

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 16<sup>th</sup> 2021

**SYLLABUS OF THE DISCIPLINE**

Discipline **Fundamentals of Medical Law**

Field of training **31.05.01 General Medicine**

Year (s) of study / term (s) **3/5**

Form of the interim assessment **credit**

Department **of public health, health care and social work**

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

Approved at the department meeting

Minutes No.

June 15<sup>th</sup> 2021

Head of the department:



E. A. Mordovsky

**Author and compiler:**  
Professor Tsyganova O.A.

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 mandatory part of the curriculum

The discipline is related to prior subjects of the curriculum: philosophy, history, bioethics.

The discipline is related to subsequent subjects of the curriculum: public health, health care, health economic, health promotion

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

### 2. Goal and tasks of the mastering of the discipline

**The goal of the discipline:** prepare students for professional activities in accordance with applicable law/

#### Objectives of the course:

##### 1. knowledge formation:

- on the rights and obligations of medical workers of medical organizations, the principles and provisions of their social and legal protection;
- on the responsibility of doctors for causing harm to health, for professional and professional offenses;

##### 2. formation of skills:

- implement moral and legal norms, ethical and deontological principles in professional activities;
- correctly navigate in legal terms in the current legislation on health care and its adequate application in specific practical situations;
- control the performance of duties by the district nurse and other medical workers at their disposal.
- use in the professional environment the current legal norms that ensure the fight against corruption;
- analyze the situation for the presence of a corruption component and predict the consequences of corrupt behavior.

##### 3. skill building:

- work with personal data of patients and information constituting a medical secret;
- filling in medical documentation, including in electronic form, quality control of its maintenance;
- communication skills and interaction with the team, colleagues, representatives of law enforcement agencies, relatives of patients.

### 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
UC-1 The ability to carry out a critical analysis of problem situations based on a systematic approach, to develop an action strategy	ID-1.1. Carries out a critical analysis of information based on a systematic approach. ID-1.2. Identifies problem situations based on critical analysis. ID-1.3. Develops an action strategy for solving problem situations based on a systematic and interdisciplinary approach.
UC-11. The ability to form an intolerant attitude towards corrupt behavior	ID-11.1. Uses in the professional environment the current legal norms that ensure the fight against corruption ID-11.2. Analyzes the situation for the presence of a corruption component and predicts the consequences of corrupt behavior
GPC-1 The ability to implement moral and legal norms, ethical and deontological principles in professional activities	ID-1.1 Applies the norms of medical ethics and deontology; fundamentals of legislation in the field of healthcare; legal aspects of medical activity; ID-1.2 Uses ethical norms and principles of behavior of a medical worker in the performance of professional duties, modern legislation in the field of healthcare in solving problems of professional activity, rules and norms of interaction between a doctor and colleagues and patients (their legal representatives); ID-1.3 Solves standard tasks of professional activities based on ethical norms and deontological principles when interacting with colleagues and patients (their legal representatives), knowledge of the legal aspects of medical practice.
PC-9 Ability and readiness to maintain medical records and organize the activities of nursing staff at the disposal	ID-2 Works with personal data of patients and information constituting a medical secret ID-4 Fills out medical documentation, including in electronic form, controls the quality of its maintenance ID-5 Supervises the performance of duties by the district nurse and other medical workers at the disposal

	ID-6 Uses in his work information systems in the field of healthcare and the information and telecommunication network "Internet"
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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 course and types of academic work:

Total workload of the course is 2 credits.

Type of the academic work	Total hours	Term
		5
<b>Students'contact work with the teacher (total)</b>	<b>36</b>	<b>36</b>
Including:		
Lectures (L)	12	12
Seminars (Sem.)	24	24
Practical classes (PC)		
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)		
<b>Total discipline workload</b>	<b>72/2</b>	<b>72</b>

