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MINISTRY OF SCIENCE AND HIGHER EDUCATION

RUSSIAN FEDERATION

Federal State Autonomous Educational Institution of Higher Education

NORTH-CAUCASUS FEDERAL UNIVERSITY

APPROVED

Assoc. Prof. Kubanov S.I.

PhD in Medical Sciences

Dean

Faculty of Medicine and Biology

COURSE OUTLINE OF THE DISCIPLINE (MODULE)

«Practical Training of General Medical Profile»

Name of the discipline (module)

- Specialty: 31.05.01 General Medicine
- Mode of training: Full-time
- Year of commencement of studies: 2026
- Delivered in Semester: 12

Developed by:

Acting Head of the Department of Propaedeutics of Internal Diseases,

Cand. Sci. (Med.)

position

G.S. Ivchenko

full name

1. Aims of the practical training:

The aims of the practical training of general medical profile in specialty 31.05.01 General Medicine are to familiarize students with the basic principles of organizing treatment and preventive care for the population in outpatient settings, the features of the organization and scope of work of a district general practitioner and a general practitioner (family doctor), and the modern diagnostic capabilities of the outpatient service; to form an understanding of dispensary observation, primary and secondary prevention in outpatient settings, issues of medical expertise, and sanatorium-resort treatment.

2. Objectives of the practical training:

- The activities of medical personnel at all stages of treatment and care of surgical patients;
- The diagnostic capabilities of laboratory and instrumental methods of examination of surgical patients;
- The main stages of treatment of patients with the most common types of therapeutic diseases;
- The principles and methods of providing first medical pre-hospital care in emergency pathology and care for such patients.

3. Place of the practical training in the structure of the higher education program:

Practical training of general medical profile belongs to the section "Practical Training" and is based on the knowledge and mastery of the materials of the following disciplines of the curriculum of this specialty: Obstetrics and Gynecology, Infectious Diseases, Medical Rehabilitation, Occupational Diseases, Dentistry, Clinical Pharmacology, Polyclinic Therapy, Traumatology, Orthopedics, Pediatrics, Hospital Surgery, Pediatric Surgery, Hospital Therapy, Radiation Diagnostics, Allergology, Telemedicine, Emergency Condition, Introduction to Nutritiology, Molecular Genetics in Practical Biology and Medicine, Reproductive Health.

In turn, practical training of general medical profile is the final one in the training of a General Medicine physician in specialty 31.05.01 General Medicine.

In turn, practical training of therapeutic profile serves as a basis for the successful completion of practical training of surgical profile.

4. Place and time of the practical training:

Practical training of general medical profile, in accordance with the curriculum, is conducted in the 6th year, 12th semester, for 6 weeks (9 credits, 324 hours).

Venues of the practical training:

educational laboratories of the Department of Propaedeutics of Internal Diseases, Faculty of Medicine and Biology, North Caucasus Federal University; State Budgetary Healthcare Institution of the Stavropol Territory "City Clinical Hospital No. 2" of Stavropol; State Budgetary Healthcare Institution "City Clinical Emergency Hospital" of Stavropol; State Budgetary Healthcare Institution of the Stavropol Territory "Stavropol Regional Clinical Perinatal Center No. 1" of Stavropol

5. List of planned results of the practical training, correlated with the planned results of mastering the educational program

Code and definition of the competence	Code and definition of the indicator	Planned learning outcomes for the discipline (module) describing the stages of competency and indicator development
UC-1. Able to carry out a critical analysis of	A-1 UC-1. Identifies a problematic	Upbringing of a comprehensively developed

problematic situations based on a systems approach and to develop a strategy for action.	situation, carries out its analysis and diagnosis based on a systems approach. IA-2 UC-1. Searches for, selects, and systematizes information to determine alternative options for strategic decisions in a problematic situation. IA-3 UC-1. Identifies and assesses the risks of possible options for solving a problematic situation, and chooses the optimal option for its resolution.	personality
UC-2. Capable of managing a project at all stages of its life cycle.	AI-1 UC-2. Formulates the goal of the project, determines a set of interrelated tasks ensuring its achievement, and determines the expected results. AI-2 UC-2. Develops an action plan for solving the project tasks, choosing the optimal method based on current legal norms, available resources, and constraints. AI-3 UC-2. Ensures project execution in accordance with the established goals, deadlines, and costs, based on current legal norms, available resources, and constraints, including the use of digital tools.	Project Development and Implementation
UC-3. Able to organize and manage the work of a team, developing a team strategy to achieve a set goal.	IA-1 UC-3. Participates in interpersonal and group interaction, using an inclusive approach, effective communication, methods of team building and team interaction in joint work within the framework of a set task. IA-2 UC-3. Ensures the work of the team to obtain optimal results of joint work, taking into account the individual capabilities of its members, the use of a methodology for	Readiness for oral and written communication

	achieving success, methods, information technologies, and foresight technologies. IA-3 UC-3. Ensures the fulfillment of set tasks based on monitoring teamwork and timely response to significant deviations.	
UC-4. Capable of applying modern communication technologies, including in foreign language(s), for academic and professional interaction.	AI-1 UC-4. Chooses an acceptable style of business communication in the state and foreign languages, verbal and non-verbal means of interaction with partners in oral and written forms. AI-2 UC-4. Uses information and communication technologies to increase the efficiency of professional interaction and search for necessary information in the process of solving standard communicative tasks in the state and foreign languages. AI-3 UC-4. Evaluates the effectiveness of communication technologies used in professional interaction in the state and foreign languages, and makes the choice of optimal ones.	Communication
UC-5. Capable of analyzing and taking into account the diversity of cultures in the process of intercultural interaction.	AI-1 UC-5. Chooses methods of constructive interaction with people, taking into account their socio-cultural characteristics in order to successfully perform professional tasks and enhance social integration. AI-2 UC-5. Demonstrates a respectful attitude towards the historical heritage and socio-cultural traditions of various social groups, based on knowledge of the stages of historical development of Russia in the context of world history and a number of cultural traditions of the world. AI-3 UC-5. Analyzes various	Intercultural Interaction

