulcer disease. Injury, trauma, purulent skin diseases, subcutaneous tissue. Varicose veins of legs. The volume of diagnostic and therapeutic actions of the general practitioner. Articular syndrome in general practice. Clinical examination of patients with rheumatoid arthritis, osteoarthritis, gout. Anemia: out-patient diagnosis, treatment and prevention. Initial diagnosis of diseases of the kidneys, urinary tract. Clinical examination of patients with chronic renal failure. Endocrine pathology in general practice. Management of diabetic patients in outpatient conditions. Psychosomatic pathology: diagnosis, management tactics of patients in outpatient conditions.

Practical skills. To perform a preventive examination of the patient with due account for the presence of risk factors for diseases: constitutional, professional, hereditary predisposition. To

perform outpatient differential diagnostic examination based on the patient's complaints and symptoms found in physical examination. To conduct labour capacity examination. To identify the clinical manifestations, conduct the necessary examination and formulate the diagnosis of an emergency condition, provide first aid, substantiate a treatment plan: medicinal treatment and non-medicinal, patient management, to make arrangements for emergency hospitalization to a specialized hospital. To develop a rehabilitation plan for the patient discharged from hospital.

Occupational diseases

(Total study hours – 52, lectures – 8, clinical practical classes – 26)

Contents:

Lectures: Professional pathology in internal medicine and evidence based medicine.

Pneumoconiosis. Silicosis, asbestosis, berylliosis. Liver and professional drug genesis.

Radiation sickness and radiation injury.

Clinical practical classes: Diseases caused by exposure to industrial dust. Diseases caused by exposure to physical factors of the production environment. Diseases caused by exposure to toxic and chemical environment factors. Principles of treatment of occupational diseases in the modern world. Medical labor examination questions and rehabilitation of occupational diseases. The establishment and justification of recommendations for the rational employment of patients, allowing them to engage in socially useful work without damage to health. Organization and carrying out systematic monitoring of the health and disabled persons.

Practical skills. To conduct expert examination of work capacity, medical and labor rehabilitation. To participate in the organization of periodic health examination of people employed in various sectors. To analyze the data on the health-related characteristics of the occupational environment and the occupational background of the patient to determine the possibility of the onset of occupational diseases. To analyze the mechanism of the impact of unfavorable factors of the industrial environment that caused the development of the occupational disease. To identify the risk factors for the development of internal diseases in the patient. To determine the specific features of the course of the occupational disease. To conduct differential diagnostics between a presumable occupational disorder and the non-occupational diseases that have a similar clinical pattern. To determine the degree and stability of functional disorders of the affected organs and systems related to the occupational disease in order to substantiate the diagnosis. To select and conduct the necessary treatment and prevention measures for patients with occupational diseases.

Infectious diseases, epidemiology

(Total study hours – 76, lectures – 18, clinical practical classes – 30)

Contents:

Intestinal infections and infestations. Acute viral hepatitis a, b, d, c, e. Influenza and other acute respiratory infections. Meningococcal disease. Plague. Tularemia. Anthrax. Rickettsial diseases. Ixodes tick borreliosis. Malaria. Hemorrhagic fever with renal syndrome (HFRS) and other hemorrhagic fevers. Leptospirosis. Erysipelas. Brucellosis. Q fever. Tetanus. Rabies. HIV infection and opportunistic diseases. Differential diagnosis of infectious diseases.

Practical skills. To master the methods of epidemiological diagnosis, to use the results of diagnostics in practice. To maintain the sanitary-antiepidemic regimen system in hospitals of

various types.

Public health and health

(Total study hours – 134, lectures – 42, practical classes – 27)

Contents:

Lectures: Basics of Public Health and Health. Medical and social aspects of demography. Morbidity: state and tendencies. Modern health problems. Modern problems of quality of care. Medical and social importance CNID (CSD, Onco, RD). Modern problems of prevention. Disability and Rehabilitation as a medical and social problem. Health care systems in different countries. Physical development. Therapeutic and preventive care to adult population in urban child population, women, the rural population, industry workers, construction and transport workers. Provision of sanitary epidemiological wellbeing. Social Security and Medicare. Provision of health facilities with medical equipment and instruments. The drug provision to the population. Medical industry. Spa treatment and rehabilitation. Regenerative medicine. The legal basis for the protection of public health. The main legislative documents. Legal aspects of business in health care. Strengthening health. Risk factors and prevention of diseases. Medical and social aspects of a healthy lifestyle. Family and health. Restructuring of medical and preventive care. Reform of primary care on the basis of the general practitioner (family doctor). The restructuring of hospital care. The experience of international health care. Comparative characteristics of the health systems. Health reforming abroad. Health workforce. Training of health care personnel. Medical examination. Examination of temporary disability. Examination of disability. Quality management in medical care. Ensuring quality of care. Evaluation and monitoring of quality of care. Fundamentals of marketing and management in health care. Management practices in health care. Basics of Health Economics. Methods of Economic Analysis. Rational use of health care resources. Fundamentals and methods of health planning. Fundamentals and models of health care financing. The methods and forms of remuneration. The program of state guarantees of free medical care to citizens.