#### 5. Course content:

##### 5.1. Content of the course sections

No	Name of the course section	Content of the section
1	2	3
1.	Ethics and deontology in medicine	Ethics in medicine. Ethical and moral aspects of the activities of medical workers. Ethics in Russian and international societies. Ethical norms and rules in medical science. International cooperation in medicine. Studying the legal experience of relationships in the category "professional community-patient" and in the category "professional community-professional".
2	International legislation in the field of public health protection. The right to health.	The right to health in the context of international legal norms in the field of human rights. The right to health of children, women, disabled people, migrants, people with HIV/AIDS. Obligations of states in relation to the right to health.
3	Legal regulation of the professional activity of a doctor. Access to medical activities. Attending doctor. Rights and obligations of medical workers.	Legal acts and their systematization in medicine. Organization of medical care. Orders for the provision of medical care. Medical care standards. Clinical guidelines. Compliance with sanitary, anti-epidemic and technological requirements. Application and use of medical devices and medicines in medicine. Rights and obligations of medical workers.
4	The rights of citizens in the field of health protection. International legislation in the field of protection of the rights of patients.	Citizens' rights upon receipt of medical care. The right to receive medical care. The right to receive information about the medical service. Voluntary informed consent to medical intervention. Refusal of medical intervention. The concept of medical secrets and the conditions for its disclosure. The right to choose a doctor and a medical organization.
5	Fight against corruption. Prevention of committing corruption violations. Doping in sports. Anti-doping legislation.	Anti-corruption ethics. Concept of social danger of corruption. Specific features of the manifestation of corruption in the healthcare sector. Measures to combat corruption in the healthcare sector. Legal mechanisms for combating corruption. Legal liability for corruption in the healthcare sector. Doping in sports. Anti-doping international legislation.

6	Proper medical documentation.	Documented information. Information security in medicine: the concept, organizational and legal methods of protection and protection of information. Special legal regimes of information: concept, regime of personal data, regimes of state, official, commercial secrets. Responsibility for the maintenance, storage, modification and destruction of documented information in healthcare. Responsibility for disclosure of secrets. Signature and its identification in medicine.
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## 5.2. Course sections and types of studies

No	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
1	Ethics and deontology in medicine	2	4					6	12
2	International legislation in the field of public health protection. The right to health.	2	4					6	12
3	Legal regulation of the professional activity of a doctor. Access to medical activities. Attending doctor. Rights and obligations of medical workers.	2	4					6	12
4	The rights of citizens in the field of health protection. International legislation in the field of protection of the rights of patients.	2	4					6	12
5	Fight against corruption. Prevention of committing corruption violations. Doping in sports. Anti-doping legislation.	2	4					6	12
6	Proper medical documentation.	2	4					6	12
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	Ethics and deontology in medicine	A presentation MCQs in Moodle system Review of published paper	review of presentation pass/failed test oral conversation
2	International legislation in the field of public health protection. The right to health.	A presentation MCQs in Moodle system	review of presentation pass/failed test
3	Legal regulation of the professional activity of a doctor. Access to medical activities. Attending doctor. Rights and obligations of medical workers.	A presentation MCQs in Moodle system	review of presentation pass/failed test
4	The rights of citizens in the field of health protection. International legislation in the field of protection of the rights of patients.	A presentation MCQs in Moodle system	review of presentation pass/failed test
5	Fight against corruption. Prevention of committing corruption violations. Doping in sports. Anti-doping legislation.	A presentation MCQs in Moodle system	review of presentation pass/failed test
6	Proper medical documentation.	A presentation	review of

		MCQs in Moodle system	presentation pass/failed test
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## 7. Forms of control

### 7.1. Current forms of control

- oral (an interview, a report)
- written (tests, term, oral presentations, written assignments).

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. Form of interim assessment: credit Stages of the interim assessment

#### 1. Stage – multiple choice questions test

Questions for the pass are listed 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. Reshetnikov, A. V. Sociology of Medicine : textbook / A. V. Reshetnikov - Москва : GEOTAR-Media, 2020. - 368 p. - 368 с. - ISBN 978-5-9704-5447-3. - Текст : электронный // ЭБС "Консультант студента" : [сайт]. - URL : <https://www.studentlibrary.ru/book/ISBN9785970454473.html>
2. Health Promotion. Disciplines, diversity, and developments/ ed. R. Bunton, G. Macdonald. -2th. ed. -London; New York: Routledge, 2004. -325 p.
3. Tulchinsky T. H. The New Public Health: An Introduction For The 21st Century/ T. H. Tulchinsky, E. A. Varavikova. -San Diego; New York; Boston: Academic Press, 2000. -882 p.
4. Krukemeyer M. Introductory Guide to Medical Training. From Basic Sciences to Medical Specialties [Электронный ресурс] / M. Krukemeyer. - 1st ed. - [Б. м.] : Thieme, 2015. - URL: [https://medone-education.thieme.com/ebooks/2093828?fromSearch=true#/ebook\\_2093828\\_SL80527499](https://medone-education.thieme.com/ebooks/2093828?fromSearch=true#/ebook_2093828_SL80527499)
5. History of Medicine and Public Health : training manual / A. G. Kalinin, V. A. Postoev ; Ministry of Healthcare of the Russian Federation, Northern state medical university. - Arkhangelsk : NSMU Publishing, 2021. - 120 p. - References: p. 113-115.

