

MINISTRY OF HEALTHCARE OF THE RUSSIAN FEDERATION
Federal State Budgetary Educational Institution of Higher Education
"NORTHERN STATE MEDICAL UNIVERSITY"
of the Ministry of Healthcare of the Russian Federation

APPROVED

Dean of the International Faculty

A. K. Sherstennikova

14th 2021

SYLLABUS OF THE DISCIPLINE

Discipline **Clinical Pharmacology**

Field of training **31.05.01 General Medicine**

Year (s) of study / term (s) **VI / 11**

Form of the interim assessment **Credit**

Department **of Clinical Pharmacology and Pharmacotherapy**

Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting

Minutes No.

June 14th 2020

Head of the department



N.A. Vorobyova

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Arkhangelsk, 2021

1. Position of the course (module) within the structure of the educational program

The discipline is developed following the requirements of Federal State Education Standard (FSSES) for higher education in the field of 31.05.01 «General medicine».

The discipline is related to the disciplines of the Basic part of the curriculum (or to the disciplines of the curriculum part formed by the participants of educational relations, including elective subjects and optional subjects)

The discipline is related to prior subjects of the curriculum: Latin language and the fundamentals terminology, Physiology, pathology, Microbiology, General pharmacology, Internal diseases

The discipline is related to subsequent subjects of the curriculum: pharmacogenetics, laboratory monitoring of pharmacotherapy, personalized medicine .

The discipline is realized in the structure of the following types of professional activity tasks defined by the curriculum: preventive/diagnostic/organizational and administrative /research.

2. Goal and tasks of the mastering of the discipline

Goal of the discipline	The goal of the discipline is to teach students the methodology of selection of a particular drug based on the data of pharmacokinetics, pharmacodynamics, drugs, formulary system (formulary list, formulary articles, standards and national treatment guidelines), rational drug combinations and the nature of the disease.
Tasks of the discipline	<ul style="list-style-type: none">- to teach students to use common principles of pharmacodynamics and pharmacokinetics, interactions and adverse drug reactions of drugs in the characterization of specific groups of medicines;- to know the peculiarities of pharmacokinetics, pharmacodynamics of drugs in diseases of the cardiovascular, respiratory, nervous systems, gastrointestinal tract, liver and kidneys, connective tissue, thyroid gland;- to know risk factors and clinical manifestations of major adverse reactions of drugs;- to be able to evaluate efficacy and safety of groups of drugs (to determine adequate clinical, laboratory and functional parameters of drug therapy and the most simple, accessible and informative methods of evaluating the effectiveness and safety of therapy);- to know the main clinical manifestations of common diseases and their treatment principles;- to know the methods of evaluation of quality of life;- to be able to determine the optimal dosing regimen, route of administration of medicines, appropriate therapeutic tasks.

3. List of the planned learning outcomes of the course (module) in connection to the planned outcomes of the mastering of the educational program

Codes of the formed competences	Indicator of the competence achievement
Universal competencies (UC)-№1	
Able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy of actions	ID-1.1 Performs critical analysis of information based on the system approach ID-1.2. Identifies problematic situations based on critical analysis ID-1.3. Develops an action strategy for solving problem situations based on systemic and interdisciplinary approaches
General professional competencies (GPC) -№4	
Is able to apply medical procedures provided for by the procedure for providing medical care, as well as to conduct examinations of the patient in order to establish a diagnosis	ID-4.1. Owns modern methods of using medicines, medical devices and therapeutic nutrition for diseases and conditions in the patient in accordance with the current procedures for providing medical care, clinical recommendations (treatment protocols) on the provision of medical care, taking into account the standards of medical care. ID-4.2. Is able to justify the choice of laboratory and instrumental methods of patient examination. ID-4.3. Has the skills to evaluate the results of laboratory and instrumental methods of examination of the patient in order to establish a diagnosis.
General professional competencies (GPC) -№7	
Able to prescribe treatment and monitor its effectiveness and safety	ID-7.1. Is able to develop a treatment plan for the disease and the patient's condition in accordance with the procedures for providing medical care, clinical recommendations, taking into account the standards of medical care. ID-7.2. Is able to prevent or eliminate complications, side effects, undesirable reactions, including unintended ones, resulting from diagnostic or therapeutic manipulations, the use of medicines and (or) medical devices, non-medical treatment. ID-7.3. Has the skills to assess the effectiveness and safety of the use of medicines, medical devices and therapeutic nutrition.

*The list of professional competencies is based on the requirements of the professional standard "General medicine (district physician)", approved by the order of the Ministry of Labor and Social Protection of the Russian Federation of March 21, 2017 No. 293n

4. Volume of the course (module) and types of the academic classes:

Total workload of the course is 3 credits.

Type of the academic work	Total hours	Term 11
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Students' contact work with the teacher (total)	54	54
Including:		
Lectures (L)	14	14
Seminars (Sem.)		
Practical classes (PC)		
Clinical practicals (CP)	40	40
Laboratory-based practicals (LBP)		
Simulation-based practicals (SBP)		
Preparation for the examination (PE)		
Preparation for the credit (PC)		
Exam consultations (EC)		
Coursework (CW)		
Unsupervised work (UW) (total)	54	54
Examination control (EC)		
Total discipline workload	108/3	108

5. Contents of the course:

5.1. Contents of the sections of the course

No.	Name of the course section	Contents of the section
1	2	3
1	General issues of clinical pharmacology.	<p>The object and tasks of clinical pharmacology. The concept of "clinical pharmacology", "pharmacology", "pharmacotherapy", the differences between them.</p> <p>The concept of the formulary system.</p> <p>Principles of clinical trials of new drugs, modern methods of clinical trials, the concept of controlled clinical trials.</p> <p>The concept and basic concepts of the medicine based on evidence.</p> <p>Of pharmacodynamics of drugs in different periods of human life (children, pregnant and lactating women, elderly).</p> <p>Pharmacokinetics drug: route of administration, pharmacokinetics of drugs at different ages (children, elderly), as well as in pregnant and lactating women.</p> <p>Pharmacokinetics of drugs in the pathology of the respiratory system, gastrointestinal tract, blood circulation, liver and kidneys.</p> <p>The interaction of drugs, their nature (pharmaceutical, pharmacokinetic, pharmacodynamic). Clinical characteristics of manifestations of the interaction of drugs. The principles of choosing the rational combination of drugs.</p>

		<p>Undesirable medicinal reactions. Methods for their detection, prediction, prevention and correction. Clinical types of adverse drug reactions. The dependence of adverse drug reactions from the indications for use of drugs, routes of administration, dose, duration of use, age of patients.</p> <p>General principles for evaluating the efficacy and safety of use of medicines in patients, including assessment of quality of life. The value of clinical and laboratory-instrumental methods of evaluating the effectiveness and safety of drugs.</p> <p>Pharmacogenetics in practice Clinician doctor</p>
2	Evidence-based medicine.	<p>Preclinical research. Drug research: phases of clinical trials, the concept of GCP, ethical and legal standards of clinical research, clinical research, clinical research Protocol. The concept of randomized controlled trials. Study on bioequivalence. Generics</p>
3	Clinical pharmacology of nonsteroidal anti-inflammatory drugs.	<p>The principles of selection and dosing. Definition of a way of introducing the subject to the mechanism of action, biotransformation, chronopharmacology and localization and parameters of the inflammatory process. Methods of evaluation of effectiveness and safety. Diagnosis, correction and prevention of adverse reactions. Possible interactions when combined with their purpose and with drugs of other groups. Paracetamol, aspirin, diclofenac, ibuprofen, indomethacin, Ketoprofen, piroxicam. Selective cyclooxygenase-2 inhibitors: meloxicam, celecoxib, xefocam. Combination medications: including antispasmodics, caffeine, ascorbic acid, chlorphenesin, pseudoephedrine.</p>
4	Clinical pharmacology of antimicrobial agents	<p>The principles of rational choice, empirical and causal (when identified the pathogen infection) antibiotic therapy, determination of dosage and route of administration of the antimicrobial drug, depending on the characteristics of the infectious process. Methods of evaluating the effectiveness and safety of antimicrobial agents. Diagnosis, correction and prevention of adverse drug reactions. The combination of antimicrobial drugs and possible interactions when combined with drugs from other groups. Antibiotics: penicillin, oxacillin, amoxicillin, ampicillin. Antisinegnonym penicillins</p>

		<p>(carbenicillin, piperacillin). Inhibitors of disease penicillins (amoxicillin/clavulanate).</p> <p>Cephalosporins: I generation – Cefazolin, cephalexin, II generation – cefuroxime. III generation – Cefotaxime, Ceftriaxone, ceftazidime. IVth generation – cefepime.</p> <p>Aminoglycosides: gentamicin, amikacin, netilmicin. Carbapenems: imipenem/cilastin, Meronem. Tetracyclines: tetracycline, doxycycline. Macrolides: erythromycin, azithromycin, spiramycin. Lincosamides: clindamycin, lincomycin. Glycopeptides: vancomycin. Nitrofurans: furadonin. Sulfonamides: co-trimoxazole. Fluoroquinolones: ciprofloxacin, moxifloxacin. Antibiotics of different groups: positive acid, chloramphenicol, rifampicin, mupirocin, metronidazole. Antifungals: nystatin, clotrimazole, fluconazole, ketoconazole. Antiviral drugs: rimantadine, acyclovir, famciclovir, valacyclovir, interferon alpha.</p>
5	Clinical pharmacology of drugs affecting hemostasis	<p>The principles of selection and determination of the dosage depending on the coagulation, Universiada, fibrinolytic systems of the patient. Features of treatment in diseases of the liver, kidneys, gastrointestinal tract, the blood, the cardiovascular system, used in various stages of pregnancy, lactating women and the elderly. Methods of evaluation of effectiveness and safety. The main methods of laboratory control on the use of anticoagulants. Diagnosis, correction and prevention of adverse drug reactions. Possible interactions when combined with their purpose and with drugs of other groups.</p> <p>Anticoagulants: direct - heparin, low molecular weight heparin; indirect – warfarin. Fibrinolytic agents: streptokinase, alteplase. Agents that increase blood clotting: menadione, thrombotic sponge, fibrinogen. Inhibitors of fibrinolysis: -aminocaproic, p-aminobenzoic, aminomethylenemalonate acid. Disaggregate: clopidogrel, aspirin, pentoxifylline, ticlopidine, dipyridamole. Remedies to stop bleeding in patients with hemophilia (cryoprecipitate factor VIII, antihemophilic plasma).</p>
6	Clinical pharmacology of cardiovascular diseases	Clinical pharmacology of drugs for the treatment of hypertension, cardiovascular disease, asthma, osteoarthritis, osteoporosis.

		<p>Clinical pharmacology of drugs affecting vascular tone and lipid-lowering drugs. Drugs that decrease vascular tone: Central agonists of α_2-adrenergic and I1-imidazoline receptors (clonidine, moxonidine), α - blockers (doxazosin), ACE inhibitors (captopril, enalapril, lisinopril, fosinopril), angiotenzinovyh receptor antagonists (losartan, valsartan, Kurdistan), a direct renin inhibitor (aliskiren), beta-blockers (propranolol, atenolol, metoprolol, carvedilol, bisoprolol, sotalol), blocking slow calcium channel blockers (nifedipine, amlodipine, verapamil, diltiazem), venous dilatatory (nitroglycerin, isosorbide dinitrate, isosorbide Mononitrate, molsidomine), pentoxifylline. Lipid-lowering drugs: the statins (simvastatin, atorvastatin), fibrates (fenofibrate). Fibrinolytics (streptokinase, alteplase). Antiarrhythmic drugs</p>
7	Clinical pharmacology of drugs affecting bronchial patency	<p>Clinical pharmacology of drugs affecting bronchial patency. Drugs affecting bronchial patency: stimulants β_2-adrenergic receptor (salbutamol, formeterol), m-holinoblokatory (ipratropium bromide, Tiotropium bromide), xanthines (aminophylline). Anti-inflammatory anti-asthma remedies: inhaled corticosteroids (beclomethasone, budesonide), systemic glucocorticoids (prednisone, dexamethasone). Antihistamines (blockers H1-histamine receptors): cetirizine, loratadin. Pulmonary surfactants (poractant alpha). Principles of remedy selection, determination of routes of administration, methods of drug delivery to the respiratory tract (metered-dose inhalers, nebulizer, spacer, spinhaler, turbuhaler, diskhaler) and rational dosing of drugs based on the reversibility of airway obstruction, the severity of bronchial obstruction, characteristics of sputum, the cardio-vascular system, pharmacokinetics, factors that alter the sensitivity to the drug, treatment standards and the list of vital drugs. The concept of sequential therapy of bronchial asthma. Diagnosis, correction and prevention NLR. Syndrome reduce the sensitivity of the receptors (tachyphylaxis, internalization and reduction of regulation), causing the development of resistance to β-stimulators, methods for its correction and prevention. Methods of evaluation of effectiveness and</p>

		safety. Assessment of quality of life. The notion of compliance (or adherence). Possible interactions when combined assignment and combined with drugs from other groups.
8	Clinical pharmacology of psychotropic drugs.	Clinical classification of psychotropic drugs. Pharmacotherapy of sleep disorders. The tranquilizers. The antidepressants. Antipsychotics. Nootropics. Diagnosis, correction and prevention of adverse drug reactions
9	Clinical pharmacology of drugs used in gastroenterology	Principles of treatment of acid-dependent diseases, pancreatitis, cholecystitis. Clinical pharmacology of hepatoprotectors, choleretics, proton pump inhibitors, antacids, H2 histamine blockers, M-cholinolytics

5.2. Sections and types of studies

No.	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
1	Adverse effects of drug therapy. Mechanisms of development, forecasting and accounting of the unwanted effects of medication. Classification SE	2		4	5				11
2	Clinical pharmacogenetics in medical practice	2			5				7
3	Age aspects of clinical pharmacology Features of pharmacotherapy depending on age, somatic pathology, physiological condition of the patient.	2			5				7
4	Planning clinical trials of drugs. Ethical aspects of clinical research	2			5				7
5	Rational use of drugs. Formulary system. The development of the formulary list of medicines by medical institutions.	2			5				7
6	Formulary system. The form of antibiotics	2			5				7
7	Clinical pharmacology acute coronary syndrome	2		4					6
8	Pharmacological correction of hemostasis	2		4					6

	in medical practice. Clinico-pharmacological approaches to the selection and use of prescription drugs, in violation of hemostasis (bleeding and thrombosis). The adherence of the patient to drug therapy on the example of the school of wayfaringtree								
9	Clinical pharmacology of nonsteroidal anti-inflammatory drugs. NSAIDs - a new look at the effectiveness and safety. Clinico-pharmacological approaches to the selection and use of pain medications (narcotic analgesics, nonnarcotic analgesics, tools that enhance the action of analgesics).	2			5			7	9
10	Clinical pharmacology of antimicrobial agents. Rational antibacterial therapy.	2		4	5				11
11	The basic principles of medicine based on evidence. Treatment standards	2			5				7
12	Clinical pharmacology of antiarrhythmic drugs. Proarrhythmogenic effect of antiarrhythmic drugs. Principles of security management applications antiaritmikov. Care of the patients. The decision of situational problems.	2		4					6
13	Clinical pharmacology obstructive syndrome Criteria of efficacy and safety of therapy. Treatment of patients and the decision of			4					4

	situational tasks on the topic of the lesson.								
14	Clinical pharmacology of drugs for the treatment of atherothrombosis. Lipid-lowering drugs			4					4
15	Clinical pharmacology of antihypertensive drugs. Principles of clinical and pharmacological approach to the selection of medicines for the treatment of hypertensive patients. Care of the patients. The decision of situational problems.			4	4				8
16	Clinical pharmacology of psychotropic drugs	2			5				7
17	Clinical pharmacology of gastrointestinal drugs			4					4
18	Clinical pharmacology of antianginal drugs			4					4
		14		40	54				108

6. List of teaching materials for the course unsupervised work of students (including the use of e - learning opportunities, distance learning technologies (Moodle))

The main emphasis of independent work is on various forms of practical work of the student, aimed at activating educational and cognitive activity on the basis of extracurricular self-training, independent work in practical classes.

The optimal form of all types of independent work at the department is a system of training tasks that provide for the information retrieval work of a pharmacist when choosing medicines, on the recommendation of the necessary methods for monitoring the effectiveness and safety of the selected drug, indicating possible adverse drug reactions and assessing the likelihood of their development and ways of correction.

The educational and research work of students (UIRS) includes the supervision of patients with subsequent registration of clinical and pharmacological charts (specialized protocols - charts of expert assessment of the quality of pharmacotherapy). The analysis of the patient's pharmacotherapy with the study of issues of pharmacodynamics, pharmacokinetics, interaction is carried out.

7. Forms of control

7.1. Current forms of control

- oral - presentations of projects
- written - preparation of a case history.

A theme list of abstracts, reports, essays, review papers, test collections and situational problems are shown at the Appendix No 4 of the syllabus of the course (module) 'Evaluation tools'.

7.2. Forms of the interim assessment (pass/fail test)

Stages of the interim assessment
Stages of pass/fail test:

- 1. Stage** - fail test, work in the system
(name of the stage)
- 2. Stage** - _ interview questions, case history protection
(name of the stage)

Questions for a pass/fail test, a theme list of test collections and situational problems are shown at the Appendix No 4 of the syllabus of the course (module) 'Set of the evaluation tools for the current control and interim assessment of students'.

8. Library and information materials of the course

8.1. Compulsory literature

Babbini, M. Thieme Test Prep for the USMLE®: Learning Pharmacology through Clinical Cases [Электронный ресурс] / M. Babbini, S. Bansal. - [Б. м.] : Thieme, 2018. - URL: https://medone-education.thieme.com/ebooks/2092643?fromSearch=true#/ebook_2092643_SL80448371

8.2. Supplementary literature

1. Vorobyeva N. A.. Clinical Pharmacology (for the foreign medical students) [Текст] : methodic recommendation/ N. A. Vorobyeva ; Northern state medical university, Chair of clinical pharmacology Part 1. -Archangelsk, 2014. -94p.)
2. Vorobyeva N. A.. Clinical Pharmacology (for the foreign medical students) [Текст] : methodic recommendation/ N. A. Vorobyeva ; Northern state medical university, Chair of clinical pharmacology Part 2. -Archangelsk, 2014. -43 p.)
3. Vorobyeva N. A.. Clinical Pharmacology (for the foreign medical students) [Текст] : methodic recommendation/ N. A. Vorobyeva ; Northern state medical university, Chair of clinical pharmacology Part 3. -Archangelsk, 2014. -104 p.)

8.3. List of the Internet resources required for mastering of the course (module)*

№	Resources	URL address	Resource Annotation
1	Design and Interpretation of Clinical Trials	https://www.coursera.org/course/clintrials	Clinical trials are experiments designed to evaluate new interventions to prevent or treat disease in humans. The interventions evaluated can be drugs, devices (e.g., hearing aid), surgeries, behavioral interventions (e.g., smoking cessation program), community health programs (e.g. cancer screening programs) or health delivery systems (e.g., special care units for hospital admissions). We consider clinical trials experiments because the investigators rather than the patients or their doctors select the treatment the patients receive. Results from randomized clinical trials are usually considered the highest level of evidence for determining whether a treatment is effective

			because trials incorporate features to ensure that evaluation of the benefits and risks of treatments are objective and unbiased. The FDA requires that drugs or biologics (e.g., vaccines) are shown to be effective in clinical trials before they can be sold in the US.
2	Vaccine Trials: Methods and Best Practices	https://www.coursera.org/course/vacctrails	Describe how vaccines are evaluated in phase I and II clinical trials. Identify key regulatory requirements, considerations and ethical standards for human subjects protection and informed consent. Discuss how clinical trials are conducted with an emphasis on quality data and protection of the rights, safety and well-being of volunteers. record_voice_over. Instructors. ... The mission of The Johns Hopkins University is to educate its students and cultivate their capacity for life-long learning, to foster independent and original research, and to bring the benefits of discovery to the world. assistant.
3	Data Management for Clinical Research	https://www.coursera.org/course/datamanagement	Founded in 1994, the Society for Clinical Data Management is going through an exciting time. Artificial intelligence and machine learning are creating new possibilities for our discipline. By integrating thought leadership, education and advocacy – SCDM is shaping the future of clinical data science. To realize our ambitions, we need you to get involved. Expand Your Industry Horizons With SCDM. standard of knowledge, education and experience. webinars and courses to prepare for the CCDM® Certification Exam. Use GCDMP standards in your daily work. Stay up to date, download
4	Understanding Research: An Overview for Health Professionals	https://www.coursera.org/course/researchforhealth	Understanding Health Research A tool for making sense of health studies. home. Review a study. ... You need to be careful about applying research findings to your own circumstances, and in many cases it is best to speak to a health professional before making decisions based on research findings. + more. Get started. Check other sources. See if a piece of research has already been reviewed by one of our external sources. About the tool. What is the Understanding Health Research tool? Useful information. Brief

			introductions to various scientific concepts
5	The American Disease: Drugs and Drug Control in the USA	https://www.coursera.org/course/americanandisease	An official website of the United States government Here's how you know. The .gov means it's official. Federal government websites often end in .gov or .mil. Before sharing sensitive information, make sure you're on a federal government site. The site is secure. The https:// ensures that you are connecting to the official website and that any information you provide is encrypted and transmitted securely. U.S. Food and Drug Administration. Search
6	The Science of Safety in Healthcare	https://www.coursera.org/course/healthcaresafety	Find information and advice on health conditions, symptoms, healthy living, medicines and how to get help. ... Log in to your NHS account to book GP appointments, order repeat prescriptions and access a range of other healthcare services. Find out more about your NHS account. NHS services. Find the service you need and book appointments online. Find a pharmacy. Find a dentist. Find a GP
7	Instructional Methods in Health Professions Education	https://www.coursera.org/course/instructmethodshpe	Enrollment Options. FAQ. Instructional Methods in Health Professions Education. University of Michigan. Enroll for Free. ... This course provides those involved in educating members of the health professions an asynchronous, interdisciplinary, and interactive way to obtain, expand, and improve their teaching skills. These skills can then be applied within their own professional context, with a variety of learners, extending across many stages
8	An Introduction to Global Health	https://www.coursera.org/course/globalhealthintro	Enrollment Options. FAQ. An Introduction to Global Health. University of Copenhagen. Enroll for Free. Starts May 11. About. Instructors. Syllabus. ... The second lesson deals with the central tools needed to measure global health burden. Together these two lessons will form the basis on which all the other topical modules are built.
9	Principles of Public Health	https://www.coursera.org/course/publichealth	You will be introduced to the principles of public health, health promotion, primary care and primary health care, and