Practical classes. Organization of the study of public health. Statistical research organization. Generalizing indicators. Graphic images in statistics. Methods for comparing different statistical sets. Methods for identifying and assessing factors. Methods for assessing the dynamics of phenomena. Forecasting methods. Methodology for the study of demographic indicators. Relative quantities. Graphic images. Methods of studying the incidence of a disease. Standardization. The use of average values for the assessment of the health of the population. Evaluation of the reliability of the results of a research. Correlation. First medico-sanitary aid. The role of polyclinics in the first medico-sanitary aid system. Fundamentals of the provision of health care and prevention measures to the population. Analysis of the health facility operations (polyclinic, hospital). Protection of motherhood and childhood. Analysis of the activities of the Maternity Welfare Center. Analysis of the operation of a maternity ward and children's polyclinic. Economics and planning in health care. Basics of the legislation on the protection of the health of the population. Risk factors and prevention of chronic noninfectious diseases. Organization of supervision in the field of consumer rights protection and human well-being. Systems of medical insurance. Family and health. Medical and social aspects of healthy lifestyle. Hygiene awareness development.

Medical Terminology

(Total study hours – 54, practical classes – 36)

Contents:

Practical classes: The legacy of the Greek medical terminogenesis in Latin medical terminology - monominal term. Lexical Latin forms of borrowed Greek monominal medical terms. Polycomponent monominal medical terms (compound words). Polycomponent monominal terms in anatomical and histological terminology. Polycomponent monominal terms in the terminology of clinical disciplines. Polycomponent monominal terms in the pharmaceutical terminology. The dominant Latin medical terminology structure - polynomial term (noun phrase). Polynomial term in anatomical and histological terminology in the terminology of clinical disciplines, pharmaceutical terminology. Greco-Latin monominala synonymous. Synonymy monominal Greek and Latin terms multicomponent polynomial terms in anatomical and histological terminology in the terminology of clinical disciplines. Greco-Latin frequency segments in the pharmaceutical terminology. Greek and Latin terminoelements doublets. Adjectivization of inconsistent definitions in polynomial Latin medical terms. Prepositional structures in anatomical and histological and clinical terminology. Prepositional structure in pharmaceutical terminology.

Practical skills. Read without difficulties medical terms in Latin characters. Translate from Latin into Russian and from Russian into Latin, with a dictionary and without a dictionary: anatomical, histological, parasitological, microbiological terms from international nomenclatures, topographic and anatomical, clinical terms (names of nosological units, pathological conditions, symptoms and syndromes), pharmaceutical terms, as well as special Latin expressions and a number of general culture-related expressions. To derive the general meaning of clinical terms of Greek/Latin origin by their constituent terminological elements. To produce derived clinical terms by combining regular terminology elements in accordance with productive models. Translate prescriptions of any complexity. To recognize common parts in the names of medicines which are related to a certain type of pharmacological or chemical information.

Economics in Healthcare

(Total study hours – 57, lectures – 12, seminars – 26)

Contents:

Lectures: Introduction to health care economics. Application of clinical and economic analysis in medicine. Entrepreneurship in Healthcare.

Seminars: An analysis of the total cost of the disease. Analysis of cost minimization. Analysis of "cost-effectiveness". Analysis of "cost - utility". Analysis of "cost - benefit". ABC / VEN - analysis. Problems of health care financing. Marketing in health care.

Medical Physics

(Total study hours – 54, lectures – 20, practical classes – 12)

Contents:

Lectures: Mechanical vibrations and waves in medicine. Electromagnetic radiation in medicine. Ionizing radiation. Dosimetry. Biophysical processes in biological membranes and cells. The biophysical processes in the body. Modeling biological systems.