### 8.2. Supplementary literature

1. A new public health in an old country : an EU-China conference in Wuhan, China, October 24-29, 1998/ Nordic School of Publ. Health, Univ. of Turin, Hubei Medical Univ.; ed.: F. Cavallo, L. Kohler, S. Su. -Goteborg, 2000. -242 p.
2. Berntsson L. Health and well-being of children in the five Nordic countries in 1984 and 1996 : diss. from the Nordic School of Public Health/ L. Berntsson. -Uddevalla: MediaPrint, 2000. -200 p.
3. Brimhealth. Baltic Rim Partnership for Public Health 1993-2003 : an unusual evaluation of an unusual project/ ed. S. Bihari-Axelsson, I. Borup, E. Wimmerstedt. -Goteborg: Nordic School of Public Health, 2004. -88 p.
4. Cabrera C. Socio-economic Status and Health in Women : population-based studies with emphasis on lifestyle and cardiovascular disease/ C. Cabrera; Nordic School of Publ. Health, Sahlgrenska Acad. at Goteborg Univ.. - Goteborg: NHV, 2005. -148 с.
5. Nutbeam D. Theory in a Nutshell: a practical guide to health promotion theories/ D. Nutbeam, E. Harris. - 2th. ed.. -Sydney: The McGraw-Hill , 2007. -81 p.
6. Planning health promotion programmes : An intervention Mapping Approach/ L. K. Bartholomew [et al.]. -2th. ed.. -San Francisco: A Wiley Imprint, 2006. -767 p.
7. Rothman K.J. Epidemiology an introduction/ K. J. Rothman. -Oxford: Oxford University Press, 2002. -223 p.
8. Медик, В. А. Общественное здоровье и здравоохранение : учебник / В. А. Медик. - 4-е изд. , перераб. - Москва : ГЭОТАР-Медиа, 2020. - 672 с. - ISBN 978-5-9704-5737-5. - Текст : электронный // ЭБС "Консультант студента" : [сайт]. - URL : <https://www.studentlibrary.ru/book/ISBN9785970457375.html>

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

Resource name	Url	Resource annotation
<b>Electronic library systems (electronic libraries)</b>		
Electronic library of SSMU	<a href="http://lib.nsmu.ru/lib/">http://lib.nsmu.ru/lib/</a>	educational, educational-methodical and scientific literature
EBS "Student's Consultant": Medicine. Healthcare. Humanities and social sciences. Natural Sciences	<a href="http://www.studentlibrary.ru/">http://www.studentlibrary.ru/</a> <a href="http://www.studmedlib.ru/">http://www.studmedlib.ru/</a> <a href="http://www.medcollelib.ru/">http://www.medcollelib.ru/</a>	sets of educational and scientific literature on medicine, health care, natural, humanitarian and social sciences
EMB "Doctor's Consultant"	<a href="http://www.rosmedlib.ru">http://www.rosmedlib.ru</a>	practical guides, reference books, monographs, recommendations and other publications
MedOneEducation -Электронная библиотека медицинских учебниковиздательства «Thieme»	<a href="http://medone-education.thieme.com/">http://medone- education.thieme.com/</a>	online books in English
<b>Professional databases</b>		
Database of scientific journals. Scientific electronic library Medline	<a href="https://pubmed.ncbi.nlm.nih.gov/">https://pubmed.ncbi.nlm.nih.gov/</a>	PubMed comprises more than 33 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full text content from PubMed Central and publisher web sites.
WHO publications. Database "GlobalIndexMedicus". World health organization	<a href="https://www.who.int/ru">https://www.who.int/ru</a>	information materials, reports from WHO, etc.
Базаданных «Web of Science» (WOS)	<a href="https://www.webofscience.com">https://www.webofscience.com</a>	biomedical literature, life science journals, and online books
База данных «Scopus»	<a href="https://www.scopus.com/">https://www.scopus.com/</a>	biomedical literature, life science journals, and online books
Электронные ресурсы издательства Wiley	<a href="https://onlinelibrary.wiley.com/">https://onlinelibrary.wiley.com/</a>	biomedical literature, life science journals, and online books
<b>Information reference systems</b>		
reference system Federal Electronic Medical Library (FEMB)	<a href="http://femb.ru/">http://femb.ru/</a>	State Pharmacopoeia of the Russian Federation, clinical guidelines (treatment protocols), scientific and educational literature, dissertations and abstracts
<b>Other resources</b>		
Russian scientific fund	<a href="https://rnf.rf">https://rnf.rf</a>	The purpose of the RSF is to provide financial and organizational support for fundamental research and exploratory research, training of scientific personnel, and the development of research teams holding leading positions in a particular field of science.