	socio-cultural trends, facts, and phenomena on the basis of a holistic view of the foundations of the universe and prospects for its development. AI-4 UC-5. Demonstrates a tolerant perception of social and cultural differences, and a respectful and careful attitude towards historical heritage and cultural traditions. AI-5 UC-5. Finds and uses information about cultural specifics and traditions important for self-development and interaction with other people. AI-6 UC-5. Manifests in behavior a respectful attitude towards historical heritage and socio-cultural traditions based on knowledge of history. AI-7 UC-5. Aware of the choice when choosing value orientations and civic position; offers his own explanation when discusses and solves problems of worldview, social, and personal nature.	
UC-6. Capable of determining and implementing the priorities of one's own activity and ways to improve it based on self-assessment and lifelong learning.	AI-1 UC-6. Establishes personal and professional goals in accordance with the level of resources and action priorities for successful development in the chosen sphere of professional activity. AI-2 UC-6. Implements and adjusts the strategy of personal and professional development, taking into account conditions, means, personal capabilities, career growth stages, and labor market requirements. AI-3 UC-6. Critically evaluates the efficiency of using time and other resources when solving	Self-Organization and Self-Development (including Health Preservation)

	assigned tasks in the chosen sphere of professional activity.	
UC-7. Capable of maintaining a proper level of physical fitness to ensure full social and professional activity.	AI-1 UC-7. Chooses health-preserving technologies to ensure full social and professional activity, taking into account the physiological characteristics of the body and life conditions. AI-2 UC-7. Plans working and free time for the optimal combination of physical and mental load and ensuring working capacity in professional activity. AI-3 UC-7. Maintains a proper level of physical fitness to ensure full social and professional activity and complies with the norms of a healthy lifestyle.	Self-Organization and Self-Development (including Health Preservation)
UC-8. Capable of creating and maintaining safe life conditions in everyday life and professional activities to preserve the natural environment, ensure sustainable development of society, including under threat and occurrence of emergency situations and military conflicts.	AI-1 UC-8. Familiar with the general specific features of ensuring safety and sustainable development in various spheres of life; classification of emergency situations, principles, and methods of arranging the protection of the population protecting them against dangers. AI-2 UC-8. Evaluates the probability of potential danger in everyday life and professional activity and takes respective measures to prevent it. AI-3 UC-8. Uses the basic methods of protection under threat and occurrence of emergency situations and military conflicts in everyday life and professional activity.	Life Safety
UC-9. Capable of employing basic defectological knowledge in social and professional spheres.	AI-1 UC-9. Operates with the concepts of inclusive competency, its components, and structure; understands the specifics of applying basic defectological knowledge. AI-2 UC-9. Applies basic	Inclusive Competency

	defectological knowledge in the social and professional spheres when interacting with persons with disabilities and disabled persons.	
UC-10. Capable of making informed economic decisions in various areas of life.	AI-1 UC-10. Understands the basic principles of economic functioning and financial literacy in making informed decisions.	Economic Culture, including Financial Literacy
UC-11. Capable of forming an intolerant attitude toward manifestations of extremism, terrorism, and corrupt behavior, and counteracting them in professional activity	AI-1 UC-11: Familiar with current legal norms ensuring the fight against manifestations of extremism and terrorism in various areas of life, with methods for preventing corruption and forming an intolerant attitude towards it. AI-2 UC-11: Prevents possible manifestations of extremism, terrorism, and corruption risks in professional activity; excludes interference in their professional activity in cases of inducement to corruption offenses. AI-3 UC-11: Interacts in society on the basis of an intolerant attitude toward manifestations of extremism, terrorism, and corrupt behavior, and counteracts them in professional activity.	Civic Stance
GPC-1. Capable of implementing moral and legal norms, ethical and deontological principles in professional activity.	AI-1 GPC-1. Uses the basic norms of medical law. AI-2 GPC-1. Applies ethical and deontological principles in practice, and uses knowledge of the history of medicine.	Ethical and Legal Foundations of Professional Activity
GPC-2. Capable of conducting and monitoring the effectiveness of measures for prevention, healthy lifestyle development, and sanitary-hygienic education of the population.	AI-1 GPC-2. Uses various techniques and methods to disseminate knowledge about a healthy lifestyle and sanitary-hygienic education of the population. AI-2 GPC-2. Demonstrates the ability to determine priority problems and health risks of the patient	Healthy Lifestyle

	(population). AI-3 GPC-2. Develops and participates in preventive measures to increase the health level and prevent diseases.	
GPC-4. Capable of applying medical devices provided for by the procedure for rendering medical care, as well as conducting examinations of the patient in order to establish a diagnosis.	AI-1 GPC-4. Applies medical technologies, medical devices, medicinal drugs, disinfectants, and their combinations in solving professional tasks. AI-2 GPC-4. Applies diagnostic instrumental methods of examination to establish a diagnosis.	Diagnostic Instrumental Methods of Examination
GPC-5. Capable of assessing morphofunctional, physiological states, and pathological processes in the human body to solve professional tasks.	AI-1 GPC-5. Assesses morphofunctional and physiological states and processes in the human body at the individual, group, and population levels to solve professional tasks. AI-2 GPC-5. Identifies pathological states and processes in the human body to solve professional tasks.	Etiology and Pathogenesis
GPC-6. Capable of organizing care for patients, providing primary health care, ensuring the organization of work, and making professional decisions in emergency conditions at the pre-hospital stage, in conditions of emergencies, epidemics, and in centers of mass destruction.	AI-1 GPC-6. Capable of organizing care for patients. AI-2 GPC-6. Provides primary health care. AI-3 GPC-6. Capable of making professional decisions in emergency conditions at the pre-hospital stage, in conditions of emergencies, epidemics, and in centers of mass destruction.	Primary Health Care
GPC-7. Capable of prescribing treatment and monitoring its effectiveness and safety.	AI-1 GPC-7. Applies knowledge of medicinal drugs to prescribe treatment. AI-2 GPC-7. Capable of monitoring the effectiveness and safety of the prescribed treatment.	Treatment of Diseases and Conditions
GPC-8. Capable of implementing and monitoring the effectiveness of medical rehabilitation of the patient,	AI-1 GPC-8. Compiles an individual plan of rehabilitative care together with the patient/family.	Medical Rehabilitation