			<p>population health as they relate to equity and participation in various social, political and economic contexts. You will identify and evaluate the range of evidence that informs public health practice, evidence on which public health policies and programs are based. The subject will assist you to examine the strategies used in public health in the context of public health planning frameworks.</p>
10	Social Epidemiology	https://www.coursera.org/course/socialepi	<p>The Social Epidemiology Research Group primarily focuses on how social contexts, interactions and experiences shape the occurrence, outcome, and management of mental health problems. Our goal is to provide evidence on the relationships between all aspects of society and mental health problems that can inform the development of interventions, mental health services, public health programmes, and social policies in order to prevent the onset and improve outcomes of mental health problems.</p>
11	Global Health: An Interdisciplinary Overview	https://www.coursera.org/course/globalhealthoverview	<p>Introduction. Welcome to Global Health: An Interdisciplinary Overview! This course consists of the course guides, including discussion forum activities and assessments, along with presentations by a range of presenters, from the University of Geneva, The Graduate Institute, WHO, UNDP, WTO, IUCN, Medicines Patent Pool, among others. ... This module will introduce the concept of global health. Global health is a relatively new field and there is currently some debate over its definition</p>
12	Epidemiology: The Basic Science of Public Health	https://www.coursera.org/course/epidemiology	<p>Often called “the cornerstone” of public health, epidemiology is the study of the distribution and determinants of diseases, health conditions, or events among populations and the application of that study to control health problems. By applying the concepts learned in this course to current public health problems and issues, students will understand the practice of epidemiology as it relates to real life and makes for a better</p>

			appreciation of public health programs and policies.
13	Global Tuberculosis (TB) Clinical Management and Research	https://www.coursera.org/course/tbmanagement	TB is caused by bacteria (<i>Mycobacterium tuberculosis</i>) and it most often affects the lungs. TB is spread through the air when people with lung TB cough, sneeze or spit. A person needs to inhale only a few germs to become infected. Every year, 10 million people fall ill with tuberculosis (TB). Despite being a preventable and curable disease, 1.5 million people die from TB each year – making it the world's top infectious killer. TB is the leading cause of death of people with HIV and also a major contributor to antimicrobial resistance.
14	Drug Discovery, Development & Commercialization	https://www.coursera.org/course/drugdiscovery	Drug Discovery & Target Identification Resources. For additional resources, see Drug Development tab. SciFinder Scholar [VPN] Requires registration—see SciFinder Tutorials. This is a great place to start looking for information about a drug product's active ingredients, formulation, and excipients because it covers the chemical literature and patent literature. ... Describe the regulatory environment under which drugs are developed. Learn how patient insights inform drug development and clinical trials. Identify key stakeholders, including healthcare providers, and their contributions in drug development.

Visual AIDS used in the training process:

- educational history;
 - a set of laboratory tests on "adverse effects of drug therapy", "Bronchoob-structive syndrome", "Pathology of hemostasis" "Acute coronary syndrome", "Atherothrombosis";
 - set laboratory (microbiological landscape) tests on "Rational antibiotic therapy";
 - a set of ECG on "Emergency cardiology", "Arrhythmia";
 - a set of laboratory tests on the topic "Optimization of antibacterial therapy";
 - didactic material in the sections "Antibacterial therapy", "NSAIDs", "Narcotic analgesics", "Local anesthetics", "Psychotropic drugs", "Antiarrhythmic drugs", "antianginal drugs", "Antihypertensive drugs", "Bronchoobstructive syndrome", "Atherothrombosis";
 - clinical problems (case studies) on all subjects;
- tests incoming control of knowledge;
- tests for intermediate control of knowledge on all subjects;
- tests final control of knowledge.

8.4. Implementation of e-learning (EL), the use of distance learning technologies (DLT)

№	Platform of EL DLT	Name of the e-course, authors, URL address	E-course implementation model
1	Moodle	https://edu.nsmu.ru/course/view.php?id=442	5 course English medium Clinical Pharmacology web support, blended learning + e-course

8.5. The list of the software and information & reference systems

During the educational process, students and teaching staff use the following software: operating system - MS Windows Vista Starter, MS Windows Prof 7 Upgr; office suite - MS Office 2007; other software - 7-zip, AdobeReader, Kaspersky Endpoint Security

9. Material and technical facilities necessary for the educational process*

№	Name of the study room	Location of the study room	List of the main equipment of the study room
1	Classroom for conducting lecture-type classes No.2102 named after N.P. Bychikhin administrative educational building, 1st floor	163000, Arkhangelsk, ave. Troitskiy, 51	<p><i>a) list of basic equipment:</i> A set of educational furniture (tables, chairs, a screen, a blackboard) a teacher's workplace, workplaces for students with 300 seats.</p> <p><i>b) sets of demonstration equipment</i> projector, monoblock, screen, columns</p> <p><i>c) a list of educational and visual aids:</i> diagrams, tables</p> <p><i>d) the software used:</i> Kaspersky endpoint Security. License number 26FE-191125-134819-1-8403 . MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно</p>
2	Classroom for seminar-type classes, group and individual consultations, ongoing monitoring and	163001, Arkhangelsk region, Arkhangelsk, Suvorov str., 1, bldg. 2	Agreement No. 710 dated 26.09.2017 on the organization of practical training of students between the FSUE in SSMU

	intermediate certification No. 5, 2nd floor		<p>(Arkhangelsk) The Ministry of Health of Russia and the State Medical Institution of the Arkhangelsk region "The First City Clinical Hospital named after E.E. Volosevich". The term of the Contract is 5 years. Equipment according to Appendix No. 3 to the Contract.</p> <p>a) list of basic equipment: A set of educational furniture (tables, chairs, a screen, a blackboard) a teacher's workplace, workplaces for students, 14 places.</p> <p>b) sets of demonstration equipment laptop, projector, TV</p> <p>c) a list of educational and visual aids: Visual aids, handouts for practical classes on all subjects of the discipline, overhead, microscope with visualization system, freezer "Sanyo"</p> <p>d) the software used: Kaspersky endpoint Security. License number 26FE-191125-134819-1-8403 . Valid until 05.12.2021 MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно</p>
3	Classroom for seminar-type classes, group and individual consultations, ongoing monitoring and intermediate certification No. 9, 2nd floor	163001, Arkhangelsk region, Arkhangelsk, Suvorova str., 1, bldg. 2	<p>Agreement No. 710 dated 26.09.2017 on the organization of practical training of students between the FSUE in SSMU (Arkhangelsk) The Ministry of Health of Russia and the State Medical Institution of the Arkhangelsk region "The First</p>

			<p>City Clinical Hospital named after E.E. Volosevich". The term of the Contract is 5 years. Equipment according to Appendix No. 3 to the Contract.</p> <p>a) list of basic equipment: A set of educational furniture (tables, chairs, screen, blackboard), a teacher's workplace, workplaces for students, 14 places.</p> <p>b) sets of demonstration equipment TV, laptop, projector</p> <p>c) a list of educational and visual aids: Visual aids, handouts for practical classes on all subjects of the discipline, overhead, microscope with visualization system,</p> <p>d) the software used: Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.</p> <p>MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно</p> <p>Radmin Viewer 3. Radmin Server 3. Номер документа 11001793</p> <p>Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно</p>
4	Classrooms for seminar-type classes, group and individual consultations, ongoing monitoring and intermediate certification No. 407, academic building, 4th floor	163001, Arkhangelsk, ave. Troitsky, 180	<p><i>a) list of basic equipment: A set of educational furniture (tables, chairs, screen, blackboard) a teacher's workplace, workplaces for students for 14 places.</i></p> <p><i>b) sets of demonstration equipment laptop, projector</i></p> <p><i>c) a list of educational and visual aids: Visual aids, handouts for practical classes on all subjects</i></p>

			<p><i>of the discipline, tabular and reference material on topics</i></p> <p><i>d) the software used:</i></p> <p><i>Kaspersky endpoint Security. License number 26FE-191125-134819-1-8403 .</i></p> <p><i>MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Win-dows Server CAL 2008 Device CAL. License number 46850049, indefinitely</i></p> <p><i>Radmin Viewer 3. Radmin Server 3. Document number 11001793</i></p> <p><i>Traffic inspector. License Agreement No. 1051-08 dated 10.04.2008, indefinitely</i></p>
5	Classroom for seminar-type classes, group and individual consultations, ongoing monitoring and intermediate certification No. 32, ground floor	163001, Arkhangelsk region, Arkhangelsk, embankment of the Northern Dvina, 125	<p>Agreement No. 710 dated 26.09.2017 on the organization of practical training of students between the FSUE in SSMU (Arkhangelsk) The Ministry of Health of Russia and the State Medical Institution of the Arkhangelsk region "The First City Clinical Hospital named after E.E. Volosevich". The term of the Contract is 5 years. Equipment according to Appendix No. 3 to the Contract.</p> <p>a) list of basic equipment: A set of educational furniture (tables, chairs, screen, blackboard) a teacher's workplace, workplaces for students for 14 places.</p> <p>b) sets of demonstration equipment laptop, projector</p> <p>c) a list of educational and visual aids: Visual aids, handouts for practical classes on all subjects of the discipline, overhead, tabular and reference material on topics</p> <p>d) the software used: Kaspersky endpoint Security. License number 26FE-191125-134819-1-8403 .</p> <p>MS Office 2007. MS Win Starter 7. MS Windows Prof 7</p>

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MINISTRY OF HEALTHCARE OF THE RUSSIAN FEDERATION
Federal State Budgetary Educational Institution of Higher Education
‘NORTHERN STATE MEDICAL UNIVERSITY’
of the Ministry of Healthcare of the Russian Federation

APPROVED

Dean of the International Faculty
Of General Practitioner
A.K. Sherstennikova

« ____ » _____ 2021 year.

SYLLABUS OF THE COURSE (MODULE)

Course **5, 6**

Training field **31.05.01 General Medicine**

Year of study

Form of the interim assessment - **Examination**

Department **Outpatient therapy**

Course workload **432** (hours) / **12** (credits)

Approved at the department meeting:

Protocol No 9

« 25 » _____ 06 _____ 2021

Head of the Outpatient therapy department

MD, Professor E.V.Serdechnaya

Author and compiler:

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Arkhangelsk, 2022

1. Position of the course (module) within the structure of the educational program

The program is developed following the requirements of Federal State Education Standard (FSSES) for higher education in the field of 31.05.01«General medicine».

In accordance with the curriculum it is taught at the ninth - twelfth semester.

To acquire knowledge of the discipline "Outpatient Therapy" students should master the following disciplines: medical ecology, normal physiology, hygiene; health economics; pharmacology; medical rehabilitation; neurology, medical genetics, psychiatry, medical psychology; basics of care for medical and surgical patients; PID, faculty therapy, occupational diseases; endocrinology; infectious diseases; intensive therapy; faculty surgery, urology.

1. Goal and tasks of the mastering of the course

1. To teach the skills of organization and provision of skilled care at therapeutic outpatient setting, primary and secondary prevention, medical evaluation and sanatorium rehabilitation treatment.
2. Train the skills of medical care in emergency and life-threatening conditions at the prehospital stage.

Tasks of the discipline:

1. To master the basic principles of the organization of therapeutic and preventive care to the general population at the outpatient setting.
3. Train the organization and operating principles of the general practitioner's work.
4. To familiarize with modern diagnostic facilities of the outpatient clinic and its rational use.
5. To develop the skills of clinical thinking in diagnostics of the most common diseases of the outpatient setting based on their characteristics, course, treatment, primary and secondary prevention, disability examination.
6. Training skills to work with the standards and protocols of treatment of internal diseases, pharmacology manuals, evaluation of temporary disability.
7. Learn to work with the orders, special instructions on emergency assistance to the population.
8. Learn evaluation of temporary and permanent disability.
9. Trained to respond to emergency at the prehospital stage.

3. List of the planned learning outcomes of the course (module) in connection to the planned outcomes of the mastering of the educational program

Codes of the formed competences	Indicator of the competence achievement
GPC-2. Able to carry out and monitor the effectiveness of prevention, health promotion	ID-2.1. Is able to prescribe preventive measures for patients taking into account risk factors for the prevention and early detection

and hygiene education measures	<p>of diseases, including socially significant diseases.</p> <p>ID-2.2.2. implements group and individual prevention methods, develops and implements healthy lifestyle programmes, including programmes to reduce alcohol and tobacco consumption and to prevent and combat the non-medical use of narcotic drugs and psychotropic substances.</p> <p>ID-2.3 Organises and conducts immunoprophylaxis of infectious diseases in the adult population in accordance with current medical care procedures, clinical guidelines (treatment protocols) for medical care, taking into account the standards of medical care.</p> <p>ED-2.4 Skills to assess the effectiveness of preventive work with patients.</p>
GPC-4. Able to use medical devices as stipulated in the medical care procedure and to carry out patient examinations in order to establish a diagnosis	<p>ID-4.1. is proficient in modern methods of administering medicines, medical devices and therapeutic nutrition to patients with diseases and conditions in accordance with current medical care procedures, clinical guidelines (treatment protocols) for medical care, taking into account the standards of medical care.</p> <p>ID-4.2 Is able to justify the choice of laboratory and instrumental methods of examination of a patient.</p> <p>ID-4.3 Skills in assessing the results of laboratory and instrumental methods of examination of a patient in order to establish a diagnosis.</p>
GPC-6. Can organise patient care, provide primary health care, organise work and make professional decisions in case of pre-hospital emergencies, emergencies, epidemics and mass casualty foci	<p>ED-6.1 Knows how to care for patients according to their age, the nature and severity of their illness</p> <p>ED-6.2 Knows the basic diagnostic and therapeutic measures for first aid in pre-hospital emergencies in accordance with medical care protocols.</p> <p>ED-6.3 Is able to provide emergency medical care for patients with life-threatening conditions, including clinical death.</p> <p>ID-6.4 Is familiar with the algorithm of first aid in emergencies, epidemics and mass casualty areas.</p>

	<p>The competence to organise the work of medical personnel in emergencies, emergencies, epidemics and mass casualty areas.</p> <p>ID-6.6 Administer medicines and medical devices in pre-hospital emergency care.</p>
<p>GPC-7. Able to prescribe treatment and monitor its effectiveness and safety</p>	<p>ID-7.1 Is able to develop a treatment plan for a patient's illness and condition in accordance with medical care procedures, clinical guidelines, and medical care standards.</p> <p>ID-7.2 Is able to prevent or manage complications, adverse effects, adverse reactions, including unexpected ones, resulting from diagnostic or treatment procedures, the use of drugs and/or medical devices, non-medicinal treatments.</p> <p>ID-7.3 Skills in evaluating the efficacy and safety of medicines, medical devices and therapeutic nutrition.</p>
<p>GPC-8. Able to implement and monitor the effectiveness of medical rehabilitation of a patient, including the implementation of individual rehabilitation and habilitation programmes for persons with disabilities, to assess the patient's ability to work</p>	<p>ID-8.1. is able to identify medical indications for and implement medical rehabilitation measures, including the implementation of an individual rehabilitation or habilitation programme for persons with disabilities, in accordance with current medical care procedures, clinical guidelines (treatment protocols) for medical care, taking into account medical care standards.</p> <p>ID-8.2 Prescribes spa treatment for a patient in need of medical rehabilitation, including the implementation of an individual rehabilitation or habilitation programme for persons with disabilities, in accordance with current clinical guidelines (treatment protocols) for medical care, medical care orders and taking into account medical care standards.</p> <p>ID-8.3. monitors the implementation and evaluation of the effectiveness and safety of rehabilitation measures, including the implementation of the individual rehabilitation or habilitation programme for persons with disabilities, taking into account the diagnosis in accordance with current medical care procedures, clinical guidelines (treatment</p>

	protocols) for the provision of medical care, taking into account medical care standards.
PC-1. Ability and readiness to conduct hygiene education of the population, to educate patients and health workers in order to prevent the emergence (or) spread of diseases, their early diagnosis, identification of causes and conditions of their emergence and development	<p>ID-1.1. Can provide health education to children and adults (their legal representatives) and health care professionals to promote healthy lifestyles and prevent common illnesses, and to encourage children and adults (their legal representatives) to adopt health-seeking behaviour to maintain and improve their physical health.</p> <p>ID-1.2. Have knowledge of methods and forms of communication, techniques and techniques for engaging the public in health and wellness education.</p> <p>The project will be implemented by the Ministry of Education and Science of the Republic of Moldova.</p> <p>Competent in the implementation of sanitary and anti-epidemic measures in the event of an outbreak of infection.</p> <p>ID-1.5. Is able to identify medical indications for restrictive measures (quarantine) and indications for referral to a medical specialist.</p>
PC-2. Ability and readiness to examine a patient in order to establish a diagnosis	<p>ID-2.1. Is able to collect complaints, history of life and illness of a patient and analyse the information obtained, conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation) and interpret the results.</p> <p>ID-2.2 Is skilled in identifying the main pathological conditions, symptoms, disease syndromes, and nosological forms of a patient in accordance with the current International Statistical Classification of Diseases and Related Health Problems.</p> <p>ID-2.3 Is able to justify the necessity and scope of laboratory and instrumental examination of a patient in accordance with the current procedures of medical care, clinical guidelines (treatment protocols) for medical care, taking into account the standards of medical care and interpret its results.</p>

	ID-2.4 Performs early diagnosis of diseases of internal organs and makes differential diagnosis of internal diseases from other diseases.
PC-3. Ability and readiness to manage and treat patients with different nosological forms	<p>ID-3.1 Is able to make a treatment plan for the disease and the patient's condition, taking into account the diagnosis, age of the patient, clinical picture of the disease in accordance with the current procedures of medical care, clinical guidelines (treatment protocols) for medical care, taking into account the standards of medical care.</p> <p>ID-3.2 Prescribes medicines, medical devices and therapeutic food taking into account the diagnosis, age and clinical picture of the disease in accordance with the current procedures of medical care, clinical guidelines (treatment protocols) on medical care, taking into account the standards of medical care.</p> <p>ID-3.3 Prescribes non-pharmacological treatment taking into account the diagnosis, age and clinical picture of the disease in accordance with the current medical care procedures, clinical guidelines (treatment protocols) for medical care, taking into account the standards of medical care.</p> <p>ID-3.4. Has an algorithm for palliative care in collaboration with specialist doctors and other health care professionals.</p> <p>ID-3.5. Is able to prescribe personalised treatment for patients, including pregnant women, elderly and elderly patients; manage physiological pregnancy, deliver babies.</p> <p>ID-3.6. Applies medical devices in accordance with current medical care procedures, clinical guidelines (treatment protocols) for medical care, care taking into account the standards of medical care.</p>
PC-4. Ability and readiness to organise and carry out medical examinations, to carry out dispensary care and medical examinations of the adult population in accordance with current regulations	<p>ID-1. Is able to carry out age-, health- and occupation-specific medical examinations in accordance with current regulations and other documents.</p> <p>ID-4.2 Organises and conducts screening of the adult population for the early detection of</p>

	<p>chronic noncommunicable diseases and their main risk factors.</p> <p>ID-4.3 Organises and manages the follow-up of patients with diagnosed chronic noncommunicable diseases, including patients with high and very high cardiovascular risk.</p>
<p>PC-5. Ability and readiness to provide medical care in emergency and urgent forms, to ascertain the biological death of a person</p>	<p>ID-5.1 Is able to identify the clinical signs of conditions that require emergency medical care.</p> <p>ID-5.2 Performs emergency medical care activities in accordance with medical care procedures, clinical guidelines, taking into account the standards of medical care.</p> <p>ID-5.3 Identifies conditions requiring emergency medical care, including clinical signs of sudden circulatory and respiratory collapse requiring emergency medical care</p> <p>ID-5.4. has an algorithm of emergency medical care for patients with life-threatening conditions, including clinical death (arrest of vital human functions (circulation and/or respiration), in accordance with medical care procedures, clinical guidelines, and medical care standards.</p> <p>ID-5.5. Performs basic cardiopulmonary resuscitation in combination with electro-pulse therapy (defibrillation).</p> <p>ED-5.6. is able to conduct the examination of a corpse at the scene, identify signs of the biological death of a person, execute the protocol of establishing human death and other documentation in connection with the death of a person.</p>
<p>PC-6. Ability and readiness to carry out medical examinations, medical rehabilitation measures in accordance with medical care procedures and clinical guidelines</p>	<p>ED-6.1 Is able to identify signs of temporary disability and signs of permanent impairment of bodily functions due to illness, injury or defect.</p> <p>ID-6.2. Prepares medical documentation for the examination of temporary disability, referring patients to the federal state medical and social expert assessment institutions.</p> <p>ID-6.3 Performs medical rehabilitation activities for the patient in accordance with current medical care procedures, clinical guidelines (treatment protocols) for medical</p>

	care, taking into account the standards of medical care.
PC-9. Ability and readiness to keep medical records and organise the activities of the nursing staff on hand	<p>ID-9.1 Can analyse data from official statistical reporting, including federal and sectoral statistical observation forms, draw up a work plan and report on his/her work</p> <p>ID-9.2 Handles patient personal data and patient confidentiality</p> <p>ED-9.3 Analyse medical and statistical indicators of morbidity, disability and mortality to assess public health</p> <p>ID-9.4 Completes medical records, including electronically, and monitors the quality of the records</p> <p>Supervise the performance of duties by the district nurse and other available medical staff</p> <p>ID-9.6. Uses health information systems and the Internet in her/his work</p>

4. Volume of the course (module) and types of the academic classes:

Total workload of the course is _12_ credits.