#### 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	3Fundamentals of Medical Law	+EC

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

In the implementation of the educational process, students and faculty use the following software: **operating system** - MSWindowsVistaStarter, MSWindowsProf 7 Upgr; **office suite** - MSOffice 2007; other **software** - 7-zip, AdobeReader, KasperskyEndpointSecurity

#### 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	Aud. No. <b>2453</b> <i>Office of Public Health and Health Care, Organization of Professional Activities</i>	Auditorium of the Department of Public Health, Health Care and Social Work: 163000, Arkhangelsk, prosp. Troitsky, 51 4th floor of the administrative building	30 seats Multimedia projector - 1, computer - 1 pc.
2	Aud. No. <b>2441</b> <i>Cabinet of Economics and Management in Health Care, Economics and Management of Laboratory Services</i>	Auditorium of the Department of Public Health, Health Care and Social Work: 163000, Arkhangelsk, prosp. Troitsky, 51 4th floor of the administrative building	24 seats Multimedia projector - 1.
3	Aud. No. <b>2451</b> <i>Classroom for seminar-type classes, group and individual consultations, monitoring and intermediate certification</i>	Auditorium of the Department of Public Health, Health Care and Social Work: 163000, Arkhangelsk, prosp. Troitsky, 51 4th floor of the administrative building	42 seats Multimedia projector - 1, computer - 1 pc.
4	Aud. No. <b>2442</b> <i>Classroom for seminar-type classes, group and individual consultations, monitoring and intermediate certification</i>	Auditorium of the Department of Public Health, Health Care and Social Work: 163000, Arkhangelsk, prosp. Troitsky, 51 4th floor of the administrative building	30 seats Multimedia projector - 1.
5	Audit No. <b>2440</b> <i>Classroom for seminar-type classes, group and individual consultations, monitoring and intermediate certification</i>	Auditorium of the Department of Public Health, Health Care and Social Work: 163000, Arkhangelsk, prosp. Troitsky, 51 4th floor of the administrative building	11 seats. computer - 11 pcs., connected to the Internet, multimedia projector - 1
6	Aud. No. <b>2445</b> <i>Classroom for seminar-type classes, group and individual consultations, monitoring and intermediate certification</i>	Auditorium of the Department of Public Health, Health Care and Social Work: 163000, Arkhangelsk, prosp. Troitsky, 51 4th floor of the administrative building	28 seats, TV - 1

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June 16<sup>th</sup> 2021

**SYLLABUS OF THE DISCIPLINE**

Discipline **Operative surgery and topographic anatomy**

Field of training **31.05.01 General Medicine**

Year (s) of study / term (s) **-2,3 / 4,5**

Form of the interim assessment **Exam**

Department **of anatomy and operative surgery**

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

Approved at the department meeting

Minutes No.

June 15<sup>th</sup> 2021

Head of the department



Suhanov S.G. prof, Dr.Sc.

**Author and compiler:**

prof, Dr.Sc.N.A .Martynova, Kalinin RG, MD, PhD

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 (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:

The discipline is related to subsequent subjects of the curriculum:

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 - assimilation of knowledge and practical skills in the implementation of general medical surgical procedures, providing first medical aid to victims, as well as the essence of the basic techniques for the correct diagnosis and choice of a method of surgical treatment in case of emergency and trauma.

Tasks:

Skills for backsight anatomy major neurovascular bundles , fascial sheaths and cellular spaces ;

- mastery of knowledge is important topographic anatomical relationship of normal and pathological conditions in the event .
- acquisition of knowledge with a view to the adoption of active independent decisions to provide surgical care to the extent necessary to save the lives of victims and prevention of severe complications ;
- Mastering the rules of using surgical instruments.

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

<b>Codes of the formed competences</b>	<b>Indicator of the competence achievement</b>
ОПК-5. Способен оценивать морфофункциональные, физиологические состояния и патологические процессы в организме человека для решения профессиональных задач	ИД-5.1. Знает анатомию, гистологию, топографическую анатомию, физиологию, патологическую анатомию и физиологию органов и систем человека. ИД-5.2. Умеет определять и оценивать морфофункциональные, физиологические состояния и патологические процессы в организме человека ИД-5.3. Владеет методами проведения клинико-лабораторной и