Practical classes: Physical bases audiometry. Ultrasound in Medicine. Scale of electromagnetic waves. Lasers in medicine. Interaction of X-rays with matter. X-ray computed tomography. Dose. Fundamentals of Nuclear Medicine. The structure and properties of biological membranes. Active and passive transport of substances in biological cells. Bioelectric potentials. Electrical activity of organs. Autowaves in heart. Muscle contraction. Biomechanics of blood circulation. Physical fields of the human body.

Bioorganic chemistry in medicine

(Total study hours – 114, lectures – 20, practical classes – 6)

Contents:

Practical classes: Fundamentals of structure and reactivity of organic compounds. Classification and nomenclature. Chemical bond and mutual influence of atoms. Reactivity of hydrocarbons. Biologically important reactions of monofunctional compounds. The reactivity of alcohols, phenols, thiols and amines. The reactivity of aldehydes and ketones. Reactivity of carboxylic acids and functional derivatives thereof. Poly- and heterofunctional compounds involved in the processes of life. Stereochemical structure foundations. Specific reactivity of the polymer and heterofunctional compounds. Lipids. Biopolymers and their structural components. Low molecular weight bioregulators. Carbohydrates (monosaccharides, disaccharides, polysaccharides). α -Amino acids, peptides and proteins. Biologically important heterocyclic compounds. Nucleic acids. The nucleotide coenzymes. Low molecular weight bioregulators.

Practical skills. To be able to predict the direction and result of chemical transformations of organic compounds. To perform qualitative reactions (experimentally) to determine functional groups and characteristic structural fragments of the molecule with an explanation of the visually observed result. To work with chemical utensils, reagents and observe the rules of safe operation in a chemical laboratory.

Clinical anatomy

(Total study hours – 27, lectures – 4, practical classes – 12)

Contents:

Lectures: Digestive system. Respiratory system. Urinary system and genitals. Heart and arterial system.

Practical classes: Internal organs. Anatomy and topography of the endocrine glands. Angiology (cardiovascular system).

Practical skills: To show and name organs and details of their structure on natural preparations and human corpses, to recognize variants and anomalies of organ development.

Transplantology and artificial bodies

(Total study hours – 63, lectures – 16, clinical practical classes – 26)

Contents:

Lectures: Subject, goals, objectives of transplantation. Historical aspects of transplantation. Problems of organ donation, ethical and legal provisions, coordination of organ donation. Fundamentals of extracorporeal methods of detoxification. Cellular technology and modern medicine.

Clinical practical classes: The concept of brain death. Problems of diagnosis. Donation. Technique of operations for withdrawal of donor organs. Conservation of organs. Transplantational immunology. Liver transplantation. Selection, training and management of patients in pre- and post-transplant period. Heart transplantation. Selection, training and management of patients in pre- and post-transplant period. Modern methods of treatment of congestive heart failure. Kidney transplantation. Selection, training and management of patients in pre- and post-transplant period. Transplantation of a pancreas. Selection, training and management of patients in pre- and post-transplant period. Anaesthetic and resuscitation for organ transplantation. Intensive therapy in the early period after transplantation of vital organs. Physiological aspects of use of artificial organs and subsidiary systems. " Pathology allotransplanted organs.

Practical skills. To use the most important methods of transplant patients examination and to evaluate the results of the special testing methods. Diagnose diseases of vital organs requiring transplantation. To evaluate the activity of the pathological process, the stage of its development and the functional state of the organ in need of transplantation. To produce an expanded clinical diagnosis in accordance with officially accepted classifications. Prescribe suitable therapy. To determine indications and contraindications to transplantation treatment. To master the methods for express diagnostics of viral and infectious diseases in donors; the technique of dressing for transplant patients.

Sports medicine

(Total study hours – 51, lectures – 8, clinical practical classes – 22)

Contents:

Lectures: Introduction to "Sports Medicine." The history of sports medicine, its objectives and content. The concept of "sports doctor." The role of the sports doctor in a modern society and its participation in the improvement of results in the sphere of sports. In-depth medical examination. Clinical examination of athletes. Research methods used in sports medicine. Sport medical records. Journal of following-up athletes. Health maintenance organizations and training process of the athletes in the competitive period. Organization of medical support of mass sports and entertainment events. Power athletes. Supplements in sport. Regulation of water and electrolyte balance during training and competitions in various sports. Doping and anti-doping control. Methods for falsifying samples for doping and methods to combat them. Responsibility for athlete doping. Professional dermatoses athletes. Methods of treatment and prevention. Damage to the musculoskeletal system of athletes. The epidemiology of sports injuries. Prevention. First aid in terms of the training process and during the competition. Prepathological status and pathological changes associated with the training load. The reasons leading to it. Methods of prevention and treatment. Sudden death in sport.