Type of the academic work	Total hours	Term
Interaction between students and a professor (in total)	200.3	9,10, 11,12
Including:		
Lectures (L)	68	9,10, 11,12
Seminars (S)		
Practicals (P)		
Clinical practicals (CP)	130	9,10, 11,12
Laboratory-based practicals (LBP)		
Simulation-based practicals (SBP)		
Unsupervised work (UW) (total)	198	9,10, 11,12
Control	33.7	12
Preparation for examination		

Consultations for the exam	2	12
Examination	0,3	12
Pass/fail test		
Graded pass/fail test		
Total workload (hours)	432	

5. Course content :

5.1. Contents of the sections of the course

The content of the discipline consists of the following sections:

1. Basics of organization of outpatient care and medical prevention:

* Fundamentals of organization of outpatient care for the population.

• Medical prevention.

* Assessment of the quality of medical care at the outpatient stage.

2. Emergency care at the pre-hospital stage:

* Emergency conditions at the pre-hospital stage.

* Emergency conditions in cardiology at the pre-hospital stage.

* Emergency care in pulmonology at the pre-hospital stage.

* Assistance in emergency conditions in gastroenterology at the pre-hospital stage.

* Emergency care in urology and Nephrology at the pre-hospital stage.

* Hyperthermic syndrome at the prehospital stage.

* Emergency care for allergic reactions at the pre-hospital stage.

• Emergency treatment of coma in the prehospital setting.

* Emergency care in neurology at the pre-hospital stage.

3. Internal diseases:

* Diseases of the cardiovascular system in outpatient practice.

* Diseases of the digestive system in outpatient practice.

* Diseases of the urinary system in outpatient practice.

* Blood diseases in outpatient practice.

• Disease of the respiratory system in ambulatory practice.

* Joint diseases in outpatient practice.

* Diseases of the endocrine system in outpatient practice.

* Somatic diseases in outpatient practice in certain groups of the population.

The system of classes is cyclical. Cycl7-11 days (last day-undifferentiated test, at the end of 12 semester – exam).

No	Name of the course section	Content of the section
1	2	3
Fundamentals of outpatient care and medical prevention.		
1	Fundamentals of outpatient care to the population.	<p>Topic 1: Organization of outpatient medical care.</p> <p>The structure of the outpatient clinic. Organization of work its departments. The main directions of the GP's work. Organization of hospital substitute types of assistance. Medical and technological standards.</p>

		<p>Topic 2: The functional responsibilities of the doctor of primary health care. The qualifying characteristic specialty.</p> <p>Tasks, duties, performance criteria of the GP</p> <p>Topic 3: The main legislative instruments used in the medical work of primary health care.</p> <p>Documents regulating the provision of medical and preventive care at the outpatient stage.</p> <p>Topic 4: The primary district documentation</p> <p>Working with primary therapeutic district documents: outpatient records, stat. ticket, referral notes for examination and treatment</p> <p>Topic 5: The basic principles of providing medical outpatients. Preferential provision of medicines.</p> <p>The main legislative documents. Principles of the medical settings work in supplying the population with pharmaceuticals. Groups and categories of diseases giving right to preferential support. The role of pharmaceutical institutions in providing the population with medicines. Legal documents regulating the work to issue preferential recipes.</p> <p>Topic 6: Features of care for older people, medical and social problems of the elderly contingent with the program adaptation.</p> <p>The main legislative documents governing the provision of medical care for the elderly contingent according to the territorial program of compulsory health insurance (OMS). Principles of the organization of additional preferential support (DLO) in hospitals. The main legislative documents regulating the work of gerontological service in Russia. The organization of medical and social assistance to the elderly contingent. Targeted medical-social assistance to the patient geriatric age. Making someone integrated program of medical and social adaptation of an old man.</p> <p>Topic 7: Assessment of quality of medical care at the outpatient stage.</p> <p>Working with the acts and outpatients records to assess the quality of care at the outpatient stage. Analysis of typical doctor/s mistakes to assist outpatients and paperwork.</p>
2.	Medical prevention	<p>Topic 1: The organization of preventive work in the outpatient clinic</p> <p>The concept of medical prevention. Implementation of preventive principles in hospitals. Types of prevention activities. UN Political Declaration on the Prevention and Control of NCDs (non-communicable diseases). The complex-valued global system for monitoring of non-communicable diseases in the Russian Federation (RF).</p>

		<p>Topic 2: Clinical examination of the population - the main method of disease prevention. Clinical examination of the working population. Examination of chronic patients on territorial basis. Clinical examination of invalids and participants of the World War II (WWII) and the other decreed contingents. General patients. Schemes of medical examination.</p> <p>Topic 3: Organization of the "Center for Healthy Lifestyles" and prevention department. The main risk factors of NCDs and their correction. healthy life style, the basics of good nutrition. Individual consultations.</p> <p>Topic 4: Primary prevention of NCDs. Effective prevention consultations of patients with chronic non-communicable diseases. Algorithm for individual counseling.</p> <p>Topic 5: Epidemiology of socially significant diseases, risk factors and their correction. Immunization for adult population of Russia Definition of social diseases. Diagnosis of tuberculosis. Categories of persons for mandatory testing for HIV, hepatitis B. Early diagnosis of malignant tumors, diabetes mellitus. Immunization, vaccination schedule, contraindications for vaccination.</p> <p>Topic 6: The role of health workers in the secondary prevention of disease. Secondary prevention of cardiovascular diseases. Organization of school work for patients with hypertension and atrial fibrillation (school attendance, functional-functional responsibilities of nursing instructors, acquaintance with primary documents outpatient). Secondary prevention of diabetes. Organization of school work for people with diabetes (drawing up individual training programs). Secondary prevention of asthma. school Organization of work for patients with bronchial asthma (goals, objectives) Secondary prevention School organization works for patients undergoing cerebrovascular accident.</p>
3.	Fundamentals of disability expertise	<p>Topic 1: Organisation of temporary disability examination. The organizational structure and procedure of the examination of temporary disability, structure, steps,</p>

		<p>documentation, average duration of temporary disability in mass therapeutic pathology. The average period of temporary disability</p> <p>Topic 2: Examination permanent disability.</p> <p>The concept of legislative documents and medical and social expertise. MSE structure. Examination of permanent disability, the provisions of MSEK, the criteria of disability, rehabilitation prognosis, disabled rehabilitation program.</p>
4.	Assessment of outpatient care quality	<p>Topic 1: Quality control of health care provision.</p> <p>Working with outpatients medical records , acts of expertise.</p>
Emergency care at the prehospital stage		
1.	Emergency care at the prehospital stage	<p>Topic 1. Emergency care at the prehospital stage</p> <p>The concept of "state of emergency", the classification of emergency conditions. Organization of emergency care in the prehospital phase. Normative-legal acts regulating the activities of health workers in providing assistance in the prehospital phase.</p> <p>Topic 2. Legal regulation and the principles of emergency care at prehospital stage.</p> <p>The basic principles and the amount of medical care in the prehospital phase. Interaction with the operational department (control room) medical aid station (SMP). Indications to call specialized teams. Infectious safety.</p> <p>Rules of transportation of patients and survivors.</p> <p>Tema Topic 3. Terminal states.</p> <p>The concept of "terminal condition."</p> <p>Physiological parameters of vital body functions. The types and clinical manifestations of terminal states.</p> <p>Topic 4. Cessation of the circulation and respiration.</p> <p>Cessation of circulation: definition, risk factors, causes, symptoms, diagnosis. Respiratory arrest: definition, risk factors, causes, symptoms, diagnosis. Criteria for evaluation of the severity of the patient. Signs of clinical, biological death.</p> <p>Topic 5. Universal algorithm providing specialized resuscitation in case of emergency</p> <p>The essence of the algorithm cardiopulmonary resuscitation (CPR). Recognition and treatment of</p>

		defibrillation (pulseless ventricular tachycardia, ventricular fibrillation) and nedefibrillyatsionnyh (asystole, pulseless electrical activity) rhythms. Indications and methods of administering medication during sudden cardiac arrest. Restoration of the airway, mechanical ventilation (ALV), conducting supplemental oxygen, chest compressions, defibrillation, intubation. Criteria to stop resuscitation.
2.	Emergency conditions in cardiology in the prehospital phase.	<p>Topic 1. Acute coronary syndrome in prehospital phase.</p> <p>Current concepts of acute coronary Mr. syndrome (ACS): definition, etiology, complications, differential diagnosis.</p> <p>Features Survey prehospital: physical, instrumental, biochemical-cal (Express-study in acute in-infarction (troponin, myoglobin)). Tactics doctor in ACS without ST-segment elevation and ST-segment elevation. Medications for emergency care in the prehospital phase: methods of application, selection of doses and complications of therapy. Specifics of transportation and monitoring of the patient's condition.</p> <p>Topic 2. Acute heart failure before hospitalization.</p> <p>cute heart failure: definition, etiology, options differential diagno-stick. Cardiogenic shock, cardiogenic pulmonary edema, pulmonary embolism. Features of physical and instrumental examination of prehospital. The choice of tactics and algorithm of emergency assistance do6gospitalnom stage in acute heart failure. Medications for emergency care in the prehospital phase. Specifics of transportation and monitoring of the patient's condition.</p> <p>Theme 3. Hypertensive crisis, algorithm of prehospital managing</p> <p>Hypertensive crisis: causes, forms with modern amenities mennaya-classification, clinical manifestations and complications. Medications for emergency care in the prehospital phase: methods of application, selection of doses and complications of therapy. Algorithm for emergency care in the prehospital patients with complicated and uncomplicated hypertensive crisis. Indications for</p>

		<p>hospitalization. Specifics of transportation and monitoring of the patient's condition.</p> <p>Topic 4. Acute vascular insufficiency Syncope. Collapse. State of shock.</p> <p>Definitions: faint, collapse, shock. The pathogenesis of syncope, collapse, shock states. The clinical picture. Differential diagnosis. The choice of tactics and algorithm of emergency care in the prehospital phase. Indications for mechanical ventilation.</p> <p>Topic 5. Cardiac arrhythmias. Tachycardia with wide and narrow complexes QRS.</p> <p>Cardiac arrhythmias: identification of risk factors, classification, clinical manifestations. Differential diagnosis of cardiac arrhythmias.</p> <p>Tachycardia with wide and narrow complexes QRS: etiology, clinical features, diagnostic methods. Algorithm for emergency care in the prehospital phase. Cardioversion. Indications. performance technique. Equipment. Safety. Medications for emergency care in the prehospital phase: methods of application, selection of doses.</p> <p>Topic 6. Ventricular fibrillation, ventricular tachycardia without a pulse. Asystole.</p> <p>Ventricular fibrillation, ventricular tachycardia without pulse: diagnosis, emergency treatment algorithm prehospital. Defibrillation, readings, techniques and equipment. Safety precautions during defibrillation.</p> <p>Asystole. The electrical activity of the heart without a heart. Causes, diagnosis, algorithm of emergency care in the prehospital phase.</p> <p>Topic 7. Bradycardia.</p> <p>Bradycardia: etiology, clinical features, diagnostic methods. Algorithm for emergency care in the prehospital phase. Pacing (ECS). Description. Equipment. Indications and contraindications for ECS (temporary and permanent). performance technique. Safety regulations. Application of ECS.</p>
3.	Assistance in urgent situations in pulmonology in the prehospital phase.	<p>Theme 1. Acute respiratory failure (ARF). Bronchial asthma.</p> <p>ARF: definition, causes, clinical symptoms, severity, hypoxemic coma, differential diagnosis. Features of physical and instrumental examination at prehospital stage. Indications for mechanical ventilation. Medications for emergency care in the prehospital</p>

		<p>phase: methods of application, selection of doses and complications of therapy. The diagnostic criteria for asthma, the clinical picture. Differential diagnosis of conditions involving acute dyspnea occurred. Features of physical examination at an attack of asthma. Criteria for assessing the severity, symptoms of life-threatening asthma attack. Status asthmaticus. The choice of tactics and algorithm of emergency treatment of bronchial asthma in the prehospital phase. Indications for hospitalization. Specifics of transportation and monitoring of the patient's condition.</p> <p>Topic 2: PE, emergency prehospital algorithm. Modern understanding of pulmonary embolism (PE). Determining cause clinical symptoms. Differential diagnosis. Methods of diagnosis. Features of an electrocardiogram (ECG) and echocardiography (echocardiography) for pulmonary embolism. Algorithm for emergency assistance in PE. Medications for emergency care in the prehospital phase: methods of application, selection of doses and complications of therapy. Features of transport and monitoring the patient's condition.</p>
4.	Help in case of emergency in gastroenterology in the prehospital phase.	<p>Topic 1. Acute poisoning. Poisoning by drugs, medicaments and biological substances. Ethanol poisoning. Mushrooms poisoning. Definition. Epidemiology. Clinic. Diagnostics. Urgent care.</p> <p>Topic 2: Diseases of the gastrointestinal tract (GIT), accompanied by severe pain. Etiology. Pathogenesis. Clinic. Differential diagnosis. Methods of emergency diagnostics. Hepatic colic. Bleeding from the gastrointestinal tract. Principles of diagnosis. Emergency care.</p>
5.	Help with urgent conditions in urology and nephrology in the prehospital phase.	<p>Topic 1: Acute kidney injury. Renal colic. Acute urinary retention. Criteria for diagnosis, classification and clinical picture of acute kidney damage Causes of ureteral colic. The clinical picture of renal colic. Diagnosis of renal colic in the prehospital phase. Differential diagnosis. Clinic of acute urinary retention. Differential diagnosis of acute urinary retention. First aid on pre-hospital stage. Tactics for the</p>

		physician in the prehospital phase. First aid for bleeding from the kidneys and urinary tract.
6.	Hyperthermic syndrome at prehospital stage.	Theme 1. Algorithm emergency at hyperthermal syndrome in prehospital phase Causes of fever. Acute fever: classification, clinical picture, complications. Indicative causes prolonged fever. Differential diagnosis of infectious and non-infectious fever hyperthermia. Infectious safety. Physical and medical methods of cooling. Physical and medical methods of cooling. Indications for hospitalization. Features of transport and monitoring the patient's condition.
7.	Emergency care for allergic reactions before hospitalization.	Topic 1. The algorithm first aid for allergic reactions to the pre-hospital stage. Causes of acute allergies, the most common allergens. Classification, clinical manifestations of the acute allergies. Heavy (prognostically unfavorable) allergies. The choice of tactics and algorithm of emergency care in the prehospital (angioedema, generalized urticaria, anaphylactic shock). Anti-allergic and symptomatic therapy. Antishock measures. Indications for hospitalization Specifics of transportation and monitoring of the patient's condition
8.	Emergency treatment in coma	Topic 1. The algorithm of diagnostics of coma (prehospital and emergency care). Coma: causes, classification, criteria for evaluation of the coma. The main clinical differences between the various types of com (hypoglycemic, hyperglycemic, alcoholic, uremic, hepatic, hypoxic coma). Plan physical and instrumental examination of the patient in the prehospital phase. Diagnostic tools for rapid assessment of biochemical parameters in the patient. Directions therapy. The choice of tactics and algorithm of emergency care in the prehospital phase. Indications for hospitalization. Specifics of transportation and monitoring of the patient's condition
Internal diseases.		
1.	Diseases of the cardiovascular system in outpatient practice.	Topic 1. Atherosclerosis at prehospital stage. The urgency of the problem. Epidemiology of cardiovascular diseases. Exchange of endogenous lipoprotein, atherogenesis. Physico-chemical characterization of cholesterol, triglycerides,

		<p>lipoprotein, fatty acids, phospholipids, the main classes of lipoproteins. Classification of hyperlipidemia. Clinical and laboratory examination of patients with dyslipidemia. The algorithm of examination of patients with dyslipidemia. Treatment of dyslipidemia. Features of treatment of disorders of lipid metabolism in certain population groups.</p> <p>Topic 2: Diagnosis of cardiovascular disease at the outpatient stage.</p> <p>Diagnosis of coronary heart disease (CHD) - ECG stress test, the pharmacological tests, the stress magnetic resonance imaging (MRI) techniques rentgenoangiograficheskie - coronary angiography, ventriculography), isotopic methods.</p> <p>Topic 3. Hypertensive heart disease in the practice of the district general practitioner.</p> <p>Hypertensive heart disease: definition, risk factors, classification, clinical characteristics. Complications of hypertension, indications for hospitalization. Tactics of general practitioner clinics in newly diagnosed hypertension. Mandatory laboratory and instrumental methods. Possibilities of inspection in the clinic to identify the causes of hypertension, the role of modern non-invasive examination methods. Treatment on an outpatient basis depending on the risk. Principles of choice of drug therapy. disability examination. Spa treatment. clinical examination. Prevention.</p> <p>Criteria and refractory severe hypertension, treatment</p> <p>Topic 4. The syndrome of pain in the left side of the chest in ambulatory practice</p> <p>Differential diagnosis of chest pain and coronary noncoronary genesis. The main distinguishing criteria coronary pain. Noncardiac causes of chest pain: cervical-thoracic osteochondrosis, pleural disease, hiatal hernia, diseases of the abdominal cavity.</p>
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		<p>Topic 5. Coronary heart disease in the practice of general practitioner. Determining risk factors classification. Indications for hospitalization of patients with coronary artery disease. Treatment of coronary heart disease in the outpatient setting. Indications for surgical treatment of coronary artery disease. disability examination. Spa treatment. Primary and secondary prevention. Clinical examination.</p> <p>Topic 6. Rehabilitation of patients after myocardial infarction at the outpatient stage. anagement of patients with myocardial infarction after discharge from hospital. The objectives of rehabilitation of patients with myocardial infarction at a polyclinic stage. Types of rehabilitation Psychological, social and occupational rehabilitation. Features of the rehabilitation of patients after surgery coronary artery bypass grafting (CABG). disability examination. Clinical examination. Secondary prevention. Spa treatment in rehabilitation of patients.</p> <p>Topic 7. Vegetative-vascular dystonia in the practice of the district general practitioner. Definition, etiology and predisposing factors, pathogenesis. Diagnostic criteria. Volume survey. Classification, formulation of diagnosis. Indications for hospitalization. Treatment in outpatient settings. Examination of temporary disability and its duration. An employment forecast. Spa treatment.</p> <p>Theme 8. Myocarditis and cardiomyopathy, management of patients in the outpatient setting. Determining risk factors, classification, clinical manifestations, examination methods for diagnosis. Indications hospitalization, management of patients in outpatient conditions. disability examination. Clinical examination. Secondary prevention. Spa treatment of these diseases.</p> <p>Topic 9. Chronic heart failure (CHF) - management of patients in an outpatient setting</p>
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		<p>Determining risk factors, classification, clinical picture. Diagnosis, clinical signs. Echocardiography in the diagnosis of heart failure. CHF treatment at the outpatient stage. Indications for hospitalization, the role of day hospital at home treatment of this pathology. Supportive therapy, the tactics of its implementation. disability examination. Rehabilitation measures. Clinical examination.</p> <p>Topic 11. Antithrombotic therapy in outpatient practice in patients with stable manifestation of atherothrombosis.</p> <p>What is atherothrombosis and its clinical manifestations. Antithrombotic therapy as a component of pathogenetic treatment of atherothrombosis. Drugs that inhibit the function of platelets and the coagulation cascade.</p> <p>Antithrombotic therapy in patients with coronary artery disease and stable angina.</p> <p>Antithrombotic therapy in patients after acute coronary syndromes.</p> <p>Antithrombotic therapy in patients undergoing percutaneous coronary intervention (PCI).</p> <p>Antithrombotic therapy in patients undergoing coronary artery bypass surgery and coronary artery bypass grafting.</p> <p>Antithrombotic therapy in patients with CHF.</p> <p>Antithrombotic therapy in patients with essential hypertension (EH).</p> <p>Antithrombotic therapy in patients with atrial fibrillation (AF).</p> <p>Topic 12. Management of patients with heart valve defects in the outpatient.</p> <p>Determining risk factors, classification, clinical picture. Methods of diagnosis. Management of patients on outpatient. Indications for hospitalization. Indications for referral to surgical treatment of malformations. disability examination.</p>
2	Diseases of the digestive system in outpatient practice.	<p>Topic 1. Methods for diagnosing diseases of the gastrointestinal tract at the outpatient stage.</p> <p>Fibrogastroduodenoscopy (EGD), rentgenological, endoscopy, ultrasound, methods of diagnosing Helicobacter pylori.</p> <p>Topic 2. The syndrome of abdominal pain and dyspeptic syndrome.</p>