	функциональной диагностики для решения профессиональных задач. ИД-5.4. Умеет анализировать результаты клинико-лабораторной и функциональной диагностики для оценки морфофункциональных, физиологических состояний и патологических процессов в организме человека.
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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	Semester	
		4	5
<b>Students' contact work with the teacher (total)</b>	<b>74,3</b>	<b>30</b>	<b>44,3</b>
Including:			
Lectures (L)	24	10	14
Seminars (Sem.)	40	16	24
Practical classes (PC)			
Clinical practicals (CP)			
Laboratory-based practicals (LBP)			
Simulation-based practicals (SBP)	8	4	4
Preparation for the examination (PE)			
Preparation for the credit (PC)	0,3		0,3
Exam consultations (EC)	2		2
Coursework (CW)			
Unsupervised work (UW) (total)	<b>72</b>	<b>42</b>	<b>30</b>
Examination control (EC)	33,7		33,7
<b>Total discipline workload</b>	<b>180/5</b>	<b>72</b>	<b>108</b>

#### 5. Course content:

##### 5.1. Contents of the sections of the course

№	Name of the course section	Content of the section
1	2	3
	Topographic anatomy and operative surgery of the upper and lower extremities.	Topography of the upper limb ( subclavian , axillary , and deltoid regions, shoulder ) . The topography of the area of the elbow , forearm , wrist and fingers Topography of the lower limb ( gluteal region , thigh ) . The topography of the popliteal fossa , the tibia , the medial ankle and foot . Surgical instruments . Surgical Technique . Terms separation and

		connection tissues. Operations on vessels of the limbs. Operations on the tendons and nerves. Operations on the joints and bones of the limbs. Amputation and disarticulation
	Topographic anatomy and operative surgery of the head and neck .	The topography of the cerebral department head. Operations on the brain of the head . The topography of the facial part of the head . Operations in the personal department head. Topography of the neck. Topography of the internal organs of the neck. Operations on the neck .
	Topographic anatomy and operative surgery of the chest, abdomen and pelvis .	Topography chest. Operations on chest wall mediastinal topography . Operations on the thoracic cavity topography of the anterior abdominal wall and hernia surgery topography of the abdominal cavity and its organs topography retroperitoneal space and pelvis .

## 5.2. Sections and types of studies

No.	Name of the course section	L	PC	W	LW	CPS	CPC	Total hours
1	2	3	4	5	6	7	8	9
1.	Topographic anatomy and operative surgery of upper and lower extremities	12	24				18	54
2.	Topographic anatomy and operative surgery of the head and neck	8	16				12	36
3.	Topographic anatomy and operative surgery of the chest, abdomen and pelvis	12	24				18	54

## 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 unsupervised work	Forms of control
1.	Topographic anatomy and operative surgery of upper and lower extremities	The study drugs ( cuts shoulder , thigh at different levels ) . Biological material . Training programs in electronic form	Check presentations and test tasks.
2.	Topographic anatomy and operative surgery of the head and neck .	The study drugs Preparation of presentations on the topics in this section ; Working with textbooks ; Educational program in electronic form. educational films	Check presentations and test tasks.
3.	Topographic anatomy and operative surgery of the chest, abdomen and pelvis .	The study drugs cuts ; Independent decision of situational problems ; Work with training programs ;	Check presentations and test tasks.

		View animations , presentations and videos.	
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## 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

Stages of examination (pass/fail test)

1. Stage - interview on the ticket
2. Stage - - interview on biological materials or sawed .
3. Stage - interview on surgical instruments.

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.AV Nikolaev Topographic anatomy and operative surgery: in 2 v.: Proc. for honey. Universities / AV Nikolayev. - M.: GEOTAR Media 2009.
- 2.Sergienko VI Topographical Anatomy and Operative Surgery: Proc. for medical students. high schools: in 2 vol. / VI Sergienko, EA Petrosyan IV Frauchi; ed. YM Lopuchin. - 3rd ed., Rev. - M.: GEOTAR Media 2007.
- 3.Topographic anatomy and operative surgery of the maxillofacial region: Proc. aid for honey. Universities / RN Kalashnikov [et al.]. - Ivanovo: [b. and.], 2008. 227 p.

### 8.2. Supplementary literature

- 1.Meshcheryakov MA Operativesurgeryandtopographicanatomy:Proc. allowanceforstudents / MAMeshcheryakov. - M.: Academia, 2005. - 511, [1] s.
- 2.Basicemergencysurgery: hands. forPhysiciansSociety. practice [2m.] / RNKalashnikov [etal.]; ed. : RNKalashnikov, EVNedashkovsky; M-HealthinRos. FederationNorth. state. honey. Univ. - ArkhangelskUnivSSMU2014.
- 3.OstroverkhovGEOperativesurgeryandtopographicanatomy: Proc. formedicalstudents. Universities / GEOstroverkhov, YMBomash, DNLubotsky. - 5thed., Rev. - M: Honey. Inf. Agency, 2005. - 734p.
- 4.Topographic Anatomy and Operative Surgery : Proc . for medical students . high schools: in 2m. / [ VF Baytinger et al . ] ; ed. : II Kagan , ID Kirpatovsky . - M. : GEOTAR Media 2012 .