Clinical practical classes: Organization of the medical and sports center and the activity of the department of medical and sports center. Getting acquainted with the scheme of the medical examination of athletes. Study of the level of physical development of athletes, especially the musculoskeletal system and evaluated in connection with sports. Anthropometric studies. Determination of the trophic status of athletes. The study of body composition by bioimpedimetric ways. Evaluation of the functional state of athletes in

various sports. Functional exercise test (trendband, veloergometry, PWC170). Determination of physical performance, drawing medical report for admission to sports. Work of a sports team doctor. Features of the team doctor in different sports. Organization of medical support of mass sports events. Functioning of a medical center and sports facilities. Occupational diseases and injuries of athletes in various sports. Methods of examination, treatment, prevention.

Practical skills. To identify the clinical signs of diseases and changes in organs and systems that limit physical capacity for work and prevent the patient from doing sports; identify deviations and disorders in physical development. To make a plan for examining the athlete during the training process and in the competitive period, depending on the sport. To assess the results of load tests and special functional tests in athletes; adequacy of training loads to the physical fitness of the athlete. Knowledge of the prohibited drugs, i.e., doping. To prepare an action plan of anti-doping control, including the detection of doping tests falsification. Conduct bioimpedancemetric study (study of body composition) and interpret the findings. Use the main techniques of sports massage and self-massage. To provide first aid to an athlete in the event of an injury or a life-threatening condition.

Philosophy of culture and medicine

(Total study hours – 54)

Contents:

Culture as an object of philosophical knowledge. Cultural history and the history of knowledge about the culture. Classical philosophy of culture. Post-classical philosophy of culture.

Internal hemorrhages

(Total study hours – 26)

Contents:

Blood transfusions and blood products. Complications of blood transfusion. Surgery. Bleeding. Wounds. General questions of wound healing process. General questions of surgical infection.

Selected aspects of Anesthesiology and Intensive Care

(Total study hours – 51)

Contents:

Acute sepsis. Emergencies. Block anesthesia. Intensive therapy in oncology. Intensive therapy in neurology. Intensive therapy for pulmonary thromboembolism. Intensive therapy in geriatrics. Detoxification. Antibiotic treatment. Mechanical ventilation. Dangerous arrhythmias.

Practices

Medical nurse (ward and manipulation) assistant (3 weeks)

Contents:

Sanitization of patients in the emergency department. Transporting the patient. Preparing patients for surgery. Change of bed and underwear. Control of cabinets sanitary conditions. Supply ship and urinal. Skin care and hair care. Patients weighing, measuring height, chest

circumference. Feeding patients. Oral Care. Eye Care. Caring for the nose and ears. Cleaning the patients. Prevention of pressure ulcers, use of a rubber circle. Care of patients with urinary and fecal incontinence. Setting enema. The introduction of the vapor tube. Distribution of drugs. Thermometers. Setting compresses, mustard plasters. Preparation and application of heating pads. Applying ice packs.

As a result of the completion of the internship, the student has to: to get acquainted with the work of junior medical personnel of hospitals; to reinforce the ability to perform manipulations involved in patient care, which students began to learn at the training sessions in the "General Nursing Care" course.

Upon the completion of the practical training period, students submit a report indicating the number of patient care manipulations performed for each date of the practical training, and pass the test conducted by a commission including the chief nurse, the senior nurse of the department, the university professor from the university who supervised the practical training.

Assistant to paramedic of emergency care (4 weeks)

Contents:

Thermometers. Compress application. Cupping. Application of mustard plasters. Rubbing, application of smearing drugs. Sorting out and distribution of drugs. Sterilization of instruments. Intradermal injection, subcutaneous. Intramuscular injection. Intravenous injection. Assembling Systems and carrying intravenous infusions. The introduction of drugs into intravenous catheters and care for them. Determination of blood group. Participation in blood transfusion. Blood pressure, heart rate study. Gastric lavage. Gastric intubation. Cleansing enemas. Enema siphon. Enemas medications. The introduction of the vapor tube. Preparing patients for X-ray and endoscopy. Collecting urine for research by Zimnitsky, the definition of diuresis. Bladder catheterization. Taking blood from a finger. Taking blood from a vein. Smears from the nose and throat for bacterial research. Working in the operation room as nurse's aide. Assisting a doctor in medical manipulations. Temporary stop external bleeding, applying tourniquet on the limb. Imposition of elastic bandages. Work in the dressing room as nurse's aide. Preparation of working disinfectants.