including the implementation of individual programs of rehabilitation and habilitation of disabled persons, and assessing the patient's ability to carry out labor activity.	AI-2 GPC-8. Monitors the effectiveness of medical rehabilitation of the patient, including during the implementation of individual rehabilitation programs. AI-3 GPC-8. Organizes the workspace and a safe hospital environment, teaches the family to adapt living quarters to the needs of the patient and disabled person.	
GPC-10. Capable of understanding the principles of operation of modern information technologies and using them to solve tasks of professional activity.	AI-1 GPC-10. Maintains documentation support of professional activity taking into account modern information technologies. AI-2 GPC-10. Uses algorithms for solving standard organizational tasks using information technologies in professional activity. AI-3 GPC-10. Carries out effective search for information necessary to solve tasks of professional activity, using legal reference systems and professional databases.	Information Literacy
GPC-11. Capable of preparing and applying scientific, research-production, project, organizational, managerial, and regulatory documentation in the healthcare system.	AI-1 GPC-11. Demonstrates the ability to prepare and apply scientific, research-production, project, organizational, managerial, and regulatory documentation in professional activity. AI-2 GPC-11. Demonstrates the ability to apply modern methods of collecting and processing information necessary for conducting scientific research.	Research and Organizational Activity
PC-1. Ready to participate in the provision of urgent medical care in states requiring urgent medical intervention.	AI-1 PC-1: Capable of conducting therapeutic measures when providing urgent medical care in states requiring urgent medical intervention. AI-2 PC-1: Knows how to identify states requiring medical assistance in an	Provision of medical assistance to a patient in an urgent or emergency form

	emergency form, including clinical signs of sudden cessation of blood circulation and respiration. AI-3 PC-1: Possesses skills in assessing the state of a patient requiring medical assistance in an emergency form, skills in recognizing states representing a threat to the patient's life, including states of clinical death (cessation of vital body functions (blood circulation and/or respiration), requiring medical assistance in an emergency form.	
PC-2. Ready to collect and analyze patient complaints, data of their medical history, examination results, laboratory, instrumental, pathological-anatomical, and other investigations to recognize a condition or establish the fact of presence or absence of a disease.	AI-1 PC-2: Knows how to collect complaints, medical history of life and disease of the patient, and analyze the information obtained. AI-2 PC-2: Conducts a complete physical examination of the patient (inspection, palpation, percussion, auscultation) and interprets its results. AI-3 PC-2: Defines a preliminary diagnosis and compiles a plan for laboratory and instrumental examinations of the patient.	Examination of a patient aiming to offer a diagnosis
PC-3. Capable of determining the patient's main pathological conditions, symptoms, disease syndromes, and nosological forms in accordance with the International Statistical Classification of Diseases and Related Health Problems, 10th Revision.	AI-1 PC-3: Capable of constructing an algorithm and choosing criteria for determining the main pathological states, syndromes, and diseases in patients of various profiles in accordance with the International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10). AI-2 PC-3: Identifies the main pathological symptoms and syndromes, and formulates a clinical diagnosis in accordance with ICD-10.	Formation of clinical reasoning Acquisition of specialized medical skills and their application in practical healthcare
PC-4. Capable of determining	AI-1 PC-4: Determines	Formation of clinical

the management tactics for patients with various nosological forms.	management tactics for patients with various nosological forms. AI-2 PC-4: Compiles a treatment plan for the patient's disease and condition, taking into account the diagnosis, age of the patient, and clinical picture of the disease in accordance with current procedures for rendering medical care, clinical recommendations (treatment protocols) on issues of medical care provision, taking into account healthcare standards.	reasoning Acquisition of specialized medical skills and their application in practical healthcare
PC-5. Ready for the management and treatment of patients with various nosological forms in outpatient conditions and day-care hospital conditions.	AI-1 PC-5: Prescribes medicinal drugs, medical devices, and medical nutrition, taking into account the diagnosis, age, and clinical picture of the disease in accordance with current procedures for rendering medical care, clinical recommendations (treatment protocols) on issues of medical care provision, taking into account healthcare standards. AI-2 PC-5: Evaluates the efficacy and safety of the use of medicinal drugs, medical devices, medical nutrition, and non-medicinal treatment. AI-3 PC-5: Plans and monitors the management of patients with various nosological forms in outpatient conditions and day-care hospital conditions.	Acquisition of specialized medical skills and their application in practical healthcare
PC-6. Ready to detect the need for applying natural healing factors, medicinal, non-medicinal therapy, and other methods in patients requiring medical rehabilitation and health resort treatment.	AI-1 PC-6: Capable of planning measures for patient medical rehabilitation, determining medical indications and contraindications for their conduct, taking into account the diagnosis in accordance with current procedures for rendering medical care,	Acquisition of specialized medical skills and their application in practical healthcare

	clinical recommendations (treatment protocols) on issues of medical care provision, taking into account healthcare standards. AI-2 PC-6: Determines medical indications for conducting medical rehabilitation measures, including during the implementation of an individual rehabilitation or habilitation program for disabled individuals, in accordance with current procedures for rendering medical care, clinical recommendations (treatment protocols) on issues of medical care provision, taking into account healthcare standards.	
PC-7. Ability and readiness to implement a set of measures aimed at preserving and strengthening health, including the formation of a healthy lifestyle, prevention of the occurrence and (or) spread of diseases, their early diagnosis, identification of the causes and conditions of their occurrence and development, as well as those aimed at eliminating the harmful influence of environmental factors on human health.	IA-1 PC-7. Able to assess medical indications and medical contraindications for the application of methods of prevention of diseases and (or) conditions, and preventive measures taking into account the diagnosis in accordance with the current procedures for providing medical care, clinical guidelines (treatment protocols) on the provision of medical care, with due regard to the standards of medical care. IA-2 PC-7. Applies the principles of specific and non-specific prevention of infectious diseases, and the national immunization schedule, including for epidemic indications.	Acquisition of specialized medical skills and their application in practical healthcare.
PC-8. Ready to carry out educational activities aimed at eliminating risk factors and developing healthy lifestyle	IA-1 PC-8. Able to clearly explain the significance of risk factors in diseases of internal organs and measures for the	Readiness for oral and written communication. Acquisition of specialized medical skills and their application in