		<p>he causes of abdominal pain: inflammatory, functional, obstructive, hemodynamic instability, and their main features. The content of the concepts of gastric, pancreatic and intestinal dyspepsia. The role of the violations of the secretory and motor function of the stomach, intestines and pancreas in the occurrence of dyspeptic disorders. Diseases manifested by diarrhea or constipation. The differential diagnosis of the main diseases associated with abdominal pain, and dyspepsia. Management of patients at the outpatient stage.</p> <p>Topic 3. Helicobacter related diseases. Gastroesophageal reflux disease (GERD), chronic gastritis, gastric ulcer and duodenal ulcer. Determining risk factors, prevalence, clinical picture, Methods of Helicobacter diagnostics in an outpatient setting. The volume of laboratory and instrumental examination. Formulation of a diagnosis in accordance with the modern classification. Treatment of the patients in the outpatient setting. Differentiated treatment of various types of gastritis (diet, medication and non-pharmacological therapy in the exacerbation of the disease). Tactics of outpatient physician in the event of complications during gastric ulcer and duodenal ulcer (bleeding, pyloric stenosis, penetration, perforation). Indications for hospitalization. Anti-relapse treatment, including spa. disability examination. Clinical examination. Primary and secondary prevention</p> <p>Topic 4. Biliary dyskinesia and chronic calculous cholecystitis in outpatient practice. Determining risk factors classification. Clinic hyper hypokinetic and biliary dyskinesia, their diagnosis and differential treatment. disability examination. Symptoms of chronic calculous cholecystitis not varying degrees of severity; diagnosis and treatment of this pathology. disability examination. Prevention, health examinations and health resort treatment for diseases of data.</p> <p>Topic 5. Chronic hepatitis and cirrhosis of the liver in the practice of physician Definition. Risk factors. Classification hepatitis.. Diagnostic criteria for hepatitis. Hepatitis treatment</p>
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		<p>on an outpatient basis. The clinic, diagnosis, classification of liver cirrhosis (LC), the wording of the diagnosis. CPU treatment on an outpatient basis. Treatment of exacerbations of the CPU, the indications for hospitalization. Examination of temporary and permanent disability Medical examination patients with CKD. Sanatorium stage of rehabilitation of patients with liver cirrhosis.</p> <p>Topic 6. Functional colonic disease in ambulatory practice</p> <p>Irritable bowel syndrome, etiology, differential diagnosis with chronic colitis. Treatment of these patients at the outpatient stage. Prevention. disability examination. Clinical examination. Spa treatment.</p>
3	Diseases of the urinary system in outpatient practice.	<p>Topic 1. Diagnosis of urinary pathology at outpatient settings.</p> <p>The definition of "urinary syndrome." Types of disorders of the urinary sediment. Differential diagnosis mo-chevogo syndrome in outpatient therapist. Methods of study of urinary sediment.</p> <p>Theme 2. Acute and chronic glomerulonephritis - treating patients on an outpatient basis</p> <p>Determining risk factors, classification. Clinical forms and variants of acute glomerulonephritis. Clinical and laboratory criteria. Management of patients on outpatient (diet, medical therapy after discharge from the hospital). disability examination. Clinical examination. The role of spa treatment and chronic disease prevention measures.</p> <p>Clinical classification of chronic glomerulonephritis. Options for the course and their clinical and laboratory characteristics, methods of instrumental examination. Indications for hospitalization. Principles of treatment in an outpatient setting. disability examination. Preventing exacerbations (diet, drug therapy, spa treatment). clinical examination .</p> <p>Topic 3. Chronic pyelonephritis in the practice of the district general practitioner.</p> <p>Clinical manifestations of chronic pyelonephritis. The volume of laboratory and instrumental examination, allowing to diagnose this pathology. Treatment during an exacerbation and remission (diet, medication and non-drug therapy). Indications</p>

		<p>for hospitalization. disability examination. Place spa treatment in the management of patients. Clinical examination.</p> <p>Topic 4: Management of patients with chronic kidney disease (CKD) in the outpatient setting. Determining risk factors, classification. Clinic of chronic kidney disease: complaints of the patient, medical history data, functional, and laboratory and instrumental studies. CKD progression factors. Complications of CKD. Treatment. The wording of the diagnosis. Indications for hospitalization in a specialized hospital. Indications for hemodialysis and peritoneal dialysis. Clinical examination. disability examination.</p>
4	Blood disorders in outpatient practice.	<p>Topic 1. Anemia in practice of the therapist. Definition. Clinical characteristics of anemia. Modern classification of anemias. Laboratory diagnosis of this syndrome. Plan of treatment of the patient with anemia.</p> <p>Iron-deficiency anemia. Risk factors.</p> <p>The diagnostic criteria of iron deficiency anemia. Clinical signs of iron deficiency. Causes of iron deficiency in the body. Laboratory findings. Treatment and control of the effectiveness of iron therapy on an outpatient basis. disability examination. Primary and secondary prevention. Clinical examination.</p> <p>B12 deficiency anemia. Causes of vitamin B12 deficiency. Clinical manifestations of lesions of the digestive and nervous system, changes in hematological parameters. Diagnostic criteria.</p> <p>Current pathology, treatment of community-acquired on stage. disability examination. Clinical examination.</p>
5	Respiratory disease in outpatient practice	<p>Topic 1: Diagnostic pathology of bronchopulmonary system in the outpatient practice</p> <p>Methods of diagnosing pathology of bronchopulmonary system in the practice of general practitioner. Indications, contraindications, results Interpretation (spirometry, bronchoscopy, computed tomography, sputum examination)</p> <p>Topic 2. Acute respiratory infections in outpatient practice</p>

		<p>Determining risk factors, classification. Clinical features of influenza and other respiratory infections (rhinovirus, adenovirus, respiratory syncytial infection, parainfluenza). Possibilities of differential-tsirovaniya on an outpatient basis. Treatment indications for hospitalization, examination of temporary disability and its duration. Criteria for recovery and vocational rehabilitation. Primary prevention. Patients subject to dispensary observation.</p> <p>Topic 3. Tonsillitis</p> <p>Determining risk factors, classification. The clinical course. Methods of diagnosis. Examination of the patient with angina. Leche-of medication and non-drug, general and local. The tactics of the local therapist in suspected diphtheria and positive culture from the throat. Complications of tonsillitis - early and late. Temporary disability in angina and its timing. Clinical examination.</p> <p>Topic 4: Community-acquired pneumonia - keeping patients on an outpatient basis</p> <p>Determining risk factors, classification. Early symptoms of pneumonia. Physical findings, the volume of laboratory and instrumental examination. Indications for treatment at home, in day care and hospitalization. Organization of hospital at home. The choice of antibiotic therapy and assessment of its effectiveness. Anti-inflammatory therapy and non-drug therapies. Examination of disability, the criteria for recovery and rehabilitation. Clinical examination - the volume of activities, depending on the outcome of treatment. Prevention.</p> <p>Topic 5. Chronic diseases of the respiratory system - keeping patients on an outpatient basis</p> <p>Determining risk factors, classification. Chronic obstructive pulmonary disease (COPD), bronchial asthma (BA) examination as an outpatient procedure for diagnosis and forms of the disease. Treatment of asthma in the interictal period and cupping in the outpatient setting. Treatment of COPD in an outpatient setting. Indications for hospitalization. disability examination. The tactics of the local therapist in cases of suspected professional nature of the disease. Clinical examination of the patient. Primary and secondary prevention. Spa treatment.</p>
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		Early manifestations of respiratory failure and pulmonary hypertension, the methods of detecting them ..
6	Diseases of the joints in the outpatient practice.	<p>Topic1. The joint syndrome in outpatient practice</p> <p>Inflammatory and non-inflammatory joint lesions. Acute, subacute and chronic arthritis, laboratory and instrumental data confirming the diagnosis of arthritis.</p> <p>Rheumatoid arthritis. Its most typical clinical manifestations. Diagnostic criteria for pathology and the degree of activity of the process. Indications for hospitalization. Management of patients at the out-of-hospital stage, the place and role of Spa treatment. Examination of working capacity. Prophylactic medical examination.</p> <p>Deforming osteoarthritis. Factors predisposing to the development of deforming primary and secondary osteoarthritis. Diagnostic criteria for pathology (clinical symptoms, laboratory and instrumental examination data). The course of pathology. Treatment on an outpatient basis. Examination of working capacity. Secondary prevention. Prophylactic medical examination.</p> <p>Gout. Articular lesions. Scope of examination to confirm the diagnosis. Treatment. Examination of working capacity. Prevention.</p>
7	The most important syndromes in the clinic of internal diseases.	<p>Topic 1. Subfebrility and febrile syndrome in the practice of a district General practitioner</p> <p>Possible reasons for the prolonged rise in body temperature so-: focal infection and generalizing-bathrooms, connective tissue disease, paraneo-plastic processes, systemic blood diseases, lymphoproliferative processes, Aller-ronmental reaction. The most common practice in GP infectious diseases: typhoid, paratyphoid group, brucellosis, "children's" infection in adults; their diagnosis. Tactics local therapist to identify them.</p> <p>Infective endocarditis, its diagnosis.</p> <p>Clinic connective tissue diseases, co-accompanied by fever and methods of diagnosis.</p> <p>Low-grade fever and fever with paraneoplastic processes. Scope survey for diagnosis. Tactics GP in establishing these pathologies.</p> <p>Lymphoproliferative disorders as a cause of fever, their diagnosis. physician tactics.</p>

		Fever, lymphadenopathy, weight loss and other symptoms suggestive of HIV - infection. Survey methods for diagnosis
8	Endocrine diseases in outpatient practice	<p>Theme 1. Type 2 diabetes in the practice of the district therapist.</p> <p>early symptoms of diabetes. Physical findings, the volume of laboratory and instrumental examination. Drug-free treatment of diabetes. Diet therapy. Oral hypoglycemic agents: classification, mechanism of action, indications, contraindications, complications. Insulin: Insulin types of drugs, mechanism of action, indications, counter-indications, complications. Indications for hospitalization. Organization of hospital at home. Complications. disability examination. Clinical examination. Prevention.</p>
9	Somatic illness in outpatient practice in certain groups of the population.	<p>Topic 1. Features of geriatric patients with medical conditions in the outpatient setting. The use of drugs in the elderly. Geriatric Rehabilitation.</p> <p>Age grading. Disease, the most common of these ages. The course of systemic diseases, treatment differs from treatment at a younger age. The social aspects of disability in these age groups. Questions of ethics and deontology.</p> <p>The use of drugs. Risk factors for complications of medication.</p> <p>Geriatric Rehabilitation. Its types (medical, geriatric care, social, educational, economic, professional)</p> <p>Topic 2. Oncological vigilance in GP work.</p> <p>Questions of diagnosis of cancer in the analysis of syndromes and clinical entities in terms of differential diagnosis, the dynamic of follow-up and implementation of preventive examinations. Possible symptoms and reliable, allowing suspected oncological causes lung, stomach, intestine, thyroid gland, mammary gland. The examination program. The role of biochemical, enzyme immunoassay, endoscopy, ultrasound, O-ray (X-ray, tomography, magnetic resonance imaging) examination methods in establishing the diagnosis.</p> <p>Topic 3. Management of patients with somatic diseases during pregnancy.</p> <p>Women's Health. Medical (therapeutic profile) indications for abortion. Principles of pregnant women suffering from rheumatism, acquired heart</p>

		diseases, hyper-pertonicheskoy disease, kidney disease, diabetes, anemia (especially examination and treatment in various stages of pregnancy)
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5.2. Sections and types of studies

№	Name of discipline		L	s	p	lbp	Cp	uw	sbp	total
1	Fundamentals of outpatient care and public health prevention.	Fundamentals of outpatient medical care.	2	-	-	-	12	10		Л - 14 ПЗ – 24 СР – 34 Итого - 72
		Medical prevention.	4	-	-	-	8	10		
		Fundamentals of expertise disability	6	-	-	-	4	10		
		Evaluation of the quality of care at the outpatient stage.	2	-	-	-	-	4		
2.	Emergency care in the prehospital phase.	Urgent states in the prehospital phase.	4	-	-	-	12	10		Л – 22 ПЗ – 40 СР – 50
		Emergency conditions in cardiology in the prehospital phase.	4	-	-	-	16	14		Итого - 112
		Assistance in urgent situations in pulmonology in the prehospital phase.	-	-	-	-	8	8		
		Help in case of emergency in gastroenterology in the prehospital phase.	4	-	-	-	-	4		

		Help with urgent conditions in urology and nephrology in the prehospital phase.	2	-	-	-	-	2		
		Hyperthermic syndrome prehospital.	2	-	-	-	-	-		
		Emergency care for acute allergoses prehospital.	-	-	-	-	4	-		
		First aid at komah prehospital.	2	-	-	-	-	2		
		The damaging effect of physical factors (burns, hypothermia, electrical accident, drowning)	-	-	-	-	-	10		
3	Internal illnesses.	Diseases of the cardiovascular system in outpatient practice.	10	-	-	-	24	20		Л – 34 ПЗ – 68 СР – 104
		Diseases of the digestive system in outpatient practice.	6	-	-	-	8	14		Итого - 206
		Diseases of the urinary system in outpatient practice.	4	-	-	-	12	10		
		Blood disorders in outpatient practice.	2	-	-	-	4	10		

	Respiratory disease in ambulatory practice.	4	-	-	-	12	10		
	Diseases of the joints in the outpatient practice.	2	-	-	-	4	10		
	The most important syndromes in internal medicine at the outpatient stage.	2	-	-	-	-	10		
	Endocrine diseases in outpatient practice.	-	-	-	-	4	10		
	Somatic illness in outpatient practice in geriatric patients and pregnant women.	4	-	-	-	-	10		
		-	-	-	-	-	-		

6. List of teaching materials for the course unsupervised work of students (including the use of e - learning opportunities, distance learning technologies (Moodle))

in accordance with the requirements of the GEF VPO towards preparing the implementation of competence-based approach involves the widespread use in the educational process of active and interactive forms of employment.

In clinical practical classes module "polyclinic therapy" is widely used curation of patients with primary nosology topics according to clinical practice sessions. Conducted clinical reviews of supervised patients, during which the students are involved in the discussion on disassemble patient actively discussed history and identified physical signs of the patient are assessed lab tests, identifies risk factors for the disease, clinical diagnosis, as well as the students explain the principles of treatment of the underlying disease in particular patient. Discussions of the clinical situations on the proposed situational problems.

№ п/п	Name of the course section	Types of the unsupervised work	Forms of control
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1	Medical prevention	The game "Custom Game" on "Immunization of adult population of Russia."	discussion
2	Medical prevention.	Round table on the topic: "Nine healthy lifestyle drugs" "Lifestyle - seven good habits"	discussion
3	Medical prevention	The game "Telephone Health"	discussion
4	Medical prevention.	The game "FAQ" The epidemiology of NCDs, risk factors and their correction.	discussion
5	Diseases of the internal organs.	The game "FAQ" on "Diabetes"	discussion
6	Diseases of the internal organs.	"Custom Game" on "Hypertension"	discussion
7	Diseases of the internal organs.	Analysis of the clinical situation of the diagnosis on the topic: "CHD"	discussion
8	Diseases of the internal organs.	Analysis of the clinical situation with the statement relating to the diagnosis of "COPD, bronchial asthma"	discussion
9	Diseases of the internal organs.	The decision of situational problems on "hypertensive crisis".	problem solving
10	Diseases of the internal organs.	The decision of situational problems on "Atrial fibrillation".	problem solving
11	Diseases of the internal organs.	The decision of situational problems on the theme "On the outpatient clinic patients with chronic heart failure."	problem solving
12	Diseases of the internal organs.	The game "calculate the dose statin"	discussion
13	Diseases of the internal organs.	Problem Solving "Assign an anticoagulant?"	problem solving
14	Diseases of the internal organs.	The game "FAQ" on "community-acquired pneumonia"	problem solving
15	Diseases of the internal organs.	The game "FAQ" on "Evaluation of disability CRF and CGN"	discussion
16	Emergency care at the prehospital stage	The decision of situational problems on "Gasometer arterial blood and pulse oximetry"	discussion

17	Emergency care in the prehospital setting	Production of case scenarios on "defibrillation rhythms"	problem solving
18	Emergency care in the prehospital setting	Production of case scenarios on "Tachycardia"	problem solving
19	Emergency care in the prehospital setting	Production of case scenarios on "Bradycardia"	problem solving
20	Emergency care in the prehospital setting	Production of case scenarios on the theme "Do not defibrillation rhythms"	problem solving
21	Emergency care in the prehospital setting	Its game on "Potentially reversible causes FOC"	discussion
22	Emergency care in the prehospital setting	The game "question-answer" on the theme "Monitoring the cardiac ECG"	discussion
23	Emergency care in the prehospital setting	The game "to determine the rhythm of"	discussion
24	Emergency care in the prehospital setting	The game "question-answer" on "airway"	discussion
Total (hours)			67ч.
Total (% of in-class learning)			36%

7. Forms of control

7.1. Current forms of control

- oral (an interview, a report, a colloquium, defense of a project)
- written (tests, term papers, essays, abstracts, checking of lecture notes, solving of practical tasks, preparation of a case histories).

A subject list of abstracts, reports, essays, tests, term papers, test collections and cases are shown at the Appendix №4 to syllabus «Assessment tools».

7.2. Forms intermediate certification (comprehensive exam)

Stages of the exam

1. Stage - final testing
2. Stage - Control of practical skills (design recipes, sick leave)
3. Stage - practical skills at the center of pre-clinical training.

Questions for a pass/fail test and examination are listed at the Appendix №4 to the syllabus «Assessment tools».

Independent work - to teach a student to meaningfully and independently work with educational material, to lay the foundations of self-organization and self-education in order to continuously improve their skills in the future.

Complies with all sections of the discipline:

- Basics of the organization of outpatient care for the population and medical prevention.
- Internal diseases
- Emergency care at the prehospital stage.

Types of independent work:

- Analysis of the literature, preparation of abstracts
- Work with legislative documents.
- Work with primary medical records of a territorial district .
- Work with patient of a territorial district.

Independent work control methods:

- *Review of written abstracts*
- Review of medical records
- Testing.
- Situational tasks
- Checking diaries (work as an assistant general practitioner).
- Checking ECG interpretation

Extracurricular independent work is carried out on the platform «**MOODLE**».

№ п/п	Name of the module	Types of independent work	Hours	Forms of control
9-10 semester				
1	Basics of the organization of outpatient care for the population and medical prevention.	Students should study the legal documents of the Ministry of Health of RF Students should study the primary medical documentation of the territorial district.	50	Testing Checking the filling out of the documentation of the general practitioner (sick leave

		Filling out a sick-leave form, prescription forms, referrals for hospitalization, referrals for sanatorium treatment; referrals to specialists.	44	papers, referrals for hospitalization, referrals for sanatorium treatment; referrals to specialists)
		Total	94	
11 – 12 semester				
2	Internal diseases	Work along with GP at the outpatient setting	20	Checking an individual diary (work with GP)
		Filling out an individual diary	10	Task evaluation
		ECG reading	4	Testing
		Independent solution of situational tasks (internal medicine)	5	Review of the interpreted ECG
		Preparation for test control of internal diseases	5	Related topic reports
		Self-study of medical literature followed by writing an abstract on the topic of your choice (topics are given below)	10	
		Total	54	
12 semester				
3	Emergency care at the prehospital	ECG reading	30	

	stage			Проверка расшифрованных ЭКГ Test control
		Preparation for test control of emergency care at the prehospital stage	20	
		Total	50	

8. Library and information materials of the course

8.1. Compulsory literature

- 1.Ivashkin V.T. Internal diseases propedeutics [Электронный ресурс]/ V. T. Ivashkin , A. V. Okhlobystin. -Москва: ГЭОТАР-Медиа, 2020. -176 p.- URL: <https://www.studentlibrary.ru/ru/book/ISBN9785970455555.html>
- 2.Osloпов V. N. General Care of a Patient [Электронный ресурс] : tutorial/ V. N. Osloпов, O. V. Bogoyavlenskaya. -Москва: ГЭОТАР-Медиа, 2021. -208 с.- URL: <https://www.studentlibrary.ru/book/ISBN9785970460429.html>
- 3.Levchuk, I. P. First Aid in Case of Accidents and Emergency Situations : course book / I. P. Levchuk, M. V. Kostyuchenko, A. P. Nazarov - Москва : ГЭОТАР-Медиа, 2017. - 120 с. - URL : <https://www.studentlibrary.ru/book/ISBN9785970442302.html>
- 4.Osloпов, V. N. Case history of therapeutic patient : manual / V. N. Osloпов, O. V. Bogoyavlenskaya, Yu. V. Osloпова et al. - Москва : ГЭОТАР-Медиа, 2014. - 176 с. - URL : <https://www.studentlibrary.ru/book/ISBN9785970433836.html>

8.2. Supplementary literature

- 1.Osloпов V. N. Case history of therapeutic patient: manual [Электронный ресурс]/ V. N. Osloпов, O. V. Bogoyavlenskaya, Yu. V. Osloпова. -MOSCOW: GEOTAR-Media, 2014. -176 p.- URL: <http://www.studentlibrary.ru/book/ISBN9785970433836.html>
- 2.Diagnostics and treatment of internal diseases in outpatient department = Диагностика и лечение терапевтических заболеваний на амбулаторном этапе : пособие для студентов учреждений высшего образования, обучающихся по специальности «Лечебное дело» : manual for students of higher education institutions studying in the specialty / Е. Н. Кежун, Н. С. Слободская, Д. В. Пицко, К. В. Гончар. - Гродно : ГрГМУ, 2020. - 200 с. - Текст : электронный // ЭБС "Букап" : [сайт]. - URL : <https://www.books-up.ru/ru/book/diagnostics-and-treatment-of-internal-diseases-in-outpatient-department-11950033/> (дата обращения: 19.04.2022). - Режим доступа : по подписке.
- 3.Basics of medical care = Основы медицинского ухода : пособие для студентов учреждений высшего образования, обучающихся по специальности «Лечебное дело» : manual for students of higher education institutions studying in the specialty «General Medicine» / Т. П. Пронько, Э. Э. Поплавская, Е. М. Сурмач и др. - Гродно : ГрГМУ, 2019. - 208 с. - Текст : электронный // ЭБС "Букап" : [сайт]. - URL : <https://www.books-up.ru/ru/book/basics-of-medical-care-12061289/> (дата обращения: 19.04.2022). - Режим доступа : по подписке.

4.The organization and carrying out of examination of temporary disability = Организация и проведение экспертизы временной нетрудоспособности : an educational manual for English-speaking students / А. Г. Сердюков, И. Б. Набережная, Ж. Б. Набережная, А. С. Нимгирова. - Астрахань : Астраханский ГМУ, 2020. - 103 с. - ISBN 9785442405583. - Текст : электронный // ЭБС "Букап" : [сайт]. - URL : <https://www.books-up.ru/ru/book/the-organization-and-carrying-out-of-examination-of-temporary-disability-10835934/> (дата обращения: 19.04.2022). - Режим доступа : по подписке.