5.Topographic anatomy and operative surgery of the head and neck : Proc . for Universities / VI Sergienko [et al . ] . - M. : GEOTAR Media , 2010. - 526 p.

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

№	Resources	URL address	Resource Annotation
1	EBS ' student Consultant	<a href="http://www.studmedlib.ru/">http://www.studmedlib.ru/</a>	
2	FBS Iprbooks	<a href="http://www.iprbooks.hop.ru/">http://www.iprbooks.hop.ru/</a>	
3	www. Medlinks.ru Atlas operations VN Voylenko	<a href="http://www.uroweb.ru/catalog/med_lib/oper_atl/begin.htm">http://www.uroweb.ru/catalog/med_lib/oper_atl/begin.htm</a>	
4	Kovanov operative surgery and topographic anatomy MedExplorer, MedHunt, PubMed.	<ul style="list-style-type: none"> <li>• <a href="http://www.booksgid.com/people/10863-kovanov-operativnaja-khirurgija-i.html">http://www.booksgid.com/people/10863-kovanov-operativnaja-khirurgija-i.html</a></li> </ul>	

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
	The list of software: - Microsoft Office - SunRav TestOfficePro 5 - Adobe Reader 9 - BigBlueButton   Open Source Virtual Classroom Software Zoom Video Communications		

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

№	Name of the study room	Location of the study room	List of the main equipment of the study room
308	Classroom	3 <sup>th</sup> floor, Morphocorpus building	PC systems, Power Point system
319	Classroom	3 <sup>th</sup> floor, Morphocorpus building	PC systems, Power Point system
318	Operation theater	PC systems, Power Point system	Surgical tools, biological tissues, models, simulators

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 16<sup>th</sup> 2021

**SYLLABUS OF THE DISCIPLINE**

Discipline **Microbiology, virology**

Field of training **31.05.01 General Medicine**

Year (s) of study / term (s) **2,3 / 4,5**

Form of the interim assessment **Examination**

Department **of clinical biochemistry, microbiology, laboratory diagnostics**

Discipline workload **252** (academic hours) / **7** (credits)

Approved at the department meeting

Minutes No 10.

June 8<sup>th</sup> 2021

Head of the department



T.A. Bazhukova

**Author and compiler:**

Simonova Galina Vladimirovna, PhD in Biological sciences, associate professor, training  
Associate Professor

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: history of medicine; psychology and pedagogy; Latin language; physics; medical informatics; biological chemistry; biology; human anatomy, histology, embryology, cytology; normal physiology.

The discipline is related to subsequent subjects of the curriculum: infectious diseases, phthysiology, skin and venereal diseases, obstetrics and gynecology, faculty and hospital therapy, surgery, traumatology and orthopedics, ophthalmology.

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 mastering the discipline is to prepare students for the implementation of professional activities in the field of healthcare. Formation of students' knowledge of the discipline for a clear understanding of the world of microorganisms, the structure and functioning of bacteria and viruses, the nature of their relationship with humans, microbiological diagnosis of opportunistic and infectious diseases that manifest themselves in the body, as well as ways to protect humans from the pathogenic action of microorganisms; the ability to use the acquired knowledge in the subsequent study of fundamental and clinical disciplines, as well as in future professional activities in order to recognize a condition or establish the presence or absence of a disease.

Discipline tasks:

1. formation of knowledge on the main theoretical issues of microbiology and virology;
2. formation of the skills necessary to use the acquired knowledge in future professional activities in order to recognize the state or establish the fact of the presence or absence of a disease;
3. formation of skills for conducting basic microbiological and virological studies.

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

<b>Коды формируемых компетенций/формулировки компетенций</b>	<b>Индикатор достижения компетенции</b>
УК-8 Способен создавать и поддерживать в повседневной жизни и в профессиональной деятельности безопасные условия жизнедеятельности для сохранения природной среды, обеспечения устойчивого развития общества, в том числе при угрозе и возникновении чрезвычайных ситуаций и военных конфликтов	ИД-8.1. Идентифицирует опасные и вредные факторы в рамках осуществляемой деятельности ИД-8.2. Обеспечивает безопасные условия жизнедеятельности ИД-8.3. Демонстрирует навыки использования средств индивидуальной и коллективной защиты и средств оказания первой помощи ИД-8.4. Оказывает первую помощь