As a result of the completion of the internship, the student has to: to get acquainted with the work of the medium-grade medical personnel in hospitals; to master and perform professional manipulations and procedures pertaining to the competence of a hospital nurse.

Upon the completion of the practical training period, students submit a report indicating the number of patient care manipulations performed for each date of the practical training, and pass the test conducted by a commission including the chief nurse, the senior nurse of the department, the university professor from the university who supervised the practical training.

Hospital Physician Assistant (6 weeks)

Sections of practice:

1. Assistant to physician at Surgical Hospital

Implementation of dressings, removal of sutures, wound assessment, treating bedsores. Imposition, removing plaster casts, splints. Assisting with the planned and emergency surgery as a 1st or 2nd assistant. Taking part in the conduct of anesthesia (intubation and assisted ventilation of the lungs), conducting nerve block and infiltration anesthesia. Performing surgical

operations under the supervision of a physician: venesection, pleural and abdominal puncture, primary debridement, dissection of superficial ulcers, applying traction for fractures and others. The diagnostic and therapeutic manipulation: digital rectal and vaginal study. Local anesthesia. Surgical treatment of uncomplicated wounds. Opening ulcers. Gastric lavage. Bladder catheterization.

As a result of the completion of the internship, the student has to: digital investigation, rectal and vaginal examination, bandaging, application and removal of cutaneous sutures, splinting, application of plaster casts, local anesthesia, surgical treatment of uncomplicated wounds, lancing of abscesses; gastric lavage, bladder catheterization.

Upon the completion of the practical training period, the student passes a test conducted by a commission which includes university professors, heads of the base health facility and supervising doctors. Before crediting the student for the practical training, the teacher reviews the logs of the practice, the summary report on the skills practiced, and receives information from the doctors about the work of the students.

2. Physician Assistant therapeutic hospital

Implementation of diagnostic and therapeutic procedures: measuring blood pressure on shoulders and hips, venous pressure, flow time. The introduction of drugs subcutaneously, intramuscularly, intravenously (bolus and infusion). Register electrocardiography (ECG), phonocardiography (PCG) for functional ECG samples, ergometers, daily ECG monitoring. Prepare the device and the patient to electrical cardioversion, placement of electrodes. Blood grouping, preparation of blood transfusion and blood products systems. Identification of the main tidal volume pneumotachometry. Probing and gastric lavage. Analysis of the results of laboratory and instrumental studies: total blood count. Urinalysis, quantification of sediment research on acetone, sugar, urobilin, bile pigments, the determination of glomerular filtration. Analysis of sputum, feces. Analysis of the gastric and duodenal contents. Biochemical blood tests: cholesterol, beta-lipoprotein, triglycerides, prothrombin, fibrinogen, total protein, protein fractions, bilirubin, creatinine, nitrogen, urine sugar, glycemic profile, test with a sugar load, the enzyme AST, ALT, LDH, CPK, electrolytes, C-reactive protein, seromucoid, serum iron, Wasserman reaction, immunoglobulins, rheumatoid factor, HBSAg. ECG (recognition of norms and pathology, identifying symptoms of hypertrophy departments, ischemia and myocardial infarction, major arrhythmias). PCG, echocardiography (echocardiography). The study of central hemodynamics: blood volume, minute and stroke volume, ejection fraction, total peripheral resistance (OPS), central venous pressure (CVP). Radiographic studies (conclusion radiologist, X-ray). Ultrasonography (US) authorities. ECG samples: pharmacological, stress. ECG monitoring. Endoscopic examinations; bronchoscopy, gastroduodenoscopy, sigmoidoscopy, laparoscopy. Respiratory function, pneumotachometry. Punctures: pleural, abdominal, sternal. Biopsy of organs. Familiarization with: the order of discharge, storage, registration and destination of drugs (especially: superpotent, addictive, expensive); work of physiotherapy department, procedures techniques, pathology department work; organization and conduct of anti-epidemic work in the department.