8.3. List of the Internet resources required for mastering of the course (module)*

№	Resources	URL address	Resource Annotation
1	Website of the European Society of Cardiologists	http://www.esca-rdio.org	contains cardiological articles, clinical recommendations
2	PubMed Central (PMC)	PubMed (nih.gov)	contains cardiological articles, clinical recommendations
3	MedLib	http://med-lib.ru/	contains cardiological articles, clinical recommendations
4	Website of the American Heart Society and the American Society of Cardiologists	www.heart.org/ HEARTORG	contains cardiological articles, clinical recommendations

8.4. Implementation of e-learning (EL), the use of distance learning technologies (DLT)

№	Platform of EL DLT	Name of the e-course, authors, URL address	E-course implementation model
1	Moodle	5,6 course English medium Polyclinical therapy Cardiology, pulmonology	https://edu.nsmu.ru/course/view.php?id=599
2	Moodle	5 course English medium Polyclinical therapy Outpatient therapy	https://edu.nsmu.ru/course/view.php?id=196

8.5

9. Material and technical facilities necessary for the educational process

No.	The name of the school's office	Location of the study room	List of the main equipment of the study room
1	Training audience for conducting classes	Пр.Троицкий,99 4этаж, каб.№ 91	Seats – 30 Tables for classes - 7 Laptop – 2 View Sonic – 1 Projector Wall screen – 1 Chalk Board-1
2	Training audience for conducting classes	Пр. Троицкий,99 4 этаж, каб. № 91а	Seats – 14 Tables for classes – 5 Compag – 1 Laptop Multimedia projector BenQ – 1 Akron wall – 1 System block-1
3	Training audience for conducting classes	Пр. Троицкий,99 4 этаж, каб. № 92	Of seats – 13 Tables for classes – 5 Supra – 1 TV Laptop – 1
4	Training audience for conducting classes	Пр. Троицкий, 99 Поликлиника № 1 Конференц зал	Seats-74 Projector Computer
5	Training audience for conducting classes	ул. Тимме, 5 ЖД поликлиника Конференц зал	Of seats – 50 Projector-1 Computer-1

Patients who applied to the clinic.

2. Specially equipped classrooms, equipped with everything necessary for the educational process in the framework of industrial practice. Multimedia complex (laptop, projector, screen), TV, PC, video and DVD players, monitors. Sets of slides, tables/multimedia visual materials.

3. Audiovisual, technical and computer-based learning tools: a laptop and a multimedia projector, Board, markers.

4. Visual AIDS: visual AIDS, tables, electrocardiograms, laboratory data sets, outpatient maps, legislative documents, primary documents of the territorial area, disability sheets, directions to the msec, situational tasks on the subject of the discipline.

Slides:

1. Cardiology
2. Pulmonology
3. Nephrology
4. Endocrinology
5. Endocrine pathology
6. CPR

Sets:

1. A set of ECG on the topic "Emergency cardiology", "Arrhythmias".
2. Clinical tasks.
3. Tests (intermediate knowledge control tests and final knowledge control tests).
4. Farmaceutica.
5. Albums "Spa treatment" - 2 PCs.

Simulation dummies.

Zoll-M defibrillator with heart monitor

Airway patency equipment (Ambu bag, oxygen mask, oropharyngeal tubes, laryngeal masks, endotracheal tubes, laryngoscope)

Syringes, intravenous catheters, a system for setting up drip administration of drugs

5. Scientific and educational simulation center equipped with certified phantoms, models and tools (Arkhangelsk, 180 Troitsky Ave.).

6. Structural divisions of the ambulance station(substation, Department), equipment, equipment, medicines, materials of ambulances; models for cardiopulmonary resuscitation; visual AIDS: ambulance call cards with a signal sheet f. 110/Y accompanying sheet with a ticket f. 114/Y; other equipment used.

MINISTRY OF HEALTHCARE OF THE RUSSIAN FEDERATION
Federal State Budget Educational Institution of Higher Education
"NORTHERN STATE MEDICAL UNIVERSITY"
Ministry of Healthcare of the Russian Federation

APPROVED

Dean of the International Faculty
of General Practitioner

A.K. Sherstennikova

June 16th 2021

SYLLABUS OF THE DISCIPLINE

Discipline **Anesthesiology, resuscitation and intensive care**

Field of training **31.05.01 General Medicine**

Year (s) of study / term (s) **6th year, 12th**

Form of the interim assessment **exam**

Department **Anesthesiology and Intensive Care**

Discipline workload **144** (academic hours)/**4**(credits)

Approved at the department meeting

Minutes No.

June 15th, 2021

Head of the department

Author and compiler:

Smetkin Alexey Anatolievich, candidate of medical science,
associate professor

Hussain Ayyaz, candidate of medical science,
associate professor

Arkhangelsk, 2021

1. The place of the discipline (module) in the structure of the educational program

The program was drawn up in accordance with the requirements of the Federal State Educational Standard in the direction of preparation 31.05.01 General Medicine

The discipline is included in the mandatory part of the curriculum.

Curriculum disciplines preceding the study of this one: human anatomy, normal and pathological physiology, histology and pathological anatomy, pharmacology, propaedeutics of internal diseases.

Curriculum disciplines based on the content of this one: surgery, traumatology, therapy, infectious diseases.

The discipline is implemented within the framework of the following types of tasks of professional activity, defined by the curriculum: diagnostic, therapeutic.

2. The purpose and objectives of mastering the discipline

The purpose of mastering the discipline is to prepare students for the implementation of professional activities in the field of healthcare

Discipline tasks:

1. formation of knowledge about the pathogenesis of critical conditions and homeostasis disorders associated with surgical intervention, methods for diagnosing and treating critical conditions
2. the formation of skills in diagnosing conditions that pose a threat to the life of the patient, the development of modern pharmacological and hardware-instrumental means and methods of providing first and qualified medical care to patients in critical condition
3. formation of skills to provide first and qualified medical care to patients in critical condition

3. Planned results of mastering the educational program provided by the discipline (module).

Competency codes to be formed/competency statements	Competency achievement indicator
GPC-6. Able to organize patient care, provide primary health care, ensure the organization of work and the adoption of professional decisions in emergency conditions at the prehospital stage, in emergency situations, epidemics and in centers of mass destruction	ID-2. Owns the basic medical diagnostic and therapeutic measures to provide first aid in case of emergency at the prehospital stage in accordance with the procedures for providing medical care ID-3. Able to provide emergency medical care to patients in conditions that pose a threat to the life of patients, including clinical death ID-6. Uses medicines and medical products in the provision of medical care in emergency conditions at the prehospital stage
PC-3. Ability and willingness to manage and treat patients with various nosological forms	ID-1. Able to draw up a treatment plan for the disease and the patient's condition, taking into account the diagnosis, age of the patient, the clinical picture of the disease in accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care, taking into account the standards of medical care ID-2. Prescribes medicines, medical products and medical nutrition, taking into account the diagnosis, age and clinical picture of the disease in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care, taking into account the standards of medical care ID-6. Uses medical devices in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care, assistance taking into account the standards of medical care
PC-5. The ability and readiness to provide medical care in an urgent and emergency form, ascertaining the biological death of a person	ID-1. Able to identify clinical signs of conditions requiring emergency medical attention ID-2. Performs emergency medical care in accordance with the procedures for providing medical care, clinical recommendations, taking into account the standards of medical care ID-3. Identifies conditions requiring emergency medical care, including clinical signs of sudden cessation of

	<p>blood circulation and respiration, requiring emergency medical care</p> <p>ID-4. Owns an algorithm for providing emergency medical care to patients in conditions that pose a threat to the life of patients, including clinical death (stopping the vital functions of the human body (blood circulation and (or) breathing) in accordance with the procedures for providing medical care, clinical recommendations, taking into account health care standards</p> <p>ID-5. Performs basic cardiopulmonary resuscitation in combination with electrical impulse therapy (defibrillation)</p>
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The list of professional competencies is based on the requirements of the professional standard "General medicine (district physician)", approved by the order of the Ministry of Labor and Social Protection of the Russian Federation of March 21, 2017 No. 293n

4. The scope of the discipline (module) and types of training sessions:

The total complexity of the discipline is 4 credit units.

Type of the academic work	Total hours	Semester 12
Students 'contact work with the teacher (total)	56,3	56,3
Including:		
Lectures (L)	18	18
Seminars (Sem)	8	8
Practicals classes (PC)		
Clinical practicals (CP)	24	24
Laboratory-based practicals (LBP)		
Simulation-based practicals (SBP)	4	4
Preparation for the examination (PE)	0,3	0,3
Preparation for the credit (PC)		
Exam consultations (EC)	2	2
Coursework (CW)		
Unsupervised work (UW) (total)	54	54
Examination control (EC)	33,7	33,7
Total discipline workload	144/4	144

5. The content of the discipline:

5.1. The content of the sections of the discipline

No. p/p	Name of the discipline section	Section content
1	Anesthesiology	The issues of protecting the patient from surgical aggression, as well as the prevention of complications associated with surgery and anesthesia are considered.
2	resuscitation	The issues of prevention, diagnosis and basic and qualified assistance in case of sudden circulatory arrest, as well as issues of post- resuscitation therapy are considered.
3	Intensive care	The issues of prevention, diagnosis and treatment of various critical conditions are considered.

5.2. The number of hours allotted for the study of individual sections of the discipline and types of classes

No. p/p	Name of the discipline section	L	Sem	PC	CP	LBP	SBP	UW	Total hours
1	Anesthesiology	8						4	12
2	resuscitation	2			5		5	2	14
3	Intensive care	12	10		30			30	82
	Total	22	10		35		5	36	108

6. The list of educational and methodological support for independent work of students in the discipline, including using the possibilities of e-learning, distance learning technologies (LMS Moodle)

No. p/p	Name of the discipline section	Types of independent work	Forms of control
one	Anesthesiology	Working with recommended literature, completing tasks using a computer	Powerpointpresentations, job interviews
2	resuscitation	Doing homework and preparing for current classroom activities, working with recommended literature, completing assignments using a computer	Powerpointpresentations, interviews, testing
3	Intensive care	Doing homework and preparing for current classroom activities, working with recommended literature, completing assignments using a computer	Powerpointpresentations, interviews, testing

7. Forms of control

7.1. Forms of current control

- oral (interview)
- written (checking tests, presenting Power Point presentations on topics for self-study). An approximate list of topics for abstracts, reports, essays, tests, typical test tasks, typical situational tasks, etc. are given in Appendix No. 4 "Evaluation Tools" to the work program.

7.2. Forms of intermediate certification - exam

Stages of the exam:

1. Stage - testing
(Stage name)
2. Stage - solving a clinical case
(Stage name)
3. Stage - demonstration of practical skills
(Stage name)

Typical questions for tests and exams, typical test tasks, typical situational tasks are given in Appendix No. 4 "Evaluation Tools" to the work program.

8. Library and information support of the discipline

8.1. Compulsory literature

1. Evidence-Based Practice of Critical Care - 3rd Edition. Clifford Deutschman, Patrick Neligan,
2. Marino PL. Marino's The ICU Book, 4e.
3. Miller's Basics of Anesthesia - 8th Edition.
4. Textbook of Critical Care - 7th Edition, J. L. Vincent & Mitchell P. Fink. Elsevier..

8.2. additional literature

1. Oh's Intensive Care manual. Andrew D Bersten& Neil Soni.(Currently 7th ed. Butterworth Elsevier)
2. Critical Care Secrets. Polly E. Parson (Currently 5th Ed). Mosby Elsevier.
3. Principles of Critical Care by Jesse B Hall, Gregory A. Schmidt and John P. Kress. McGraw Hill Education. (Currently 4th edition).
4. Manual of Critical Care by Civetta, Taylor and Kirby. Wolters Kluwer/ Lippincort Williams & Wilkins. (2012)
5. Critical Care Medicine. Joseph E. Parillo, R. Phillip Dellinger. (Currently 4th ed). Elsevier.
6. Intensive Care Medicine. Richard S.Irvin, James M. Rippe. (Currently 7th Ed). Wolters Kluwer/ Lippincort Williams & Wilkins.

8.3. The list of resources of the information and telecommunication environment "Internet", necessary for the development of the discipline (module)

№	Resource name	URL address	Resource annotation
1	Dr. Najeeb Lectures	https://www.drnajeeblectures.com/	World's Most Popular Medical Lectures. Resource has 800+ videos different basic medical disciplines and critical care.
2	The Open Critical Care Project	https://opencriticalcare.org/	OpenCriticalCare.org is a repository for reliable, open-access critical care learning tools with relevance to resource-variable settings.
3	OpenAnesthesia	https://www.openanesthesia.org/	OpenAnesthesia offers online education resources and dedicated to using cutting edge technology and a modern approach to education in anesthesiology

8.4. Implementation of e-learning (EL), use of distance learning technologies (DLT)

№	Platform of EL and DLT	Name of the e-course, authors, URL address	E-course implementation model
1	Moodle	6 course General Medicine Intensive care medicine prof. Kirov M. Y., prof. Kuzkov V. V., Smetkin A. A., Ayyaz Hussain https://edu.nsmu.ru/course/view.php?id=1225	Web Support

8.5. List of software and information reference systems.

In the implementation of the educational process, students and faculty use the following software: **operating system** - MSWindows 8 MSWindows 10; **office suite** - MSOffice 2007; other **software** - 7 - zip , **AdobeReader**, Kasperskyend pointsecurity

Electronic library systems

No.	ELS name	Website address
1	Physician's consultant. Electronic medical library	http://www.rosmedlib.ru/
2	Electronic library system "Student's Consultant", set "Healthcare"	http://www.studmedlib.ru/

Electronic versions of periodicals

1	Scientific electronic library eLibrary.ru	http://www.elibrary.ru/defaultx.asp
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Reference legal system

1	Reference legal system "Consultant Plus"	In the local network of the university, in the hall of electronic information of the library
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International databases

1	Database " Scopus "	http://www.scopus.com/
2	Electronic archive of journals published by SAGE PUBLICATIONS	www.sagepub.com
3	Electronic archive of journals published by IOP Publishing	http://iopscience.iop.org/journals?type=archive
4	Electronic archive of journals published by OXFORD UNIVERSITY PRESS	www.oxfordjournals.org/
5	Electronic archive of the journal SCIENCE published by AAAS	www.sciencemag.org .

Electronic Library of the University

1	Electronic library of NSMU	http://lib.nsmu.ru/lib/
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9. Logistics of discipline

No.	Name of the study room	Location of the study room	List of the main equipment of the study room
1	Training room for clinical practice and seminar-type classes	No. 8, st. Suworov, 1; GBUZ JSC "First City Clinical Hospital named after I.I. E. E. Volosevich	12 seats A multimedia projector, a projection screen, a board, an "adult" mannequin for practicing the basic resuscitation techniques , mannequins for practicing the skills of ensuring free airway patency (setting air ducts, tracheal intubation), a set of air ducts (oropharyngeal , nasopharyngeal), laryngeal masks , a set of endotracheal tubes with conductors, a laryngoscope with a set of blades
2	Training room for clinical practice and seminar-type classes	No. 43, st. Suworov, 1; GBUZ JSC "First City Clinical Hospital named after I.I. E. E. Volosevich	30 seats Multimedia projector, projection screen, board, "adult" dummy for practicing the basic techniques of basic resuscitation , a set of endotracheal tubes with guides, a laryngoscope with a set of blades
3	Training room for clinical practice and seminar-type classes	No. 111, st. Suworova, 1; GBUZ JSC "First City Clinical Hospital named after I.I. E. E. Volosevich	12 seats Multimedia projector, projection screen, "adult" mannequin for practicing the basic techniques of basic resuscitation care

MINISTRY OF HEALTHCARE OF THE RUSSIAN FEDERATION
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of the Ministry of Healthcare of the Russian Federation

APPROVED

Dean of the International Faculty
of General Practitioner

A.K. Sherstennikova

June 16th 2021

SYLLABUS OF THE DISCIPLINE

Discipline "**Traumatology and orthopedics**"

Field of training **31.05.01 General Medicine**

Year (s) of study / term (s) - 6

Form of the interim assessment - Exam

Department Traumatology, orthopedics and military surgery

Discipline workload **180** (academic hours) / **5** (credits)

Approved at the department meeting

Minutes No. 9

June 07th 2021

acting head of department

associate professor SV Bragina

Author and compiler: assistant professor of the
department Traumatology,
orthopedics and military surgery SV Bragina

Arkhangelsk, 2021

1. Position of the discipline (module) within the structure of the educational program

The discipline is developed following the requirements of Federal State Education Standard (FSES) for higher education in the field of 31.05.01 «General medicine».

The discipline is related to the disciplines of the Basic part of the curriculum.

The discipline is related to prior subjects of the curriculum: Human Anatomy and Morbid Anatomy, Normal and Pathological Physiology, Microbiology and Immunology, Pharmacology, Operative Surgery and Topographic Anatomy, General Surgery, Neurology, Anesthesiology and Resuscitation, X-ray Diagnostics, Public Health and Health Organization

The discipline is realized in the structure of the following types of professional activity tasks defined by the curriculum: preventive/diagnostic/organizational and administrative /research.

2. Goal and tasks of the mastering of the discipline

The purpose of studying Traumatology and Orthopedics for students of the V course of the international faculty of general practitioner is to prepare doctor generalist, able to possess the competencies of physician, which are able to focus on issues of injuries and diseases of the musculoskeletal system and provide first aid in case of emergency during medical evacuation, as well as in the centers of mass destruction.

Tasks of the discipline:

- Training organization of trauma and orthopedic care;
- Comprehension of the first aid in case of emergency provided pre-hospital;
- Training of medical care in extreme conditions, epidemics, outbreaks of mass destruction;
- Examining the issues of injury and orthopedic diseases prevention, rehabilitation of the patients with disorders of the musculoskeletal system;
- Studying the etiology, pathogenesis of musculoskeletal injuries and diseases;
- Practicing the methods of examination and diagnosis of musculoskeletal injuries and diseases;
- Training techniques and methods delivering of health care to the patients with different injuries and diseases of the musculoskeletal system in the amount of first aid, using therapeutic and surgical methods;
- Analyzing practical exercises and skills which can help future doctor quickly understand the urgent situation, outline a plan of emergency and urgent medical and diagnostic activities;
- Training techniques and methods to assist the victims in the amount of the first aid in emergency situations.
- Processing practical skills for rendering first aid for different types of injuries and closed injuries of the musculoskeletal system;
- Conducting medical evacuation during emergency and medical assistance to the population in extreme conditions in the centers of mass destruction;
- Formation high moral level of charity to the victim.

3. List of the planned learning outcomes of the discipline (module) in connection to the planned outcomes of the mastering of the educational program

Codes of the formed competences	Indicator of the competence achievement
ОПК-4. Способен применять медицинские изделия, предусмотренные порядком оказания медицинской помощи, а также проводить обследования	ИД-4.1. Владеет современными методами применения лекарственных препаратов, медицинских изделий и лечебного питания при заболеваниях и состояниях у пациента в соответствии с действующими порядками

<p>пациента с целью установления диагноза</p>	<p>оказания медицинской помощи, клиническими рекомендациями (протоколами лечения) по вопросам оказания медицинской помощи с учетом стандартов медицинской помощи.</p> <p>ИД-4.2. Умеет обосновать выбор лабораторных и инструментальных методов обследования пациента.</p> <p>ИД-4.3. Владеет навыками оценки результатов лабораторных и инструментальных методов обследования пациента с целью установления диагноза.</p>
<p>ОПК-5. Способен оценивать морфофункциональные, физиологические состояния и патологические процессы в организме человека для решения профессиональных задач</p>	<p>ИД-5.1. Знает анатомию, гистологию, топографическую анатомию, физиологию, патологическую анатомию и физиологию органов и систем человека.</p> <p>ИД-5.2. Умеет определять и оценивать морфофункциональные, физиологические состояния и патологические процессы в организме человека</p> <p>ИД-5.3. Владеет методами проведения клинко-лабораторной и функциональной диагностики для решения профессиональных задач.</p> <p>ИД-5.4. Умеет анализировать результаты клинко-лабораторной и функциональной диагностики для оценки морфофункциональных, физиологических состояний и патологических процессов в организме человека.</p>
<p>ОПК-7. Способен назначать лечение и осуществлять контроль его эффективности и безопасности</p>	<p>ИД-7.1. Умеет разрабатывать план лечения заболевания и состояния пациента в соответствии с порядками оказания медицинской помощи, клиническими рекомендациями, с учетом стандартов медицинской помощи.</p> <p>ИД-7.2. Умеет предотвращать или устранять осложнения, побочные действия, нежелательные реакции, в том числе непредвиденные, возникшие в результате диагностических или лечебных манипуляций, применения лекарственных препаратов и(или) медицинских изделий, немедикаментозного лечения.</p> <p>ИД-7.3. Владеет навыками по оценке эффективности и безопасности применения лекарственных препаратов, медицинских изделий и лечебного питания.</p>
<p>ПК-2. Способность и готовность к проведению обследования пациента с целью установления диагноза</p>	<p>ИД-2.1. Умеет осуществлять сбор жалоб, анамнеза жизни и заболевания пациента и анализировать полученную информацию, проводить полное физикальное обследование пациента (осмотр, пальпацию, перкуссию, аускультацию) и интерпретировать его результаты.</p> <p>ИД-2.2. Владеет навыками по определению у пациента основных патологических состояний, симптомов, синдромов заболеваний,</p>

	<p>нозологических форм в соответствии с действующей международной статистической классификацией болезней и проблем, связанных со здоровьем.</p> <p>ИД-2.3. Умеет обосновывать необходимость и объем лабораторного и инструментального обследования пациента в соответствии с действующими порядками оказания медицинской помощи, клиническими рекомендациями (протоколами лечения) по вопросам оказания медицинской помощи с учетом стандартов медицинской помощи и интерпретировать его результаты.</p> <p>ИД-2.4. Осуществляет раннюю диагностику заболеваний внутренних органов и проводит дифференциальную диагностику заболеваний внутренних органов от других заболеваний.</p>
<p>ПК-3. Способность и готовность к ведению и лечению пациентов с различными нозологическими формами</p>	<p>ИД-3.1. Умеет составлять план лечения заболевания и состояния пациента с учетом диагноза, возраста пациента, клинической картины заболевания в соответствии с действующими порядками оказания медицинской помощи, клиническими рекомендациями (протоколами лечения) по вопросам оказания медицинской помощи с учетом стандартов медицинской помощи.</p> <p>ИД-3.2. Назначает лекарственные препараты, медицинские изделия и лечебное питание с учетом диагноза, возраста и клинической картины болезни в соответствии с действующими порядками оказания медицинской помощи, клиническими рекомендациями (протоколами лечения) по вопросам оказания медицинской помощи с учетом стандартов медицинской помощи.</p> <p>ИД-3.3. Назначает немедикаментозное лечение с учетом диагноза, возраста и клинической картины болезни в соответствии с действующими порядками оказания медицинской помощи, клиническими рекомендациями (протоколами лечения) по вопросам оказания медицинской помощи с учетом стандартов медицинской помощи.</p> <p>ИД-3.4. Владеет алгоритмом оказания паллиативной медицинской помощи при взаимодействии с врачами-специалистами и иными медицинскими работниками.</p> <p>ИД-3.5. Умеет назначать персонализированное лечение пациента, в том числе беременных женщин, пациентов пожилого и старческого возраста; вести физиологическую беременность, принять роды.</p>

	ИД-3.6. Применяет медицинские изделия в соответствии с действующими порядками оказания медицинской помощи, клиническими рекомендациями (протоколами лечения) по вопросам оказания медицинской помощи, помощи с учетом стандартов медицинской помощи.
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*The list of professional competencies is based on the requirements of the professional standard "General medicine (district physician)", approved by the order of the Ministry of Labor and Social Protection of the Russian Federation of March 21, 2017 No. 293n

4. Volume of the discipline (module) and types of the academic classes:

Total workload of the course is 5 credits.