skills.	prevention of exacerbations. IA-2 PC-8. Identifies the features, determines the forms and methods of educational activities of medical workers among patients and the population aimed at eliminating risk factors and developing healthy lifestyle skills.	practical healthcare.
PC-9. Able to apply the basic principles of organization and management in the sphere of public health protection, in medical organizations and their structural units.	IA-1 PC-9. Able to apply the principles of monitoring the performance of job duties by the district nurse and other medical personnel at one's disposal. IA-2 PC-9. Assesses the effectiveness of modern medical-organizational and socio-economic technologies in the provision of medical care, and applies the principles of organization and management in the sphere of public health protection within medical organizations and their structural units.	Acquisition of specialized medical skills and their application in practical healthcare.
PC-10. Ready to participate in assessing the quality of medical care using basic medical-statistical indicators.	IA-1 PC-10. Calculates and analyzes the indicators of the quality of medical care. IA-2 PC-10. Develops measures aimed at improving the quality of medical care.	Readiness for oral and written communication. Acquisition of specialized medical skills and their application in practical healthcare.
PC-11. Ready for the analysis and public presentation of medical information based on evidence-based medicine.	AI-1 PC-11: Works independently with sources of scientific-medical information. AI-2 PC-11: Compiles reports (sections of a report), literature reviews, and presentations on a topic or its section (stage of an assignment). AI-3 PC-11: Publicly presents scientific information based on evidence-based medicine.	Readiness for oral and written communication Acquisition of specialized medical skills and their application in practical healthcare

6. Structure and Content of the Practical Training. The total workload of the practical training for acquiring professional skills and experience in professional activities in the positions of mid-level medical personnel is 6 credits, 216 hours.

Sections (Stages) of Practical Training	Competencies Developed	Types of Student Activities during the Practicum	Number of hours	Forms of ongoing assessment
Occupational safety briefing (on-the-job safety instruction)	IA-1 UC-1, IA-2 UC-1, IA-3 UC-1, IA-1 UC-2, IA-2 UC-2, IA-3 UC-2, IA-1 UC-3, IA-2 UC-3, IA-3 UC-3, IA-1 UC-4, IA-2 UC-4, IA-3 UC-4, IA-1 UC-5, IA-2 UC-5, IA-3 UC-5, IA-1 UC-6, IA-2 UC-6, IA-3 UC-6, IA-1 UC-7, IA-2 UC-7, IA-3 UC-7, IA-1 UC-8, IA-2 UC-8, IA-3 UC-8, IA-1 UC-9, IA-2 UC-9, IA-3 UC-9, IA-1 UC-10, IA-2 UC-10, IA-3 UC-10, IA-1 UC-11, IA-2 UC-11, IA-3 UC-11, IA-1 GPC-1, IA-2 GPC-1, IA-3 GPC-1, IA-1 GPC-2, IA-2 GPC-2, IA-3 GPC-2, IA-1 GPC-3,	A general safety briefing and a briefing at each workplace for each type of work performed are conducted, which the student must master and sign in the protocol.	24	Performance of practical work. Solving research tasks.

	IA-2 GPC-3, IA-3 GPC-3, IA-1 GPC-4, IA-2 GPC-4, IA-3 GPC-4, IA-1 GPC-5, IA-2 GPC-5, IA-3 GPC-5, IA-1 GPC-6, IA-2 GPC-6, IA-3 GPC-6, IA-1 GPC-7, IA-2 GPC-7, IA-3 GPC-7, IA-1 GPC-8, IA-2 GPC-8, IA-3 GPC-8, IA-1 GPC-9, IA-2 GPC-9, IA-3 GPC-9, IA-1 GPC-10, IA-2 GPC-10, IA-3 GPC-10, IA-1 GPC-11, IA-2 GPC-11, IA-3 GPC-11, IA-1 PC-1, IA-2 PC-1, IA-3 PC-1, IA-1 PC-2, IA-2 PC-2, IA-3 PC-2, IA-1 PC-3, IA-2 PC-3, IA-3 PC-3, IA-1 PC-4, IA-2 PC-4, IA-3 PC-4, IA-1 PC-5, IA-2 PC-5, IA-3 PC-5, IA-1 PC-6, IA-2 PC-6, IA-3 PC-6, IA-1 PC-7, IA-2 PC-7, IA-3 PC-7, IA-1 PC-8, IA-2 PC-8, IA-3 PC-8, IA-1 PC-9, IA-2 PC-9,			
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	IA-3 PC-9, IA-1 PC-10, IA-2 PC-10, IA-3 PC-10, IA-1 PC-11, IA-2 PC-11, IA-3 PC-11, IA-1 PC-12, IA-2 PC-12, IA-3 PC-12, IA-1 PC-13, IA-2 PC-13, IA-3 PC-13			
Selection of research methods	IA-1 UC-1, IA-2 UC-1, IA-3 UC-1, IA-1 UC-2, IA-2 UC-2, IA-3 UC-2, IA-1 UC-3, IA-2 UC-3, IA-3 UC-3, IA-1 UC-4, IA-2 UC-4, IA-3 UC-4, IA-1 UC-5, IA-2 UC-5, IA-3 UC-5, IA-1 UC-6, IA-2 UC-6, IA-3 UC-6, IA-1 UC-7, IA-2 UC-7, IA-3 UC-7, IA-1 UC-8, IA-2 UC-8, IA-3 UC-8, IA-1 UC-9, IA-2 UC-9, IA-3 UC-9, IA-1 UC-10, IA-2 UC-10, IA-3 UC-10, IA-1 UC-11, IA-2 UC-11, IA-3 UC-11, IA-1 GPC-1, IA-2 GPC-1, IA-3 GPC-1, IA-1 GPC-2, IA-2 GPC-2, IA-3 GPC-2,	Clinical Laboratory General Clinical Methods of Investigation	50	Performance of practical work Solving research tasks Defense of protocols Summing up