3. Assistant to physician at obstetric hospital

Sorting out high-risk groups by primary extragenital diseases and obstetric diseases, pregnancy

healthcare. Indications for the selection of the method and timing of delivery; diagnostic capabilities transabdominal and vaginal ultrasound and Doppler in obstetrics. The first toilet of a newborn. Planning and survey of pregnant women, women in childbirth and postpartum. Filling histories of childbirth. Remove and interpretation of the CTG. Maintaining physiological childbirth and obstetric benefits in the cephalic presentation multiparous women. Inspection of the soft birth canal after delivery. Maintaining a normal postnatal period. Prevention of bleeding in the third and early postnatal periods. Medical history. External obstetric examination. Measuring the size of a large pelvis. Positioning and presentation of the fetus. Auscultation of fetus. Determination of pregnancy and childbirth timing. Determination of blood group and Rh affiliation. Examination of the placenta: the definition of the integrity of the placenta, blood loss assessment in labor. Interpretation of laboratory studies (clinical and biochemical blood tests, urinalysis, analysis by Zimnitsky, Nechiporenko, urine culture). Conducting interviews with pregnant and postpartum women in the Operating Room and the postpartum ward. Course and hygiene of postpartum period. Formation of lactation and prevention of mastitis. Day regimen and nutrition of a pregnant.

Assistant to physician of emergency care and outpatient medical facility (4 weeks)

Contents:

Diagnosis of typical cases, and major complications of common diseases. Interpretation of the results of basic laboratory and instrumental studies. Making primary medical documentation. The diagnosis and the provision of primary medical care in case of emergency. Implementation (participating in the implementation of) of medical procedures provided by the doctors of outpatient health care institutions. Measuring blood pressure. Register electrocardiogram. Register spirogram. Otoscopy. Rhinoscopy. Ophthalmoscopy. Primary surgical treatment of wounds. Stop external bleeding. Intramuscular injection. Subcutaneous injection. Intravenous injection. Imposition of the soft bandages. Immobilization of fractures and dislocations.

Upon the completion of the practical training period, The log and the summary report are the documents certifying the work performed; they are executed by the doctor and the teacher supervising the practical training, and, at the end of the practice, by the head of the base treatment and prophylactic institution, and the seal of the institution must be affixed.

ABOUT US

Euroway Academy is an established pioneer in the field of education for more than 16 years, to educate students around the globe. We have helped more than 5000 students in India and internationally to pursue MBBS, Postgraduation, Engineering and other specialties of higher education, in Europe and Russia to a brighter future.

Euroway Academy, ensure to share all details and relatable information about the study pattern along with the quality of study in the top universities of Russia. We assist students by providing them with right courses and universities that tailor to their career and also help them fulfill their long-term dreams. In

addition, we also provide admission, visa, career, cultural and other guidance services.

Our transparent work ethics make us stand at a distinction in the education sector.

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We have a strong presence across the country & overseas.

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WHY CHOOSE US



FREE COUNSELING

Our team of professionals and counselor ensure that students follow their educational goals and take wise academic decision.



UNIVERSITY SELECTION

Euroway Academy team help students in choosing the right university and understanding the needs requirements of every student individually.



DOCUMENTATION ASSISTANCE

Passport assistance: We are here to help you while you applying for the passport and providing admission confirmation.

Education Loan: get easy education loans with the assistance of Euroway Academy, we will provide you with all necessary documentation so to get educational loans immediately.

POST DEPARTURE SERVICES

- ✦ We take great care of our students during the entire period of study.
 - ✦ We assist parents in their smooth travel arrangements.
 - ✦ We assist you in getting air tickets.
 - ✦ We accompany our student from the Airport to the University.
 - ✦ We provide the accommodation facilities to our students till they get a hostel room.
 - ✦ We assist you in your hostel registration and allotting you the room.
 - ✦ We assist you with the final documentation in the University.
 - ✦ We offer 5-10 minutes complimentary call to our students from the University to your parents/ relatives.
 - ✦ We provide you with the suitable information and consultation in obtaining a visa for students' parents to visit their children.
 - ✦ We assist you in visa extension if required.
 - ✦ If a student wishes to change the room in hostel, assistance is given, provided a genuine reason given by student.
 - ✦ At the time of emergency, complete assistance is provided.
 - ✦ We help you in the medical insurance.
 - ✦ We help you for the medical check-up in the University at the time of arrival.
 - ✦ We provide proper assistance in obtaining the Certificate of Equivalence from the Ministry of Education of the Destination Country.
- We let you coordinate with University authorities in Monitoring students' academic progress and behavior.

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