Type of the academic work	Total hours	Term
Students' contact work with the teacher (total)	72	B,C
Including:		
Lectures (L)	22	B,C
Seminars (Sem.)		
Practical classes (PC)		
Clinical practicals (CP)	50	B,C
Laboratory-based practicals (LBP)		
Simulation-based practicals (SBP)		
Preparation for the examination (PE)	0.3	C
Preparation for the credit (PC)		
Exam consultations (EC)	2	C
Coursework (CW)		
Unsupervised work (UW) (total)	72	B,C
Examination control (EC)	33.7	C
Total discipline workload	180/5	

5. Course content:

5.1. Contents of the sections of the course

No	Name of the course section	Content of the section
1	General questions of traumatology and orthopedics	
		Formation, development and achievements of modern traumatology and orthopedics
		Fractures. Classification, symptoms and diagnostics .
		Bone regeneration. Complications during consolidation of bone fractures.
		Basic principles of treatment bone fractures. Rehabilitation of the patients with trauma or orthopedic disease.
		X-ray diagnosis of musculoskeletal injuries and diseases.
		Methods of examination in traumatology and orthopedics. Meeting with the clinic. Curation of patients. Bypass trauma and orthopedic department.
		The cast and overlay technique. Skeletal traction. X-ray examination in traumatology and orthopedics.
		Transport immobilization. Closed injuries of the soft tissues.
2	Fractures and damage to the limbs	
		Traumatic dislocation of the joints of the limbs.
		Chronic osteomyelitis. Modern surgical treatment.
		Fractures and dislocations of bones of shoulder and

		upper arm. Classification. Clinic. Diagnostics. Treatment.
		Fractures and dislocations of the hip. Damage to the knee (ligament, meniscus). Classification. Clinic. Diagnostics. Treatment.
		Fractures and dislocations of bones of the lower leg and foot. Classification. Clinic. Diagnostics. Treatment.
		Outpatient care in the trauma section.
3	Fractures and damage to the spine and pelvis	
		Damage to the spine. Classification. Clinic. Diagnostics. Treatment
		Damage to the pelvis. Classification. Clinic. Diagnostics. Treatment
4	Polytrauma	
		Multiple and associated damages. Traumatic disease
		Traumatic shock. Crush syndrome. The amount of aid during medical evacuation.
		Open and gunshot fractures. Classification. Clinic. Diagnostics. Treatment.
5	Thermal lesions	
		Thermal lesions. Burn disease. Burns and frostbite. Total cooling. Electrocution.
6	Orthopaedic disease	
		Systemic diseases of the musculoskeletal system.
		Degenerative-dystrophic diseases of the spine and joints.
		Deforming arthrosis.
		Osteochondropathy. Tumours of bones.
		Osteoporosis and osteopenia in traumatology and orthopedics.
		Amputation and disarticulation. Prosthetics and orthotics in the pathology of the musculoskeletal system.
		Scoliosis.
		Arthroplasty. Indications and contraindications. Types of prostheses. Complications.
		Orthopedic static disease of feet.
		Congenital dislocation of the hip. Congenital clubfoot. Clinic. Diagnostics. Treatment.

5.2. Sections and types of studies

No	Name of the course section	L	CP	Self-studies	Total hours
1	2	3	4	5	6
1	General questions of traumatology and orthopedics	10	15	12	37
2	Fractures and damage to the limbs	4	25	15	44
3	Fractures and damage to the spine and pelvis	-	10	5	15
4	Polytrauma	4	10	7	21
5	Thermal lesions	2	5	4	11
6	Orthopaedic disease	14	20	18	52
Total		34	85	61	180

6. List of teaching materials for the course unsupervised work of students (including the use of e - learning opportunities, distance learning technologies (Moodle))

No.	Name of the course section	Types of the unsupervised work	Forms of control
1	General questions of traumatology and orthopedics	<p>The study of educational material for primary and secondary literature, lecture material. Prepare a list of terminology (glossary), abstracts and reports with presentations on themes, false joint. Modern technologies of immobilizing the limb segments. Quantitative indicators of an X-ray anatomical relationships in the hip joint. Traumatic bursitis, clinic, diagnostics, treatment.</p> <p>Assisting victims with open lesions on the wrist tendons of the first stages of medical and pre-medical and medical care. Preventing tetanus. Prevention of rabies and tick-borne encephalitis. Students have testing on the topic: "Methodology for examining patients with diseases and injuries of the musculoskeletal system" SDL Moodle. Work with questions for self-monitoring on the topic "Clinical examination methods in traumatology and orthopedics" in the SDL Moodle.</p>	<p>Check essays, reports and presentations. Hearing and group discussion. Checking the results of working with tests, questions for self-monitoring in SDL Moodle.</p>
2	Fractures and damage to the limbs	<p>Preparation of abstracts and reports with presentations on the theme: Intramedullary metalosteothesis blocking.</p> <p>Operative treatment of scapular fracture.</p> <p>Operative treatment of habitual dislocation of the shoulder.</p> <p>Bennett`s fracture-dislocations.</p> <p>The tunnel syndromes in lesions of the forearm in the bottom third. The medial femoral neck fractures in elderly patients.</p> <p>Damage to the menisci of the knee joint.</p> <p>Fracture of the talus.</p> <p>Dislocations in the joints of the foot. Students have testing on the topics: "Damage to the thigh and knee joint", "Damage to the lower leg and foot." in the SDL Moodle.</p>	<p>Check essays, reports and presentations. Hearing and group discussion. Checking the results of working with tests, questions for self-monitoring in SDL Moodle.</p>
3	Fractures and damage to the spine and pelvis	<p>Preparation of abstracts and reports with presentations on the themes: Fractures of the acetabulum of the pelvis cavity. Fracture-dislocations of cervical spine.</p> <p>Extrafocal osteosynthesis of pelvic fractures.</p> <p>Students have testing on the topic: "Damage to the spine and pelvis" in the SDL Moodle.</p>	<p>Check essays, reports and presentations. Hearing and group discussion. Checking the results of working with tests, questions for self-monitoring in SDL Moodle.</p>
4	Polytrauma	<p>Preparation of abstracts, reports, presentations on the themes: Objective assessment of the severity of injury in polytrauma. Operative treatment long compartment syndrome. Primary surgical treatment for gunshot injury of-the MSS. Osteosynthesis for gunshot fractures.</p> <p>Students have testing on the topic: "Traumatic shock", "Multiple combined injuries of the</p>	<p>Check essays, reports and presentations. Hearing and group discussion. Checking the results of</p>

		musculoskeletal system" in the SDL Moodle.	working with tests, questions for self-monitoring in SDL Moodle.
5	Thermal lesions. Wounds and wound infection	Preparation of reports with presentations on the theme: electrocution, clinic, diagnostics, treatment. Conservative treatment of burn wounds. Necrolytic drugs in the treatment of burn wounds. Students have testing on the topic: "Thermal damage" in the SDL Moodle.	Check essays, reports and presentations. Hearing and group discussion. Checking the results of working with tests, questions for self-monitoring in SDL Moodle.
6	Orthopaedic disease	Preparation of abstracts and reports presentations on topics: frozen shoulder. Arthroscopic treatment of deforming arthrosis. Drug therapy of osteoarthritis. Koenig's disease, surgery. Conserving surgery for tumors of bone: indications, contraindications, technique. Surgical treatment of valgus deviation of the big toe. Orthopedic insoles: classification, structure, reading. Treatment of congenital clubfoot. Ponseti Method. Functional conservative treatment of congenital dislocation of the hip. Students have testing on the topics: "Deforming arthrosis", "Osteochondropathy (avascular bone necrosis). Bone tumors " in the SDL Moodle.	Check essays, reports and presentations. Hearing and group discussion. Checking the results of working with tests, questions for self-monitoring in SDL Moodle.

7. Forms of control

7.1. Forms of current control

- Oral: recitation on topic sessions, interview, assessment of the report, the protection of the medical history, clinical examination of the patient, analysis of multimedia presentations and slideshows, report on duty in the city emergency station;
- Written: test control on paper, essays, summaries, writing abstracts on the topics of missed practical lessons, solving clinical case studies, verification of educational histories.

A subject list of abstracts, reports, essays, tests, term papers, test collections and cases are shown at the Appendix №4 to syllabus «Assessment tools».

7.2. Forms of interim attestation: the intermediate pass/fail test with the evaluation "passed" in the discipline, which goes to the next semester, at the end of the lecture and practical cycles of the semester. Upon completion of the educational process in the discipline - the exam.

1. Protection of educational history;
2. The test control;
3. Interview
4. Exam.

Stages of examination

1. Stage - control of knowledge - testing;
2. Stage - demonstration of practical skills at the bedside (medical history, physical examination, diagnosis, differential diagnosis, a plan for the screening, treatment and follow-up);
3. Stage - interview on the ticket and the decision of situational tasks.

Questions for a pass/fail test and examination are listed at the Appendix №4 to the syllabus «Assessment tools».

8. Library and information materials of the course

8.1. Compulsory literature

1. Buckup K. Clinical Tests for the Musculoskeletal System: Examinations—Signs—Phenomena [Электронный ресурс]/ K. Buckup. -3rd ed.: Thieme, 2016 - URL: https://medone-education.thieme.com/ebooks/1743958#/ebook_1743958_SL68979544

8.2. Supplementary literature

1. Gustowski S. Osteopathic Techniques. The Learner's Guide [Электронный ресурс]/ S. Gustowski, M. Budner-Gentry, R. Seals: Thieme, 2017 - URL: https://medone-education.thieme.com/ebooks/2183288?fromSearch=true#/ebook_2183288_SL82661958.
 2. Krischak G. Traumatology for the Physical Therapist [Электронный ресурс]/ G. Krischak: Thieme, 2013 - URL: https://medone-education.thieme.com/ebooks/2140230?fromSearch=true#/ebook_2140230_SL81764939.
 3. Reichert B. Palpation Techniques: Surface Anatomy for Physical Therapists [Электронный ресурс]/ B. Reichert: Thieme, 2015 - URL: https://medone-education.thieme.com/ebooks/2105006?fromSearch=true#/ebook_2105006_SL80735081.
 4. Richter P. Trigger Points and Muscle Chains in Osteopathy [Электронный ресурс]/ P. Richter, E. Hebgen: Thieme, 2008 - URL: https://medone-education.thieme.com/ebooks/2128797?fromSearch=true#/ebook_2128797_SL81432210.
 5. Schomacher J. Orthopedic Manual Therapy: Assessment and Management [Электронный ресурс]/ J. Schomacher: Thieme, 2014 - URL: https://medone-education.thieme.com/ebooks/2146146?fromSearch=true#/ebook_2146146_SL81904277.

8.3. List of the information and telecommunications Internet resources required for mastering of the course (module)*

№	Resources	URL address	Resource Annotation
1	Database «Scopus»	http://www.scopus.com/	Informational portal
2	Electronic archive publishing magazines SAGE PUBLICATIONS	www.sagepub.com	Informational portal
3	Electronic archive publishing magazines IOP Publishing	http://iopscience.iop.org/journals?type=archive	Informational portal
4	Electronic archive publishing magazines OXFORD UNIVERSITY PRESS	www.oxfordjournals.org/	Informational portal
5	Electronic archive of magazines SCIENCE publishing AAAS	www.sciencemag.org .	Informational portal
6	Electronic archive publishing magazines ROYAL SOCIETY OF CHEMISTRY	www.rsc.org/	Informational portal
7	Open University Archives in the international directory	http://oa.lib.nsmu.ru/	Informational portal

8.4. Implementation of e-learning (EL), the use of distance learning technologies (DLT)

№	Platform of EL DLT	Name of the e-course, authors, URL address	E-course implementation model
1	Moodle	5 course English medium Traumatology, orthopedics author – Shneyveyes A.M. https://edu.nsmu.ru/course/view.php?id=545	mixed learning+EC

2	Moodle	5,6 course General medicine Lectures Traumatology and Orthopedics author – Saveliev M.Y. https://edu.nsmu.ru/course/view.php?id=1489	mixed learning+EC
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8.5. The list of the software and information & reference systems: MS Windows Vista Starter, MS Windows Prof 7 Upgr; **офисный пакет** - MS Office 2007; **другое ПО** - 7-zip, AdobeReader, Kaspersky Endpoint Security

9. Material and technical facilities necessary for the educational process*

№	Name of the study room	Location of the study room	List of the main equipment of the study room
1 5	Training workshop	Arkhangelsk Regional Clinical Hospital 15 Sibiriyakovtsev Ave.	16 seats Acer multimedia projector - 1, HP computer - 1, Samsung printer - 1, study board - 1, screen-1, negatoscope - 1, human skeleton - 1, transport buses-20 pcs. Internet modem - 1 pc.
7 1	Training workshop	Arkhangelsk Regional Clinical Hospital 15 Sibiriyakovtsev Ave.	12 seats multimedia projector "BenQ MP 611C" -1, laptop HP Compaq 615 RM-76-1, printer Canon Laser 2 BP - 2900 - 1. HP computer - 1, training board 1, screen - 1, human skeleton - 1, Internet modem - 1 pc.
1 1	Training workshop	The first city clinical hospital. E.E. Volosevich Troitsky, 143	12 seats multimedia projector "Acer" -1, Asus laptop - 1, Samsung printer - 1. blackboard 1, screen - 1, human skeleton - 1, modem connected to the Internet - 1 pc.

MINISTRY OF HEALTHCARE OF THE RUSSIAN FEDERATION
Federal State Budgetary Educational Institution of Higher Education
"NORTHERN STATE MEDICAL UNIVERSITY"
of the Ministry of Healthcare of the Russian Federation

APPROVED

Dean of the International Faculty
of General Practitioner

A.K. Sherstennikova

June 16th 2021

SYLLABUS OF THE DISCIPLINE

Discipline **Occupational diseases**

Field of training **31.05.01 General Medicine**

Year (s) of study / term (s) **6 /12**

Form of the interim assessment - pass/fail test

Department **family medicine and internal medicine**

Discipline workload **72** (academic hours) / **2** (credits)

Approved at the department meeting

Minutes No.

June 15th 2021

Head of the department family
medicine and internal medicine

_____ V. V. Popov

Author and compiler:

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2. Novikova I., MD, Professor, Department of family medicine and internal medicine

Arkhangelsk, 2021

1. Position of the discipline (module) within the structure of the educational program

The discipline is developed following the requirements of Federal State Education Standard (FSSES) for higher education in the field of 31.05.01 «General medicine».

The discipline is related to the disciplines of the Basic part of the curriculum (or to the disciplines of the curriculum part formed by the participants of educational relations, including elective subjects and optional subjects)

The discipline is related to prior subjects of the curriculum: «normal physiology», «pathological physiology», «hygiene», «therapy», «neurology», «dermatovenerology», «otorhinolaryngology», «ophthalmology», «infectious diseases», «oncology».

The discipline is related to subsequent subjects of the curriculum: «polyclinic therapy»,

The discipline is realized in the structure of the following types of professional activity tasks defined by the curriculum: preventive/diagnostic/organizational.

2. Goal and tasks of the mastering of the discipline

Goal: formation of General professional and professional competencies of a specialist who has the readiness and ability for independent professional activities to provide medical care for professional diseases.

Tasks:

Acquisition of students' knowledge and skills on the following issues:

1. Determination of the main pathological conditions, symptoms, syndromes of diseases and nosological forms due to the impact of harmful and (or) dangerous factors of the working environment and labor process.

2. Carrying out optimal differential diagnostic measures to establish / exclude the preliminary diagnosis of occupational disease.

3. Providing medical care for acute and chronic occupational diseases.

4. Examination of temporary disability and referral to medical and social examination of patients with acute and chronic occupational diseases.

5. Registration of medical documentation of patients with preliminary and established diagnosis of occupational disease.

3. List of the planned learning outcomes of the discipline (module) in connection to the planned outcomes of the mastering of the educational program

Codes of the formed competences	Indicator of the competence achievement
General professional competencies (GPC) - №5. Able to evaluate morphofunctional, physiological states and pathological processes in the human body to solve professional problems	ID-5.1. Knows anatomy, histology, topographic anatomy, physiology, pathological anatomy and physiology of human organs and systems. ID-5.2. Able to determine and evaluate morphofunctional, physiological conditions and pathological processes in the human body ID-5.3. He owns the methods of conducting clinical, laboratory and functional diagnostics for solving professional problems. ID-5.4. Able to analyze the results of clinical, laboratory and functional diagnostics to assess morphofunctional, physiological conditions and pathological processes in the human body.

<p>General professional competencies (GPC) - №8. Able to implement and monitor the effectiveness of the patient's medical rehabilitation, including the implementation of individual rehabilitation and habilitation programs for the disabled, to assess the patient's ability to work</p>	<p>ID-8.1. Able to collect complaints, anamnesis of life and disease of the patient and analyze the information received, conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation) and interpret its results.</p> <p>ID-8.2. Has the skills to determine the patient's main pathological conditions, symptoms, disease syndromes, nosological forms in accordance with the current international statistical classification of diseases and health-related problems.</p> <p>ID-8.3. Knows how to justify the need and scope of laboratory and instrumental examination of the patient in accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care, taking into account the standards of medical care and interpret its results.</p> <p>ID-8.4. Carries out early diagnosis of diseases of internal organs and conducts differential diagnosis of diseases of internal organs from other diseases</p>
<p>Professional competencies *(PC) №2. Ability and willingness to conduct a patient examination in order to establish a diagnosis</p>	<p>ID-2.1. Able to collect complaints, anamnesis of life and disease of the patient and analyze the information received, conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation) and interpret its results.</p> <p>ID-2.2. Has the skills to determine the patient's main pathological conditions, symptoms, disease syndromes, nosological forms in accordance with the current international statistical classification of diseases and health-related problems.</p> <p>ID-2.3. Knows how to justify the need and scope of laboratory and instrumental examination of the patient in accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care, taking into account the standards of medical care and interpret its results.</p> <p>ID-2.4. Carries out early diagnosis of diseases of internal organs and conducts differential diagnosis of diseases of internal organs from other diseases.</p>
<p>Professional competencies *(PC) №3. Ability and willingness to manage and treat patients with various nosological forms</p>	<p>ID-3.1. Able to draw up a treatment plan for the disease and the patient's condition, taking into account the diagnosis, age of the patient, the clinical picture of the disease in accordance</p>

	<p>with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care, taking into account the standards of medical help.</p> <p>ID-3.2. Prescribes medicines, medical devices and clinical nutrition, taking into account the diagnosis, age and clinical picture of the disease in accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care taking into account the standards of medical care.</p> <p>ID-3.3. Prescribes non-drug treatment, taking into account the diagnosis, age and clinical picture of the disease in accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care, taking into account the standards of medical care.</p> <p>ID-3.4. Owns the algorithm for providing palliative care in interaction with medical specialists and other medical workers.</p> <p>ID-3.5. Able to prescribe personalized treatment for the patient, including pregnant women, elderly and senile patients; conduct a physiological pregnancy, take birth.</p> <p>ID-3.6. Uses medical devices in accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care, assistance taking into account the standards of medical care.</p>
Professional competencies *(PC) №6. Ability and readiness to conduct medical examinations, perform medical rehabilitation measures in accordance with the procedures for providing medical care and clinical recommendations	<p>ID-6.1. Able to identify signs of temporary disability and signs of permanent impairment of body functions due to diseases, consequences of injuries or defects.</p> <p>ID-6.2. Prepares medical documentation when conducting an examination of temporary disability, when referring patients to federal state institutions of medical and social examination.</p> <p>ID-6.3. Performs measures for the medical rehabilitation of the patient in accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care, taking into account the standards of medical care.</p>

*The list of professional competencies is based on the requirements of the professional standard "General medicine (district physician)", approved by the order of the Ministry of Labor and Social Protection of the Russian Federation of March 21, 2017 No. 293n

4. Volume of the discipline (module) and types of the academic classes:

Total workload of the course is **2** credits.