	IA-1 GPC-3, IA-2 GPC-3, IA-3 GPC-3, IA-1 GPC-4, IA-2 GPC-4, IA-3 GPC-4, IA-1 GPC-5, IA-2 GPC-5, IA-3 GPC-5, IA-1 GPC-6, IA-2 GPC-6, IA-3 GPC-6, IA-1 GPC-7, IA-2 GPC-7, IA-3 GPC-7, IA-1 GPC-8, IA-2 GPC-8, IA-3 GPC-8, IA-1 GPC-9, IA-2 GPC-9, IA-3 GPC-9, IA-1 GPC-10, IA-2 GPC-10, IA-3 GPC-10, IA-1 GPC-11, IA-2 GPC-11, IA-3 GPC-11, IA-1 PC-1, IA-2 PC-1, IA-3 PC-1, IA-1 PC-2, IA-2 PC-2, IA-3 PC-2, IA-1 PC-3, IA-2 PC-3, IA-3 PC-3, IA-1 PC-4, IA-2 PC-4, IA-3 PC-4, IA-1 PC-5, IA-2 PC-5, IA-3 PC-5, IA-1 PC-6, IA-2 PC-6, IA-3 PC-6, IA-1 PC-7, IA-2 PC-7, IA-3 PC-7, IA-1 PC-8, IA-2 PC-8, IA-3 PC-8, IA-1 PC-9,			
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	IA-2 PC-9, IA-3 PC-9, IA-1 PC-10, IA-2 PC-10, IA-3 PC-10, IA-1 PC-11, IA-2 PC-11, IA-3 PC-11, IA-1 PC-12, IA-2 PC-12, IA-3 PC-12, IA-1 PC-13, IA-2 PC-13, IA-3 PC-13			
Scientific work in laboratories	IA-1 UC-1, IA-2 UC-1, IA-3 UC-1, IA-1 UC-2, IA-2 UC-2, IA-3 UC-2, IA-1 UC-3, IA-2 UC-3, IA-3 UC-3, IA-1 UC-4, IA-2 UC-4, IA-3 UC-4, IA-1 UC-5, IA-2 UC-5, IA-3 UC-5, IA-1 UC-6, IA-2 UC-6, IA-3 UC-6, IA-1 UC-7, IA-2 UC-7, IA-3 UC-7, IA-1 UC-8, IA-2 UC-8, IA-3 UC-8, IA-1 UC-9, IA-2 UC-9, IA-3 UC-9, IA-1 UC-10, IA-2 UC-10, IA-3 UC-10, IA-1 UC-11, IA-2 UC-11, IA-3 UC-11, IA-1 GPC-1, IA-2 GPC-1, IA-3 GPC-1, IA-1 GPC-2, IA-2 GPC-2,	Schematically draws up in the form of a protocol the main mechanisms and illustrative schemes of biochemical processes, reveals the molecular-cellular, biophysical, biochemical, and genetic mechanisms of systemic processes, and summarizes the understanding of physiological mechanisms	50	Performance of practical work Solving research tasks Defense of protocols Summing up

	IA-3 GPC-2, IA-1 GPC-3, IA-2 GPC-3, IA-3 GPC-3, IA-1 GPC-4, IA-2 GPC-4, IA-3 GPC-4, IA-1 GPC-5, IA-2 GPC-5, IA-3 GPC-5, IA-1 GPC-6, IA-2 GPC-6, IA-3 GPC-6, IA-1 GPC-7, IA-2 GPC-7, IA-3 GPC-7, IA-1 GPC-8, IA-2 GPC-8, IA-3 GPC-8, IA-1 GPC-9, IA-2 GPC-9, IA-3 GPC-9, IA-1 GPC-10, IA-2 GPC-10, IA-3 GPC-10, IA-1 GPC-11, IA-2 GPC-11, IA-3 GPC-11, IA-1 PC-1, IA-2 PC-1, IA-3 PC-1, IA-1 PC-2, IA-2 PC-2, IA-3 PC-2, IA-1 PC-3, IA-2 PC-3, IA-3 PC-3, IA-1 PC-4, IA-2 PC-4, IA-3 PC-4, IA-1 PC-5, IA-2 PC-5, IA-3 PC-5, IA-1 PC-6, IA-2 PC-6, IA-3 PC-6, IA-1 PC-7, IA-2 PC-7, IA-3 PC-7, IA-1 PC-8, IA-2 PC-8, IA-3 PC-8,			
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	IA-1 PC-9, IA-2 PC-9, IA-3 PC-9, IA-1 PC-10, IA-2 PC-10, IA-3 PC-10, IA-1 PC-11, IA-2 PC-11, IA-3 PC-11, IA-1 PC-12, IA-2 PC-12, IA-3 PC-12, IA-1 PC-13, IA-2 PC-13, IA-3 PC-13			
Work on hematology equipment and analysis of results	IA-1 UC-1, IA-2 UC-1, IA-3 UC-1, IA-1 UC-2, IA-2 UC-2, IA-3 UC-2, IA-1 UC-3, IA-2 UC-3, IA-3 UC-3, IA-1 UC-4, IA-2 UC-4, IA-3 UC-4, IA-1 UC-5, IA-2 UC-5, IA-3 UC-5, IA-1 UC-6, IA-2 UC-6, IA-3 UC-6, IA-1 UC-7, IA-2 UC-7, IA-3 UC-7, IA-1 UC-8, IA-2 UC-8, IA-3 UC-8, IA-1 UC-9, IA-2 UC-9, IA-3 UC-9, IA-1 UC-10, IA-2 UC-10, IA-3 UC-10, IA-1 UC-11, IA-2 UC-11, IA-3 UC-11, IA-1 GPC-1, IA-2 GPC-1, IA-3 GPC-1, IA-1 GPC-2,	Conducting hematological investigations using automatic and semi- automatic analyzers	50	Performance of practical work Solving research tasks Defense of protocols Summing up