<p>ОПК-2. Способен проводить и осуществлять контроль эффективности мероприятий по профилактике, формированию здорового образа жизни и санитарно-гигиеническому просвещению населения</p>	<p>ИД-2.1. Умеет назначать профилактические мероприятия пациентам с учетом факторов риска для предупреждения и раннего выявления заболеваний, в том числе социально значимых заболеваний.</p> <p>ИД-2.2. Осуществляет методы групповой и индивидуальной профилактики, разрабатывает и реализовывает программы формирования здорового образа жизни, в том числе программы снижения потребления алкоголя и табака, предупреждения и борьбы с немедицинским потреблением наркотических средств, и психотропных веществ.</p> <p>ИД-2.3. Организует и проводит иммунопрофилактику инфекционных заболеваний у взрослого населения 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-2.4. Владеет навыками по оценке эффективности профилактической работы с пациентами.</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	
		4	5
<b>Students' contact work with the teacher (total)</b>	<b>110,3</b>	<b>52</b>	<b>58,3</b>
Including:			
Lectures (L)	36	16	20
Seminars (Sem.)			
Practical classes (PC)	16	8	8
Clinical practicals (CP)			
Laboratory-based practicals (LBP)	54	28	28
Simulation-based practicals (SBP)			
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)	<b>108</b>	<b>92</b>	<b>16</b>
Examination control (EC)	33,7		33,7
<b>Total discipline workload</b>	<b>252/7</b>	<b>144</b>	<b>108</b>

#### 5. Course content:

##### 5.1. Contents of the sections of the course

No	Name of the course section	Content of the section
1	General microbiology	<p>Introduction to the profession.  The object and purpose of Microbiology  The morphology of microorganisms.  Microscopic method of diagnostics  Physiology of microorganisms  Bacteriological method of diagnostics.  Bacteriophages. Bakteriofagiya.  Infection, infectious process  Antibiotics. Mechanism action of antibiotics. Problems of antibiotic resistance, the way it overcome.  Methods for determining the sensitivity of microorganisms to antibiotics.  The genetics of microorganisms.  Genetic engineering.</p>
2	Serological and molecular genetics diagnostic methods	<p>Diagnostic preparations. Antigens of microorganisms.  Preparation and use of antigens for diagnosis.  Production and use of sera for diagnostics.  Serological laboratory diagnostics.  The reaction mechanism of antigen – antibody.  Kinds of serological tests.  Agglutination reactions. Reactions of precipitation. Reactions of lysis.  Complement fixation. Immunoassay.  Immunoblotting. Radioimmunoassay.  Immunofluorescence.  Molecular-genetic method diagnostics of infectious diseases  Stages of statement of the polimerazno-chain reaction (PCR)  Application of PCR for diagnostics bacterial and viral infections</p>
3	General and private virology	<p>The main methods of diagnosis of viral infections.  Virus method of diagnosis of infections.  Stages of Virus method.  Indication of viruses in cell culture, on experimental animals, on chick embryos.  Methods for detection of virus (PCR, electron microscopy).  Serological methods of detection viruses (ELISA, IFA).  Characteristics of respiratory viruses, enteroviruses  Reaction of inhibition hemagglutination for serodiagnostics flu.</p>

		<p>Characteristics of dermatological viruses, arboviruses.</p> <p>Complement fixation test for serodiagnosis encephalitis.</p> <p>Characteristics of hepatitis viruses.</p> <p>Enzyme immunoassay for the determination of HBV antigen.</p> <p>Characterization of oncogenic viruses.</p> <p>Enzyme immunoassay for serodiagnosis of hepatitis</p>
4	Private microbiology	<p><b>Pathogens septic processes.</b></p> <p>Modern etiological structure of hospital-acquired infections. Characteristics and equipment taking the pathological material of the patient.</p> <p>The morphological and cultural properties of staphylococci, streptococci, enterococci. Gram-negative bacteria of the genus: Esherichia, Proteus, Klebsiella, Neisseria, Serracia, Citrobacter, Pseudomonas. Strict anaerobes (Fusobacterium, Clostridium, Bacteroides, peptococci, peptostreptococci, veylonella, prevotella, porfiromonada); opportunistic fungal genera: Candida, Aspergillus, Penicillium, Mucor.</p> <p>Methods for the isolation of pure cultures of microorganisms. Factors of aggression, methods of their determination.</p> <p>The sources and routes of transmission.</p> <p>Methods for determining the sensitivity of bacteria to antibiotics.</p> <p>Specific prevention and treatment</p> <p><b>The causative agents of acute intestinal infections and food poisoning.</b></p> <p>Systematics of acute intestinal infections and food poisoning. The sources and routes of transmission.</p> <p>Characteristic of material for bacteriological research. The causative agents of acute intestinal infections and food poisoning</p> <p>Differential diagnostic and elective nutrient media.</p> <p>Bacteriological method of diagnosis of acute intestinal infections and food poisoning.</p>