Type of the academic work	Total hours	Term 12
Students' contact work with the teacher (total)	36	36
Including:		
Lectures (L)	12	12
Seminars (Sem.)	8	8
Practical classes (PC)		
Clinical practicals (CP)	16	16
Laboratory-based practicals (LBP)		
Simulation-based practicals (SBP)		
Preparation for the examination (PE)		
Preparation for the credit (PC)		
Exam consultations (EC)		
Coursework (CW)		
Unsupervised work (UW) (total)	36	36
Examination control (EC)		
Total discipline workload	72/2	72

5. Course content:

5.1. Contents of the sections of the course

No	Name of the course section	Content of the section
1.	Introduction to the clinic of occupational diseases	Introduction to the clinic of occupational diseases and its objectives. General questions of professional pathology. The role of working conditions in the formation of professional and production-related diseases. Fundamentals of legislation on labor protection. Preliminary and periodic medical examinations. Therapeutic and preventive nutrition. Examination of the connection of the disease with the profession. Recording and investigation of occupational diseases
2.	Occupational diseases of chemical etiology	Intoxication with metals and chemicals in industry. Intoxication with substances of irritating and suffocating action. Pesticide intoxication.
3.	Occupational diseases of respiratory organs of dust etiology	General information on dust lung diseases. Silicosis. Asbestosis and karbokoniozy. Metalloenes. Diagnosis, treatment, prevention and medical and social expertise in

		pneumoconiosis. Chronic dust bronchitis.
4.	Occupational diseases caused by physical factors	Vibration disease. Sensorineural. Impact of sources of non-ionizing and ionizing radiation on the human body. The impact of high and low temperatures of the working environment on the human body. Diseases caused by changes in atmospheric pressure.
5.	Occupational diseases from overstrain of separate organs and systems	Diseases of the musculoskeletal system and peripheral nerves. Diseases of the vocal apparatus, organ of vision, professional psychoneurosis
6.	Reproductive health of workers	The influence of professional factors on the reproductive health of workers
7.	Occupational allergic diseases	Professional bronchial asthma. Occupational allergic diseases of the upper respiratory tract and ski
8.	Occupational diseases caused by biological factors	Occupational diseases caused by products of microbiological synthesis. Occupational zoonotic infections. Professional mycoses

5.2. Sections and types of studies

No.	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
1.	Introduction to the clinic of occupational diseases	2			4			4	10
2.	Occupational diseases of chemical etiology	2			4			6	12
3.	Occupational diseases of respiratory organs of dust etiology	2			2			6	10
4.	Occupational diseases caused by physical factors	2	4					4	10
5.	Occupational diseases from overstrain of separate organs and systems	2	4					4	10
6.	Reproductive health of workers	2			2			4	8
7.	Occupational allergic diseases				2			4	6
8.	Occupational diseases caused by biological factors				2			4	6
		12	8		16			36	72

6. List of teaching materials for the course unsupervised work of students (including the use of e - learning opportunities, distance learning technologies (Moodle))

No.	Name of the course section	Types of the unsupervised work	Forms of control
1.	Introduction to the clinic of occupational diseases	Small group work: review of scientific publications (optional tasks) – preparation of the presentation on the given topics, – writing essays on specific topics; – preparation of an annotated list of scientific publications for the last 5 years	Presentation of the report at the practical lesson, participation in the discussion Essay assessment
2.	Occupational diseases of chemical etiology	Small group work: review of scientific publications (optional tasks) – preparation of the presentation on the given topics, – writing essays on specific topics; – preparation of an annotated list of scientific publications for the last 5 years	Presentation of the report at the practical lesson, participation in the discussion Essay assessment
3.	Occupational diseases of respiratory organs of dust etiology	Small group work: review of scientific publications (optional tasks) – preparation of the presentation on the given topics, – writing essays on specific topics; – preparation of an annotated list of scientific publications for the last 5 years	Presentation of the report at the practical lesson, participation in the discussion Essay assessment
4.	Occupational diseases caused by physical factors	Small group work: review of scientific publications (optional tasks) – preparation of the presentation on the given topics, – writing essays on specific topics; – preparation of an annotated list of scientific	Presentation of the report at the practical lesson, participation in the discussion Essay assessment

		publications for the last 5 years	
5.	Occupational diseases from overstrain of separate organs and systems	<p>Small group work: review of scientific publications (optional tasks)</p> <ul style="list-style-type: none"> – preparation of the presentation on the given topics, – writing essays on specific topics; – preparation of an annotated list of scientific publications for the last 5 years 	<p>Presentation of the report at the practical lesson, participation in the discussion</p> <p>Essay assessment</p>
6.	Reproductive health of workers	<p>Small group work: review of scientific publications (optional tasks)</p> <ul style="list-style-type: none"> – preparation of the presentation on the given topics, – writing essays on specific topics; – preparation of an annotated list of scientific publications for the last 5 years 	<p>Presentation of the report at the practical lesson, participation in the discussion</p> <p>Essay assessment</p>
7.	Occupational allergic diseases	<p>Small group work: review of scientific publications (optional tasks)</p> <ul style="list-style-type: none"> – preparation of the presentation on the given topics, – writing essays on specific topics; – preparation of an annotated list of scientific publications for the last 5 years 	<p>Presentation of the report at the practical lesson, participation in the discussion</p> <p>Essay assessment</p>
8.	Occupational diseases caused by biological factors	<p>Small group work: review of scientific publications (optional tasks)</p> <ul style="list-style-type: none"> – preparation of the presentation on the given topics, – writing essays on specific topics; – preparation of an annotated list of scientific publications for the last 5 years 	<p>Presentation of the report at the practical lesson, participation in the discussion</p> <p>Essay assessment</p>

7. Forms of control

7.1. Current forms of control

- oral (an interview, a report, a colloquium, presentations of projects)
- written (checking of tests, review papers, essays, abstracts, lecture notes, solving of practical tasks, preparation of a case history).

A theme list of abstracts, reports, essays, review papers, test collections and situational problems are shown at the Appendix No 4 of the syllabus of the course (module) 'Evaluation tools'

7.2. Forms of the interim assessment (pass/fail test, examination, term paper)

Stages of the interim assessment

1. Stage - test control
(name of the stage)
2. Stage - solution of typical situational tasks
(name of the stage)

Questions for a pass/fail test and an examination, a theme list of test collections and situational problems are shown at the Appendix No 4 of the syllabus of the course (module) 'Set of the evaluation tools for the current control and interim assessment of students'

8. Library and information materials of the course

8.1. Compulsory literature

1. Dotsenko S.Y., Afanas`ev A. V., Samura B. B., Tokarenko I. I., Tyaglaya V. N. Occupational diseases (tutorial for practical exercises). – 2015, Zaporizhzhya.
2. Koh, D., & Takahashi, K. (2011). Textbook of Occupational Medicine Practice. (3rd ed.).
3. Kostyuk I. and Kapustnyk V. Occupational Diseases: Manual. – Kharkiv: Osnova, 2005.
4. Smedley, J., Dick, F., & Sadhra, S. (2007). Oxford handbook of Occupational Health.

8.2. Supplementary literature

1. Beckett, W. S. (2000-02-10). "Occupational respiratory diseases". The New England Journal of Medicine. 342 (6): 406–413.
2. Coenraads, P. J.; Diepgen, T. L. (1998-02-01). "Risk for hand eczema in employees with past or present atopic dermatitis". International Archives of Occupational and Environmental Health. 71 (1): 7–13.
3. Health & Safety Executive (HSE). 2012. Musculoskeletal disorders. Available at: www.hse.gov.uk/statistics/causdis/musculoskeletal/msd.pdf [4 Feb. 2013].
4. International Labour Office (ILO). 2013. GB.317/POL/3 Prevention of occupational diseases, Report, 317th Session of the Governing Body, Geneva, 2013 (Geneva). Available at: www.ilo.org/wcmsp5/groups/public/---ed_norm/---relconf/documents/meetingdocument/wcms_204755.pdf

8.3. List of the information and telecommunications Internet resources required for mastering of the course (module)*

№	Resources	URL address	Resource Annotation
1	Data base «Scopus»	http://www.scopus.com/	
2	Electronic archive of journals published by SAGE PUBLICATIONS	www.sagepub.com	

3	Electronic archive of journals published by IOP Publishing	http://iopscience.iop.org/journals?type=archive	
4	Electronic archive of journals published by OXFORD UNIVERSITY PRESS	www.oxfordjournals.org/	
5	Electronic archive of journals published by SCIENCE издательства AAAS	www.sciencemag.org .	
6	Electronic archive of journals published by ROYAL SOCIETY OF CHEMISTRY	www.rsc.org/	

8.4. Implementation of e-learning (EL), the use of distance learning technologies (DLT)

№	Platform of EL DLT	Name of the e-course, authors, URL address	E-course implementation model

8.5. The list of the software and information & reference systems

- software: certified, license programs of general and educational assignment, information & reference systems – Garant, Consultant and etc.

9. Material and technical facilities necessary for the educational process*

№	Name of the study room	Location of the study room	List of the main equipment of the study room
1	Central polyclinic "Northern Medical Clinical Center named after N. A. Semashko of the Federal Medical and Biological Agency"	Arkhangelsk, Embankment of the Northern Dvina House 66, office 315	computer-1 PC., multimedia projector - 1 PC., laptop-2 PCs. Scales: medical, floor-1 PC. Thermometer -1 PC. Pulse oximeter -2 PCs. Portable blood sugar analyzer with test strips-1 PC. Stopwatch-1 PC. The diagnostic spirantization -1 PC. Inch -1 EA. Stethoscope -3 PCs. Medical couch-1 PC. Hammer neurological -12 PCs.

MINISTRY OF HEALTHCARE OF THE RUSSIAN FEDERATION
Federal State Budgetary Educational Institution of Higher Education
‘NORTHERN STATE MEDICAL UNIVERSITY’
of the Ministry of Healthcare of the Russian Federation

APPROVED

Dean of the International Faculty
of General Practitioner

_____ A. K. Sherstennikova

« _____ » 2021 г.

SYLLABUS OF THE COURSE (MODULE)

Course «Medical Rehabilitation»

Training field 31.05.01 General Medicine

Year of study VI

Form of the interim assessment pass/fail test

Department of physical training and medical rehabilitation

Course workload 108 (hours) / 3 (credits)

Approved at the department meeting:

Minutes No 12

«07» июня 2021

Head of the department

_____ MSD Isheikova N.I.

Author and compiler:

Bondarenko E.G., PhD, ass.prof.

Arkhangelsk, 2021

1. Place of discipline (module) in a special educational program

Program in accordance with the requirements of the Federal State Educational Standard for 31.05.01. General Medicine

The discipline is classified as a mandatory part of the BLOCK 1 training course

Disciplines of educational, preliminary plans of Great Britain: anatomy, topographic anatomy and operative surgery, pathological anatomy, normal physiology, pathophysiology, biochemistry, pharmacology, immunology, the emergence of culture, propaedeutics of diseases, infectious diseases, surgery

Disciplines are based on the content of this: therapy, surgery, neurology, traumatology and orthopedics, childhood diseases

The discipline is implemented within the framework of the following types of tasks of professional activity, as a result of which the curriculum:

the medicine;
research;
organizational and managerial;
pedagogical.

2. Goal and tasks of the mastering of the course

The purpose of mastering the discipline is to prepare students for the implementation of professional activities in the field of medical rehabilitation, the formation and development of universal, general professional and professional competencies in the field of knowledge of medical rehabilitation among students, familiarization with the theory and practice of applying rehabilitation methods for the prevention and treatment of the most common diseases.

Discipline tasks:

1. formation of knowledge about:

- organizations of the rehabilitation service in the Russian Federation, current directive and instructive-methodical documents;
- goals and objectives of rehabilitation at various stages of treatment;
- modern technologies of the treatment process at all stages of rehabilitation;
- mechanisms of therapeutic and rehabilitation effects of physiotherapy, exercise therapy, massage, indications and contraindications for their appointment;
- methods for monitoring the adequacy of loads and the effectiveness of rehabilitation;
- private methods of using rehabilitation means for various diseases;
- the basics of organizing medical support for those involved in physical culture, basic information about medical groups, requirements for their configuration.

2. formation of skills:

- apply various methods of rehabilitation (physiotherapy, exercise therapy, massage) for the most common pathological conditions and injuries of the body;
- to give recommendations on the choice of the optimal mode of motor activity depending on the morphofunctional status, to determine the indications and contraindications for the appointment of physiotherapy exercises, massage, physiotherapy;
- to carry out physiotherapeutic procedures, classical massage;
- keep a medical history of patients using methods of medical rehabilitation;
- carry out preventive measures to increase the body's resistance to adverse environmental factors using various methods of non-drug therapy (physical exercises, massage, hardening, etc.), promote a healthy lifestyle;
- conduct a comprehensive assessment of the physical condition, draw up a medical report and determine the medical group for physical education.

3. formation of skills:

- on the use of rehabilitation methods in the treatment of various diseases;
- explanations and demonstrations of the main means of physiotherapy exercises;

- rational use of special equipment;
- regulation of physical activity, taking into account the degree and nature of impaired and reduced functions, indications and contraindications for certain types of physical exercises;
- interaction with other subjects of the pedagogical process, with family members of sick and disabled people to solve the tasks;
- assessment of physical activity and effectiveness of rehabilitation;
- methods for conducting functional tests and a test for determining physical performance;
- determination of the medical group for physical culture and sports;
- conducting medical and pedagogical observations in the process of physical rehabilitation.

3. List of the planned learning outcomes of the course (module) in connection to the planned outcomes of the mastering of the educational program

Codes of the formed competences	Competency achievement indicator
PC-6 Ability and willingness to conduct medical examinations, perform medical rehabilitation measures in accordance with the procedures for providing medical care and clinical recommendations	ID-3. Performs measures for the medical rehabilitation of the patient in accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care, taking into account the standards of medical care
PC -9 Ability and readiness to maintain medical records and organize the activities of nursing staff at the disposal	ID-3. Conducts analysis of medical and statistical indicators of morbidity, disability and mortality to assess the health of the population ID-4. Fills out medical documentation, including in electronic form, controls the quality of its maintenance ID-6. Uses in his work information systems in the field of healthcare and the information and telecommunication network "Internet"

Professional competencies are established on the basis of the professional standard "General Medicine", approved by order of the Ministry of Labor and Social Protection of the Russian Federation dated March 21, 2017 No. 293n.

4. Volume of the course (module) and types of the academic classes:

Total workload of the course is 3 credits.

Type of the academic work	Total hours	Term
Interaction between students and a professor (in total)	72	9
Including:		
Lectures (L)	22	12
Seminars (S)		
Practicals (P)	5	12
Clinical practicals (CP)	45	12
Laboratory-based practicals (LBP)		
Simulation-based practicals (SBP)		
Interaction work during the exam		
Interaction work during the pass/fail test		
Consultations for the exam		

Coursework		
Unsupervised work (UW) (total)	36	12
Control		
Exam preparation (EP)		
Exam Consultation (ConsE)		
Exam (E)		
Offset (3)	зачет	12
Pass with an assessment		
Total workload (hours)	108	12

5. Contents of the course:

5.1. Contents of the sections of the course

№ п/п	Name of the course section	Contents of the section
1	I. Tasks and main sections of medical re-habilitation	<p>Topic 1. Fundamentals of rehabilitation. Topic content: Stages, levels and principles of rehabilitation. Standards of care for medical rehabilitation. Indications and contraindications for the appointment of non-drug methods of treatment (exercise therapy, physiotherapy, manual therapy, etc.).</p> <p>Topic 2. International Classification of Functioning (ICF). Ergotherapy in the rehabilitation system. Topic content: Concept. International classification of functioning: functions, structure, activity and participation, environment. Models of ergotherapeutic assessment of human activity. Environment and its adaptation.</p> <p>Topic 3. Fundamentals of general physiotherapy. Contents of the topic: Classification of methods of physiotherapy. Basic principles of selection and dosage. Contraindications to the appointment of physiotherapy. Electrotreatment. Phototherapy. mechanical influences. Aerosol and electroaerosol therapy, halotherapy. Hydrotherapy. Balneotherapy. Heat and cold treatment.</p> <p>Topic 4. Fundamentals of physiotherapy exercises. Contents of the topic: Classification of means of physical therapy. Basic principles of selection and dosage of physical activity. Contraindications to the appointment of physiotherapy exercises. The procedure for prescribing therapeutic exercises and paperwork. Features of exercise therapy in the</p>

		<p>rehabilitation of children. Therapeutic massage: classification, mechanism of action, basic massage techniques. Gymnastics and massage for children of the first year of life.</p> <p>Topic 5. Sanatorium-resort treatment as a factor of rehabilitation. Contents of the topic: The structure of sanatorium-and-spa treatment. Characteristics of the northern resorts. Contraindications for the appointment of spa treatment in pediatrics. Balneotherapy: methods of taking northern mineral waters for various diseases. Pelotherapy, indications and contraindications for its use. Algorithm of the rehabilitation program in a sanatorium.</p>
2	II. Medical rehabilitation in different clinical forms	<p>Theme 1. Medical rehabilitation of patients with cardiovascular diseases. Content topics: physical rehabilitation program for patients with coronary artery disease, myocardial infarction-patient and out-patient rehabilitation phases. Levels of physical activity, and their contents. The methodology of the bicycle stress test. Features of a technique of physiotherapy for hypertension, vegetative-vascular dystonia. The use of massage in diseases of the cardiovascular system. Physical therapy and non-drug treatments for cardiovascular diseases.</p> <p>Theme 2. Medical rehabilitatsiyapri respirato-ry diseases. Content topics: Clinico-physiological substantiation of application of physical therapy in the complex treatment of acute and chronic lung diseases. Features of a technique of therapeutic exercises with pneumonia, bronchial asthma, chronic bronchitis, emphysema, pnevmoskleroze, bronchiectasis. Methods for assessing the effectiveness of exercise therapy for respiratory diseases. The use of massage in pathology legkih. Fizioterapiya and non-drug treatments for respiratory pri zabolevaniyah.</p> <p>Theme 3. Medical rehabilitatsiyapri pathology of the gastrointestinal tract, and diseases caused by metabolic disorders. Topics Content: Objectives, indications and contraindications to exercise therapy in diseases of the gastrointestinal tract. Clinical and physiological rationale for the use of funds</p>

	<p>kinesotherapy with biliary dyskinesia and colon. Private methods of medical gymnastics at visceroptosis. The use of exercise therapy for obesity and diabetes. Physiotherapy and non-drug therapies pripatologii gas-trointestinal tract and diseases caused by metabolic disorders.</p> <p>Topic 4. Medical rehabilitation in traumatology and surgery.</p> <p>Contents of the topic: Means of non-drug methods of treatment in the phased treatment of surgical patients. Methods of rehabilitation during operations on the organs of the abdominal and thoracic cavity. Principles of organization and features of the exercise therapy technique for fractures of the bones of the extremities, spine and pelvic bones. Efficiency mark. Physiotherapy in surgery and traumatology.</p> <p>Topic 5. Medical rehabilitation in orthopedics.</p> <p>Contents of the topic: Exercise therapy and massage for violations of posture, scoliosis, flat feet. Physiotherapy in orthopedics. Prevention of violations of posture and flat feet. Features of exercise therapy techniques, physiotherapy and other non-drug methods for arthritis and arthrosis.</p> <p>Topic 6. Medical rehabilitation in neurology.</p> <p>Contents of the topic: Features of the methodology of therapeutic exercises for diseases of the peripheral nervous system (neuropathy). Medical rehabilitation in acute cerebrovascular accident. Features of medical rehabilitation in osteochondrosis of the spine. Physiotherapy and massage for neurological diseases.</p> <p>Topic 7. Medical rehabilitation in obstetrics and gynecology.</p> <p>Contents of the topic: Exercise therapy at various stages of pregnancy. Exercise therapy in childbirth and the postpartum period. Clinical and physiological substantiation and methods of exercise therapy for inflammatory gynecological diseases and anomalies in the position of the uterus. Physiotherapy and massage for gynecological diseases.</p>
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3	<p>III. Medical control for dealing with physical culture and sports.</p>	<p>Theme 1. The essence of the organization, main tasks and areas of medical control.</p> <p>Topics Contents: Tasks and main sections of the medical control. Identification and as-sessment of physical development. Function-al tests of the cardiovascular and respiratory systems and their importance in the evalua-tion of the physical condition, the selection and justification of physical training pro-grams. Distribution of medical groups for physical training. Doping control and moni-toring on sex.</p> <p>Topic 2. Medical support for physical culture and sports.</p> <p>Content of the topic: To acquaint students with the work of sports medicine doctors in the Arkhangelsk Center for Physical Therapy and Sports Medicine. The structure of the center, organization of work, documentation, medical examinations.</p> <p>Theme 3. Subject prepathological and pathological conditions arising from the wasteful physical education and sports. Rehabilitation in sports.</p> <p>Content topics: medical supervision in the process of physical education, sport and exer-cise therapy. Prepathological and pathologi-cal conditions in sports. Emergency condi-tions. Means of rehabilitation in sports. Med-ical support disabled sports.</p>
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5.2. Sections and types of studies

No.	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
1	Tasks and main sections of medical rehabilitation	6			15			11	32
2	Medical rehabilitation in different clinical forms	12			25			13	50
3	Medica	4		5	5			12	26

[illegible]

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6. List of teaching materials for the course unsupervised work of students (including the use of e - learning opportunities, distance learning technologies (Moodle))

No.	Name of the course section	Types of the unsupervised work	Forms of control
1	I. Tasks and main sections of medical rehabilitation	The solution of situational problems, testing. Work using Moodle.	Checking completed jobs
2	II. Medical rehabilitation in different clinical forms	Solving situational tasks, extracting the appointment of a physician for physiotherapy exercises, drawing up a diagram and a set of exercises for various diseases, filling out forms 042 and 044. Work using Moodle.	Checking completed jobs
3	III. Medical control for dealing with physical culture and sports.	The solution of situational problems, testing. Work using Moodle.	Checking completed jobs

7. Forms of control

7.1. Forms of current control

- oral: interview, survey;
- written: checking tests, solving problems.