	IA-2 GPC-2, IA-3 GPC-2, IA-1 GPC-3, IA-2 GPC-3, IA-3 GPC-3, IA-1 GPC-4, IA-2 GPC-4, IA-3 GPC-4, IA-1 GPC-5, IA-2 GPC-5, IA-3 GPC-5, IA-1 GPC-6, IA-2 GPC-6, IA-3 GPC-6, IA-1 GPC-7, IA-2 GPC-7, IA-3 GPC-7, IA-1 GPC-8, IA-2 GPC-8, IA-3 GPC-8, IA-1 GPC-9, IA-2 GPC-9, IA-3 GPC-9, IA-1 GPC-10, IA-2 GPC-10, IA-3 GPC-10, IA-1 GPC-11, IA-2 GPC-11, IA-3 GPC-11, IA-1 PC-1, IA-2 PC-1, IA-3 PC-1, IA-1 PC-2, IA-2 PC-2, IA-3 PC-2, IA-1 PC-3, IA-2 PC-3, IA-3 PC-3, IA-1 PC-4, IA-2 PC-4, IA-3 PC-4, IA-1 PC-5, IA-2 PC-5, IA-3 PC-5, IA-1 PC-6, IA-2 PC-6, IA-3 PC-6, IA-1 PC-7, IA-2 PC-7, IA-3 PC-7, IA-1 PC-8, IA-2 PC-8,			
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	IA-3 PC-8, IA-1 PC-9, IA-2 PC-9, IA-3 PC-9, IA-1 PC-10, IA-2 PC-10, IA-3 PC-10, IA-1 PC-11, IA-2 PC-11, IA-3 PC-11, IA-1 PC-12, IA-2 PC-12, IA-3 PC-12, IA-1 PC-13, IA-2 PC-13, IA-3 PC-13			
interrelation and processing of the obtained data	IA-1 UC-1, IA-2 UC-1, IA-3 UC-1, IA-1 UC-2, IA-2 UC-2, IA-3 UC-2, IA-1 UC-3, IA-2 UC-3, IA-3 UC-3, IA-1 UC-4, IA-2 UC-4, IA-3 UC-4, IA-1 UC-5, IA-2 UC-5, IA-3 UC-5, IA-1 UC-6, IA-2 UC-6, IA-3 UC-6, IA-1 UC-7, IA-2 UC-7, IA-3 UC-7, IA-1 UC-8, IA-2 UC-8, IA-3 UC-8, IA-1 UC-9, IA-2 UC-9, IA-3 UC-9, IA-1 UC-10, IA-2 UC-10, IA-3 UC-10, IA-1 UC-11, IA-2 UC-11, IA-3 UC-11, IA-1 GPC-1, IA-2 GPC-1, IA-3 GPC-1,	Work documentation with	50	Performance of practical work Completion of laboratory documentation Defense of protocols Summing up

	IA-1 GPC-2, IA-2 GPC-2, IA-3 GPC-2, IA-1 GPC-3, IA-2 GPC-3, IA-3 GPC-3, IA-1 GPC-4, IA-2 GPC-4, IA-3 GPC-4, IA-1 GPC-5, IA-2 GPC-5, IA-3 GPC-5, IA-1 GPC-6, IA-2 GPC-6, IA-3 GPC-6, IA-1 GPC-7, IA-2 GPC-7, IA-3 GPC-7, IA-1 GPC-8, IA-2 GPC-8, IA-3 GPC-8, IA-1 GPC-9, IA-2 GPC-9, IA-3 GPC-9, IA-1 GPC-10, IA-2 GPC-10, IA-3 GPC-10, IA-1 GPC-11, IA-2 GPC-11, IA-3 GPC-11, IA-1 PC-1, IA-2 PC-1, IA-3 PC-1, IA-1 PC-2, IA-2 PC-2, IA-3 PC-2, IA-1 PC-3, IA-2 PC-3, IA-3 PC-3, IA-1 PC-4, IA-2 PC-4, IA-3 PC-4, IA-1 PC-5, IA-2 PC-5, IA-3 PC-5, IA-1 PC-6, IA-2 PC-6, IA-3 PC-6, IA-1 PC-7, IA-2 PC-7, IA-3 PC-7, IA-1 PC-8,			
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	IA-2 PC-8, IA-3 PC-8, IA-1 PC-9, IA-2 PC-9, IA-3 PC-9, IA-1 PC-10, IA-2 PC-10, IA-3 PC-10, IA-1 PC-11, IA-2 PC-11, IA-3 PC-11, IA-1 PC-12, IA-2 PC-12, IA-3 PC-12, IA-1 PC-13, IA-2 PC-13, IA-3 PC-13			
Preparation of the practical training report	IA-1 UC-1, IA-2 UC-1, IA-3 UC-1, IA-1 UC-2, IA-2 UC-2, IA-3 UC-2, IA-1 UC-3, IA-2 UC-3, IA-3 UC-3, IA-1 UC-4, IA-2 UC-4, IA-3 UC-4, IA-1 UC-5, IA-2 UC-5, IA-3 UC-5, IA-1 UC-6, IA-2 UC-6, IA-3 UC-6, IA-1 UC-7, IA-2 UC-7, IA-3 UC-7, IA-1 UC-8, IA-2 UC-8, IA-3 UC-8, IA-1 UC-9, IA-2 UC-9, IA-3 UC-9, IA-1 UC-10, IA-2 UC-10, IA-3 UC-10, IA-1 UC-11, IA-2 UC-11, IA-3 UC-11, IA-1 GPC-1, IA-2 GPC-1,	Summing up the results of the practical training	50	Submission of the report and defense of the practical training

	IA-3 GPC-1, IA-1 GPC-2, IA-2 GPC-2, IA-3 GPC-2, IA-1 GPC-3, IA-2 GPC-3, IA-3 GPC-3, IA-1 GPC-4, IA-2 GPC-4, IA-3 GPC-4, IA-1 GPC-5, IA-2 GPC-5, IA-3 GPC-5, IA-1 GPC-6, IA-2 GPC-6, IA-3 GPC-6, IA-1 GPC-7, IA-2 GPC-7, IA-3 GPC-7, IA-1 GPC-8, IA-2 GPC-8, IA-3 GPC-8, IA-1 GPC-9, IA-2 GPC-9, IA-3 GPC-9, IA-1 GPC-10, IA-2 GPC-10, IA-3 GPC-10, IA-1 GPC-11, IA-2 GPC-11, IA-3 GPC-11, IA-1 PC-1, IA-2 PC-1, IA-3 PC-1, IA-1 PC-2, IA-2 PC-2, IA-3 PC-2, IA-1 PC-3, IA-2 PC-3, IA-3 PC-3, IA-1 PC-4, IA-2 PC-4, IA-3 PC-4, IA-1 PC-5, IA-2 PC-5, IA-3 PC-5, IA-1 PC-6, IA-2 PC-6, IA-3 PC-6, IA-1 PC-7, IA-2 PC-7, IA-3 PC-7,			
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	IA-1 PC-8, IA-2 PC-8, IA-3 PC-8, IA-1 PC-9, IA-2 PC-9, IA-3 PC-9, IA-1 PC-10, IA-2 PC-10, IA-3 PC-10, IA-1 PC-11, IA-2 PC-11, IA-3 PC-11, IA-1 PC-12, IA-2 PC-12, IA-3 PC-12, IA-1 PC-13, IA-2 PC-13, IA-3 PC-13			
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7. Methodological recommendations for students on undergoing practical training

7.1. Use of the materials of the educational and methodological complex of the practical training

At the first stage, it is necessary to become familiar with the structure of the practical training, the mandatory types of work, and the reporting forms.

For the successful completion of tasks in the practical training for acquiring professional skills and experience in professional activities in the positions of mid-level medical personnel, the student must fulfill the requirements of the practical training.

7.2. Assessment Tools Fund for the practical training

The Assessment Tools Fund (ATF) of the practical training for acquiring professional skills and experience in professional activities in the positions of mid-level medical personnel is based on the list of competencies to be mastered, indicating the stages of their formation during the practical training. The ATF ensures objective control over the achievement of the planned learning outcomes. The ATF includes:

- a description of indicators and criteria for evaluating competencies at various stages of their formation, and a description of the assessment scales;
- methodological materials defining the procedures for assessing knowledge, abilities, skills, and (or) experience of activities characterizing the stages of competency formation;
- standard control tasks and other materials necessary for assessing the knowledge, skills, and level of mastery of the competencies being formed during the practical training.

The ATF is an appendix to this practical training program.

8. Educational, Methodological, and Informational Support for the Discipline

8.1. List of Main and Additional Literature Required for Mastering the Discipline (Module)

8.1.1. List of Main Literature:

1. Kishkun A. A. Klinicheskaya laboratornaya diagnostika [Clinical Laboratory Diagnostics]: ucheb. posobie. Moscow: GEOTAR-Media, 2013. 962 p. Bibliogr.: pp. 957–962. ISBN 978-5-9704-2559-6.
2. Nasledstvennye bolezni. Polnyy spravochnik [Hereditary Diseases. Complete Reference Book] [Electronic resource]. Saratov: Nauchnaya kniga, 2019. 700 p. ISBN 978-5-9758-1854-6. Available at: <http://www.iprbookshop.ru/80196.html> (in Russian).
3. Eliseev Yu. Yu., Nazarova L. S., Belyakova N. I. et al. Polnyy spravochnik. Vnutrennie bolezni [Complete Reference Book. Internal Diseases] [Electronic resource]. Saratov:

Nauchnaya kniga, 2019. 893 p. ISBN 978-5-9758-1873-7. Available at: <http://www.iprbookshop.ru/80177.html> (in Russian).

8.1.2. List of Additional Literature:

1. Baskakov M. B. Meditsinskaya fizika. Osnovy morfologii cheloveka i obshchey patologii kletki [Medical Physics. Fundamentals of Human Morphology and General Cell Pathology] [Electronic resource]: uchebnoe posobie. Tomsk: Tomskiy politekhnicheskii universitet, 2013. 115 p. ISBN 978-5-4387-0318-1. Available at: <http://www.iprbookshop.ru/34678.html> (in Russian).
2. Glukhareva T. V., Selezneva I. S. Biokhimiya. Chast' 2. Osnovnye regulatory i biologicheskie zhidkosti chelovecheskogo organizma [Biochemistry. Part 2. Main Regulators and Biological Fluids of the Human Body] [Electronic resource]: uchebnoe posobie. Yekaterinburg: Ural'skiy federal'nyy universitet, EBS ASV, 2016. 116 p. ISBN 978-5-7996-1843-8. Available at: <http://www.iprbookshop.ru/68227.html> (in Russian).
3. Klochko I. A. Informatsionnye tekhnologii v professional'noy deyatel'nosti [Information Technologies in Professional Activities] [Electronic resource]: uchebnoe posobie. Saratov: Vuzovskoe obrazovanie, 2014. 236 p. ISSN 2227-8397. Available at: <http://www.iprbookshop.ru/20424.html> (in Russian).
4. Korotyaev A. I., Babichev S. A. Meditsinskaya mikrobiologiya, immunologiya i virusologiya [Medical Microbiology, Immunology and Virology] [Electronic resource]. Saint Petersburg: SpetsLit, 2012. 760 p. ISBN 978-5-299-00425-0. Available at: <http://www.iprbookshop.ru/45694.html> (in Russian).
5. Novikova I. A., Khoduleva S. A. Klinicheskaya i laboratornaya gematologiya [Clinical and Laboratory Hematology] [Electronic resource]: uchebnoe posobie. Minsk: Vysheyshaya shkola, 2013. 447 p. ISBN 978-985-06-2226-6. Available at: <http://www.iprbookshop.ru/24061.html> (in Russian).
6. Pavlovich S. A. Mikrobiologiya s virusologiyey i immunologiyey [Microbiology with Virology and Immunology] [Electronic resource]: uchebnoe posobie. Minsk: Vysheyshaya shkola, 2013. 800 p. ISBN 978-985-06-2237-2. Available at: <http://www.iprbookshop.ru/24067.html> (in Russian).