A subject list of abstracts, reports, essays, tests, term papers, test collections and cases are shown at the Appendix № 4 to syllabus «Assessment tools».

7.2. Forms of interim attestation - pass/fail test

Stages of pass/fail test

Stages of the interim assessment

1. Stage - computer test
2. Stage - practical test (patient registration card, being treated in the office of physical therapy (p. 042), and registration form 044

3. Stage - the decision of situational problems

Typical questions for the test, typical test tasks, typical situational tasks are given in Appendix No. 4 "Evaluation Tools" to the work program.

8. Library and information materials of the course

8.1. Compulsory literature

1. [Епифанов А. В.](#) Медицинская реабилитация [Электронный ресурс] : учебник / А.В. Епифанов, Е. Е. Ачкасов, В. А. Епифанов. - 2-е изд., испр. и доп. - Москва : ГЭОТАР-Медиа, 2020. - 736 с. – URL: <https://www.studentlibrary.ru/ru/book/ISBN9785970448434.html>

2. Общая физиотерапия [Электронный ресурс] : учебник / Г. Н. Пономаренко. - 5-е изд., испр. и доп. - Москва : ГЭОТАР-Медиа, 2020. - 368 с. : ил. - URL: <https://www.studentlibrary.ru/book/ISBN9785970454794.html>

3. Лечебная физическая культура [Электронный ресурс] : учеб. пособие / В. А. Епифанов. - 3-е изд., испр. и доп. - Москва : ГЭОТАР-Медиа, 2017. - 656 с : ил. - URL: <http://www.studentlibrary.ru/book/ISBN9785970442579.html>.

8.2. Supplementary literature

1. Медицинская реабилитация [Электронный ресурс] : учебник / Г. Н. Пономаренко. - 2-е изд., испр. и доп. - Москва : ГЭОТАР-Медиа, 2021. - 368 с. : ил. - URL: <https://www.studentlibrary.ru/ru/book/ISBN9785970459454.html>

2. Основы восстановительной медицины и физиотерапии [Электронный ресурс] : учебное пособие / В. В. Александров, А. И. Алгазин. - Москва : ГЭОТАР-Медиа, 2018. - 136 с. - URL: <http://www.studentlibrary.ru/book/ISBN9785970425602.html>

3. Лечебная физическая культура [Электронный ресурс] : учебное пособие / В. А. Епифанов, А. В. Епифанов. - 4-е изд., испр. и доп. - Москва : ГЭОТАР-Медиа, 2020. - 704 с. - URL: <https://www.studentlibrary.ru/book/ISBN9785970455760.html>

4. Санаторно-курортное лечение [Электронный ресурс] : национальное руководство / ред.: А. Н. Разумова, В. И. Стародубова, Г. Н. Пономаренко. - Москва : ГЭОТАР-Медиа, 2021. - 752 с. - URL: <https://www.rosmedlib.ru/book/ISBN9785970460221.html>

8.3. List of the Internet resources required for mastering of the course (module)*

№	Наименование ресурса	URL адрес	Аннотация ресурса
1	Сайт Союза реабилитологов России	https://rehabrus.ru/	regulatory framework for medical rehabilitation, clinical guidelines, conference information
2	Сайт РУСАДА	http://www.rusada.ru/	anti-doping service information in Russia
3	Сайт РАСМИРБИ	http://www.sportmed.ru/	regulatory framework for sports medicine, conference information

8.4. Implementation of e-learning (EL), use of distance learning technologies (DLT)*

№	EL and DLT platform	Name of the e-course, authors, URL address	Model of the e-course implementation
	Moodle	6 курс Лечебное дело Медицинская реабилитация https://edu.nsmu.ru/courses/view.php?id=170	Miscellaneous education +EL

8.5. List of software and information reference systems.

Attracting the educational process by students and faculty of the target program: operating system - MS Windows Vista Starter, MS Windows Prof 7 Upgr; office suite - MS Office 2007; other software - 7-zip, AdobeReader, Kaspersky Endpoint Security

Electronic educational resources

Electronic Science Library of NSMU	http://nsmu.ru/lib/ access with a password issued in the library
ELS "Student Consultant" Sets: Medicine. Healthcare. Humanities and social sciences. Natural Sciences	http://www.studentlibrary.ru/ http://www.studmedlib.ru/ http://www.medcollegelib.ru/ access on all computers of SSMU (under the IP-address of the university)
ELS "Doctor's Consultant"	http://www.rosmedlib.ru access with a password issued in the library.
NEL - National Electronic Library	http://нэл.рф open resource
Scientific electronic library eLIBRARY.RU	http://www.elibrary.ru open resource
Ministry of Health of the Russian Federation. Bank of documents	https://www.rosminzdrav.ru/ open resource
World Health Organization	https://www.who.int/ru open resource
Garant.ru Information and legal portal	http://www.garant.ru/ open resource
Legal system "ConsultantPlus"	http://www.consultant.ru/ access to the resource in the electronic information room (room 2317)
Database «Web of Science»	https://www.webofscience.com access on all computers of SSMU (under the IP-address of the university)

Elsevier Publishing	https://www.sciencedirect.com/ open resource
Springer Nature Publishing	https://link.springer.com/ access on all computers of SSMU
Scopus database	https://www.scopus.com/ access on all computers of SSMU
PubMed Central (PMC) is a full-text archive of biomedical journals from the US National Library of Medicine	www.pubmedcentral.nih.gov open resource

9. Material and technical facilities necessary for the educational process

№	The name of the school's office	Location of the study room	List of the main equipment of the study room
1	Training room for conducting seminar-type classes, group and individual consultations, current control and intermediate certification, as well as rooms for independent work	Arkhangelsk, Troizki ave., 51 1428	30 chairs Laptop 1 Projector 1 Medical scales 1 Stadiometer - 1 medical couch - 1
2	Training room for conducting seminar-type classes, group and individual consultations, current control and intermediate certification, as well as rooms for independent work	Arkhangelsk, Troizki ave., 51 1413	48 chairs Laptop 1 Projector 1 Stands - 2 Stadiometer – 1 medical couch - 5 Enternet
3	Training room for conducting seminar-type classes, group and individual consultations, current control and intermediate certification, as well as rooms for independent work	Arkhangelsk, Gaidara, 3	12 chairs TV 1
4	Training room for conducting seminar-type classes, group and individual consultations, current control and intermediate certification, as well as rooms for independent work	Arkhangelsk, Seberyakovev, 4	18 chairs
5	Training room for conducting seminar-type classes, group and individual consultations, current control and intermediate certification, as well as rooms for independent work	Arkhangelsk, Sev. Dviny, 66	13 chairs massage couch -1 шт.

MINISTRY OF HEALTHCARE OF THE RUSSIAN FEDERATION
Federal State Budgetary Educational Institution of Higher Education
"NORTHERN STATE MEDICAL UNIVERSITY"
of the Ministry of Healthcare of the Russian Federation

APPROVED

Dean of the International Faculty
of General Practitioner

A.K. Sherstennikova

June 16th 2021

SYLLABUS OF THE DISCIPLINE

Discipline **Epidemiology**

Field of training **31.05.01 General Medicine**

Year (s) of study / term (s) **6 / 12**

Form of the interim assessment **pass**

Department of Hygiene and Medical Ecology

Discipline workload **72** (academic hours) / **2** (credits)

Approved at the department meeting

Minutes No. 12

June 10th 2021

Head of the department

Author and compiler:

Smolina Victoria

Candidate of Medical Sciences, Associate Professor of
The Department of Hygiene and Medical Ecology

Unguryanu Tatiana

Doctor of Medical Science, Professor of
The Department of Hygiene and Medical Ecology

Arkhangelsk, 2021

1. Position of the discipline (module) within the structure of the educational program

The discipline is developed following the requirements of Federal State Education Standard (FSES) for higher education in the field of 31.05.01 «General medicine».

The discipline is related to the disciplines of the Basic part of the curriculum.

The discipline is related to prior subjects of the curriculum: Biology, General and Biological Chemistry, Microbiology, Virology, Immunology, Normal Physiology, Hygiene, Emergency Medicine, Infectious Diseases.

The discipline is related to subsequent subjects of the curriculum: Public Health and Healthcare.

The discipline is realized in the structure of the following types of professional activity tasks defined by the curriculum: preventive.

2. Goal and tasks of the mastering of the discipline

The goal of the discipline is to provide basic theoretical and practical training in epidemiology of a physician, which allows to apply the general questions of epidemiology, patterns of development of the epidemic process, private Epidemiology, deciphering group of diseases, outbreaks and forecast epidemic situation of infectious diseases.

Tasks:

- mastering the scientific bases of epidemiology;
- mastering the methods of epidemiological research of both infectious and non-infectious diseases;
- organization of anti-epidemic and preventive measures.

3. List of the planned learning outcomes of the discipline (module) in connection to the planned outcomes of the mastering of the educational program

Codes of the formed competences	Indicator of the competence achievement
Professional competencies *(PC)	
ПК-1. Способность и готовность к ведению санитарно-гигиенического просвещения населения, обучению пациентов и медицинских работников с целью предупреждения возникновения (или) распространения заболеваний, их раннюю диагностику, выявление причин и условий их возникновения и развития.	ИД-1.1. Умеет проводить санитарно-гигиеническое просвещение среди детей и взрослых (их законных представителей) и медицинских работников с целью формирования здорового образа жизни и профилактики наиболее распространенных заболеваний; формировать у детей и взрослых (их законных представителей) поведение, направленное на сохранение и повышение уровня соматического здоровья. ИД-1.2. Владеет методами и формами организации общения, техникой и приемами привлечения населения к обучению гигиеническим мероприятиям оздоровительного характера.

	<p>ИД-1.3. Осуществляет анализ проведенных мероприятий по санитарно-гигиеническому просвещению среди населения.</p> <p>ИД-1.4. Владеет навыками по проведению санитарно-противоэпидемических мероприятий в случае возникновения очага инфекции.</p> <p>ИД-1.5. Умеет определять медицинские показания к введению ограничительных мероприятий (карантина) и показания для направления к врачу-специалисту.</p>
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*The list of professional competencies is based on the requirements of the professional standard "General medicine (district physician)", approved by the order of the Ministry of Labor and Social Protection of the Russian Federation of March 21, 2017 No. 293n

4. Volume of the discipline (module) and types of the academic classes:

Total workload of the course is 7 credits.

Type of the academic work	Total hours	Term
Students' contact work with the teacher (total)	36	36
Including:		
Lectures (L)	12	12
Seminars (Sem.)	-	-
Practical classes (PC)	24	24
Clinical practicals (CP)	-	-
Laboratory-based practicals (LBP)	-	-
Simulation-based practicals (SBP)	-	-
Preparation for the examination (PE)	-	-
Preparation for the credit (PC)	-	-
Exam consultations (EC)	-	-
Coursework (CW)	-	-
Unsupervised work (UW) (total)	36	36
Examination control (EC)	-	-
Total discipline workload	72 / 2	72 / 2

5. Course content:

5.1. Contents of the sections of the course

No.	Name of the course section	Contents of the section
1	2	3
1	Issues of general epidemiology. Epidemic process.	<p>1. Introduction to Epidemiology.</p> <p>The concept of epidemiology as a science. Its aims, objectives and methods. Communication with the basic epidemiology, hygiene and other disciplines. The main directions of modern epidemiology. Epidemic process. The concept of an</p>

		epidemic process, regularities of epidemic process. The role of social and environmental factors of the epidemic process.
2.	Epidemiology of anthroponoses with fecal-oral mechanism of transmission.	<p>2. <i>Anthroponoses with fecal-oral transmission mechanism, epidemiology and prevention.</i></p> <p>General characteristics of infections with fecal-oral mechanism of transmission. Disease surveillance. Prevalence, epidemiological, social and economic importance. Bacterial diseases. The biological properties of causatives and interaction with human body qualities. Susceptibility. Epidemic process regularities. Meaning of sanitary and hygienic measures. Hepatitis A virus (HAV) epidemiology and prevention. Organization of anti-epidemic measures in the centers of dysentery, typhoid, salmonella, enteric viral hepatitis. Improving intestinal anthroponoses epidemiological surveillance. Preventive measures. Organization of anti-epidemic measures in the centers of leptospirosis, improving epidemiological surveillance of enteric zoonoses with natural foci, on example of leptospirosis. Leptospirosis specific and non-specific preventive measures.</p>
3.	Epidemiology of anthroponoses with aerosol mechanism of transmission.	<p>3. <i>Anthroponoses with aerosol transmission mechanism, epidemiology and prevention.</i></p> <p>General group characteristics; supervision. Diphtheria epidemiology and prevention, elements of epidemiological surveillance, qualities of epidemiological, microbiological, serological monitoring; epidemiological diagnosis qualities; harbingers of diphtheria trouble. Preventive measures. Measles, rubella epidemiology and prevention. Measles infection elimination program. Measles elimination stages. Supervision additional elements in a measles elimination circs. Differential diagnosis with exanthematous diseases. Preventive measures.</p> <p>Influenza epidemiology and prevention. The social importance (economic damage). Epidemiological surveillance. Legal and regulatory framework. Laboratory diagnostics status in current circs. Role in the supervision system (reference base). Preventive measures: specific, non-specific. Anti-epidemic measures organization.</p>

		<p>4. COVID-19, history and perspectives. History of COVID-19. The structure of the COVID-19 virus. Features of the spread of COVID-19.</p> <p>5. Coronavirus disease (COVID-19). Clinical picture of COVID-19. Treatment and prognosis for COVID-19. Prevention of the spread of COVID-19.</p>
4.	Descriptive epidemiological studies	<p>6. Descriptive epidemiological research methods. Semiotics in epidemiological diagnostics. Semiotics. Definition. Groups of epidemiological diagnostic measures: basic, additional, evaluative. Main measures: absolute numbers, incidence, prevalence, pathological incidence, incidence with temporary disability, mortality. Additional measures: extensive metrics, cumulative frequency, visibility ratios, standardized indicators.</p> <p>7. Descriptive epidemiological studies Content of descriptive epidemiological studies. Types of descriptive epidemiological studies. Ecological studies. Sources of information. Errors in ecological studies. Description of morbidity by territories, in the structure of the population and in time. Definition of territories and risk groups. Time series analysis. Time series elements. Time series types. Groups of temporary causal factors. Indicators characterizing the rate of development of the epidemiological process over time: absolute change, growth rate, growth rate, lead rate. Graphs for displaying the dynamics of the epidemiological process</p>

5.	Analytical epidemiological studies	<p>8. <i>Data analysis in cohort studies.</i> Types of cohort studies. Advantages and Limitations. Sources of information. Approaches to group formation. Methodology for conducting cohort studies. A four-field table for evaluating the results of a cohort study. Indicators obtained as a result of a cohort study: incidence (in the cohort), incidence (incidence), cumulative incidence, density of incidence. Measures for assessing the impact on outcomes in cohort studies: relative risk, additional risk, fraction of additional risk, additional population risk, fraction of additional population risk, ratio of incidence densities, difference in incidence densities.</p> <p>9. <i>Data analysis in case control studies.</i> Advantages and limitations of case-control studies. Sources of information. Approaches to group formation. Methods for selecting "controls". Methodology for conducting a case-control study. A four-field table for evaluating the results of a case-control study. Chances. Odds ratio.</p> <p>10. <i>Analytical epidemiological studies.</i> Advantages and limitations of cross-sectional studies. Sources of information. Approaches to group formation. Methodology for conducting cross-sectional studies. Cohort study indicators: prevalence, prevalence ratio. Chi-square test.</p>
6.	Experimental epidemiological studies	<p>11. <i>Experimental epidemiological research methods.</i> Content of experimental epidemiological research methods. Types of experimental research. Advantages and Limitations. Sources of information. Approaches to group formation.</p> <p>12. <i>Experimental epidemiological studies.</i> Experimental research methodology. Randomized controlled trials. Field tests. Community level research. Assessment of the quality and effectiveness of anti-epidemic drugs and measures. The main criteria for assessing the quality of individual anti-epidemic measures. Potential Effectiveness. Actual efficiency. Security indicator. Efficiency index.</p>

5.2. Sections and types of studies

No.	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
1	Issues of general epidemiology. Epidemic process.	2	-	-	-	-	-	4	6
2	Epidemiology of anthroponoses with fecal-oral mechanism of transmission.	-	-	4	-	-	-	8	12
3	Epidemiology of anthroponoses with aerosol mechanism of transmission.	2	-	8	-	-	-	8	18
4	Descriptive epidemiological studies	4	-	4	-	-	-	6	14
5	Analytical epidemiological studies	2	-	4	-	-	-	6	12
6	Experimental epidemiological studies	2	-	4	-	-	-	4	10
Total		12	-	24	-	-	-	36	72

6. List of teaching materials for the course unsupervised work of students (including the use of e - learning opportunities, distance learning technologies (Moodle))

No.	Name of the course section	Types of the unsupervised work	Forms of control
1.	Issues of general epidemiology. Epidemic process.	lecture notes	written
2.	Epidemiology of anthroponoses with fecal-oral mechanism of transmission.	Interview, notes, work with normative documents and legal framework, work with self-assessment questions, situational problems solving, report	Oral, written
3.	Epidemiology of anthroponoses with aerosol mechanism of transmission.	Interview, notes, work with self-assessment questions, situational problems solving	Oral, written
4.	Descriptive epidemiological studies	Interview, work with self-assessment questions, notes, situational problems solving, report	Oral, written
5.	Analytical epidemiological studies	Interview, notes, work with self-assessment questions, report	Oral, written
6.	Experimental epidemiological studies	Interview, notes, work with self-assessment questions, report	Oral, written

7. Forms of control

7.1. Current forms of control

- oral (an interview, a report)
- written (checking of tests, abstracts, lecture notes, solving of practical tasks).

A theme list of abstracts, reports, test collections and situational problems are shown at the Appendix No 4 of the syllabus of the course (module) 'Evaluation tools'.

7.2. Forms of the interim assessment (pass).

Stages of the interim assessment

Stages of pass

1. Stage - test control
(name of the stage)

Questions for a pass test are shown at the Appendix No 4 of the syllabus of the course (module) 'Set of the evaluation tools for the current control and interim assessment of students'.

8. Library and information materials of the course

8.1. Compulsory literature

1. Брико Н.И. Эпидемиология [Электронный ресурс] : учебник / Н. И. Брико, В. И. Покровский. - М. : ГЭОТАР-Медиа, 2015. - 368 с. : ил.- Режим доступа: <http://www.studmedlib.ru/>.

2. Эпидемиология инфекционных болезней [Электронный ресурс] : учебное пособие / Н.Д. Ющук [и др.]. - 3-е изд., перераб. и доп. - М. : ГЭОТАР-Медиа, 2014. - 496 с.: ил.- Режим доступа: <http://www.studmedlib.ru/>.

3. Инфекционные болезни и эпидемиология [Электронный ресурс] : учебник. Покровский В.И., Пак С.Г., Брико Н.И. 3-е изд., испр. и доп. 2013. - 1008 с.: ил.- Режим доступа: <http://www.studmedlib.ru/>.

8.2. Supplementary literature

1. Брико, Николай Иванович. Эпидемиология [Текст] : учеб. для студентов мед. вузов / Н. И. Брико, В. И. Покровский. - Москва : ГЭОТАР-Медиа, 2015. - 363 с.

2. Общая эпидемиология с основами доказательной медицины. Руководство к практическим занятиям [Электронный ресурс] : учебное пособие/ ред.: В. И. Покровский, Н. И. Брико. -2-е изд., испр. и доп.. -Москва: ГЭОТАР-Медиа, 2012. - 496 с. - Режим доступа: <http://www.studmedlib.ru/>.

8.3. List of the information and telecommunications Internet resources required for mastering of the course (module)*

№	Resources	URL address	Resource Annotation
1	Student's Consultant Electronic Library Sets: Medicine. Health care. Humanities and social sciences. Natural sciences.	http://www.studmedlib.ru	sets of educational and scientific literature on medicine, health care, the natural sciences, the humanities and the social sciences

2	Scientific journals database. Scientific electronic library eLIBRARY.RU	http://www.elibrary.ru	Russia's largest information and analytical portal in science, technology, medicine and education, containing abstracts and full texts of over 34 million scientific publications and patents, including electronic versions of over 5600 Russian scientific and technical journals, of which over 4800 are open access
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8.4. Implementation of e-learning (EL), the use of distance learning technologies (DLT)

№	Platform of EL DLT	Name of the e-course, authors, URL address	E-course implementation model
1	Moodle	<p>6 kypc Epidemiology</p> <p>Authors: Candidate of Medical Sciences, Associate Professor of the Department of Hygiene and Medical Ecology Smolina V.S.; Doctor of Medical Sciences, Professor of the Department of Hygiene and Medical Ecology Unguryanu Tatiana</p> <p>URL адрес: http://edu.nsmu.ru/course/view.php?id=1002</p>	blended learning

8.5. The list of the software and information & reference systems

The following software is used by students and teaching staff in the education process: operating system - MS Windows Vista Starter, MS Windows Prof 7 Upgr; office suite - MS Office 2007; other software - 7-zip, AdobeReader, Kaspersky Endpoint Security

9. Material and technical facilities necessary for the educational process*

№	Name of the study room	Location of the study room	List of the main equipment of the study room
1	Classroom	51 Troitsky Ave., study room 1309	Number of seats 44. Screen and sound aids: multimedia projector, laptop, speakers.
2	Classroom	51 Troitsky Ave., study room 1306	Number of seats 26. Screen and sound aids: multimedia projector, laptop, speakers.