8.2. List of Educational and Methodological Support for the Independent Work of Students in the Discipline (Module)

1. Metodicheskie ukazaniya po organizatsii i provedeniyu proizvodstvennoy praktiki po polucheniyu professional'nykh umeniy i opyta professional'noy deyatel'nosti na dolzhnostyakh srednego meditsinskogo personala [Methodological Instructions for Organizing and Conducting Practical Training for Acquiring Professional Skills and Experience in Professional Activities in the Positions of Mid-Level Medical Personnel] [Electronic resource]. Stavropol: SKFU, 2022. 40 p.

8.3. List of Resources of the Information and Telecommunications Network **Internet** Required for Mastering the Discipline (Module)

1. www.biomed.net — Club of the Biological and Medical Community
2. www.healthgate.net — Information Search in MEDLINE and Other Bibliographic Databases
3. www.elibrary.ru — Scientific Electronic Library
4. www.sbio.info — Information on All Sections of Biology
5. www.biologylib.ru — Library of Biology

9. List of Information Technologies Employed through the Discipline (Module), Including a List of Software and Information Reference Systems

When delivering lectures, computer equipment and demonstrations of multimedia presentation materials are used. In seminars and practical classes, students deliver presentations prepared by them during the hours of independent work.

Software:

1.	Alt Workstation 10
2.	Alt Workstation K
3.	Alt Server
4.	Office software package – P7-Office

10. Specific Features of Mastering the Discipline (Module) by Persons with Disabilities

Students with disabilities shall be provided with special textbooks, teaching aids, and didactic materials, special technical training facilities for collective and individual use, the services of an assistant (helper) providing the necessary technical assistance to the students, as well as the services of sign language interpreters and tactile sign language interpreters.

The mastery of the discipline (module) by students with disabilities may be organized jointly with other students, as well as in separate groups.

Mastering the discipline (module) by students with disabilities is to be carried out taking into account the peculiarities of psychophysical development, individual capabilities, and health status.

In order to ensure the accessibility of higher education under the educational program for persons with disabilities, the following is provided during the mastery of the discipline (module):

- 1) for persons with visual impairments:
 - the presence of an assistant offering the student the necessary technical assistance, taking into account individual features (help taking the workplace, moving around, reading and formatting the task, including writing under dictation),
 - written tasks, as well as instructions on the procedure for their execution, are formatted in an enlarged font,
 - special textbooks, teaching aids, and didactic materials (having a large font or audio files),individual uniform lighting of at least 300 lux,
if necessary, a magnifying device is provided to the student to complete the task;
- 2) for persons with hearing impairments:
 - the presence of an assistant providing the student with the necessary technical assistance, taking into account individual characteristics (helps to take a workplace, move around, read and format the task, including writing with dictation),
 - the availability of sound-amplifying equipment for collective use is ensured; if necessary, sound-amplifying equipment for individual use is provided to the student;
 - provision with proper sound means of reproducing information is ensured;
- 3) for persons with musculoskeletal disorders (including severe motor function impairments of the upper limbs or the absence of upper limbs):
 - written tasks are performed on a computer with specialized software or are dictated to an assistant;
 - at the request of the student, tasks may be performed verbally.

11. Specific Features of Implementing the Discipline with the Use of Distance Learning Technologies and E-Learning

Subject to Part 1 of Article 16 of the Federal Law of December 29, 2012, No. 273-FZ On Education in the Russian Federation, e-learning shall be viewed as the arrangement of educational activities employing information contained in databases and used in the

implementation of educational programs, as well as information technologies, technical means, and information and telecommunication networks that ensure the processing and transmission of the specified information via communication lines, and the interaction of students and pedagogical workers.

Remote (distance) learning technologies are understood as educational technologies implemented mainly with the use of information and telecommunication networks during the indirect (at a distance) interaction of students and pedagogical workers.

The implementation of the discipline may be carried out with distance learning technologies and e-learning in full or in part. The components of the Educational And Methodological Complex (EMC) of the discipline (working program of the discipline, assessment and methodological materials, forms of attestation) implemented with the use of distance learning technologies and e-learning contain an indication of their use.

When arranging educational activities with distance learning technologies and e-learning, asynchronous and synchronous methods of interaction between participants in educational relations via the information and telecommunications network Internet may be offered.

When using distance learning technologies and e-learning, the schedule for the discipline shall indicate: methods of interaction among participants in educational relations via the information and telecommunications network Internet (VCC – videoconferencing, ET – electronic testing); links to the electronic information and educational environment of NCFU, to educational platforms and resources of other organizations to which open access is provided via the information and telecommunications network Internet; for synchronous learning – the time of online classes and instructors; for asynchronous learning – the authors of online courses.

When arranging intermediate attestation with distance learning technologies and e-learning, the Methodological Recommendations on the use of technical means ensuring the objective reliability of results when conducting intermediate and state final attestation for higher education educational programs – Bachelor's Degree programs, Specialist's Degree programs, and Master's Degree programs with distance learning technologies are used (Letter of the Ministry of Science and Higher Education of Russia dated December 7, 2020, # MN-19/1573-AN On sending methodological recommendations).

The implementation of the discipline with the use of e-learning and distance learning technologies is carried out using the electronic information and educational environment of NCFU, to which students are provided access via the information and telecommunications network Internet, or using the resources of other organizations, including platforms providing services for videoconferencing, online meetings, and distance learning (MTS-Link), as well as using the capabilities of social networks to carry out communication between students and instructors.

The educational and methodological support for a discipline shall be ensured with e-learning and distance learning technologies includes the working program presented in electronic form, educational and methodological manuals or a course of lectures, methodological guidelines for performing various types of educational activities of students provided for by the discipline, and other educational and methodological materials posted in the information and educational environment of NCFU.