		<p>Serological method and rapid diagnosis of infections.</p> <p><b>The causative agents of respiratory infections</b></p> <p>The technique of taking material for isolation agents of respiratory infections.</p> <p>The sources and routes of transmission. Pertussis, diphtheria, scarlet fever.</p> <p>The causative agents of pneumonia and meningitis. Haemophilus influenzae.</p> <p>The morphology and physiology of pathogens. Laboratory diagnosis. Specific treatment and prevention.</p> <p><b>The causative agents of tuberculosis and actinomycosis</b></p> <p>The causative agents of tuberculosis.</p> <p>The sources and routes of transmission. Tuberculin and its practical application. Methods of laboratory diagnostics. Specific treatment and prevention tuberculosis.</p> <p>The causative agents of actinomycosis. The sources and routes of transmission. Methods of laboratory diagnostics. Specific prevention and treatment.</p> <p><b>The causative agents of sexually transmitted diseases</b></p> <p>Treponema pallidum, Nesseria gonorrhoeae, Chlamydia trachomatis, Haemophilus ducreyi.</p> <p>Sources and modes of transmission. Morphology. Cultural characteristics. Determinants of pathogenicity and virulence factors. Biochemical reactions. Laboratory diagnostics.</p> <p><b>Medical mycology</b></p> <p>The chemical composition, structure, morphology of fungus . Factors aggression of fungus. Methods of cultivation of fungus.</p> <p>Microscopic method of diagnosis.</p> <p>Pathogens deep mycoses (blastomycosis, histoplasmosis, cryptococcosis, sporotrichosis).</p> <p>Pathogens dermatomycoses (pathogens scab, Trichophyton, Microsporum, Epidermophyton).</p> <p>Pathogens Candidiasis. Mold mushrooms</p>
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		<p>(Aspergillus, Penicillium, Mucor). The role of mold fungi in human pathology.</p> <p><b>Zoonotic disease</b></p> <p>Bacillus anthracis, Yersinia pestis, Francisella tularensis, Brucella melitensis, Leptospira.</p> <p>Sources and modes of transmission. Morphology. Cultural characteristics. Determinants of pathogenicity and virulence factors. Biochemical reactions. Laboratory diagnostics. Specific prevention and treatment.</p> <p><b>Clinical Microbiology</b></p> <p>The objectives of clinical microbiology. The role of the clinical microbiology in the diagnosis of nosocomial infections. The selection and transportation of material for research. Drug resistance of infectious agents.</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	General microbiology	4				15			19
2	Serological and Molecular Genetics diagnostic methods	2				6			8
3	General and private virology	12				18			30
4	Private microbiology	18				33			51
	<b>Total hours</b>	36				72		144	252

## 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	2,3 course English medium Microbiology and virology	Lecture video clip filling in tables science articles	table check final test

## 7. Forms of control

### 7.1. Current forms of control

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

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)

### Stages of the interim assessment

#### Stages of examination (pass/fail test)

1. Stage - testing  
(name of the stage)
2. Stage - examination (interview under the ticket)  
(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. **Harriott M.** Microbiology in Your Pocket. Quick Pathogen Review. [Электронный ресурс] / M. Harriott. - 1st ed.: Thieme, 2017 - URL: [https://medone-education.thieme.com/ebooks/2129335?fromSearch=true#/ebook\\_2129335\\_SL81446290](https://medone-education.thieme.com/ebooks/2129335?fromSearch=true#/ebook_2129335_SL81446290)
2. **Medical Microbiology, Virology and Immunology.** Lecture Notes [Электронный ресурс] : textbook / M. N. Artamonova [и др.]. - Москва : ГЭОТАР-Медиа, 2021. - 352 с. - URL: <https://www.studentlibrary.ru/book/ISBN9785970460436.html>
3. **Medical Microbiology, Virology, Immunology** [Электронный ресурс] : textbook.; 2 vol.; Vol. 1 / V. V. Zverev, M. N. Boichenko. - Москва : ГЭОТАР-Медиа, 2020. - 384 с. - URL: <https://www.studentlibrary.ru/ru/book/ISBN9785970456071.html>
4. **Taylor, T. A.H.** Learning Microbiology and Infectious Diseases: Clinical Case Prep for the [Электронный ресурс] / T. A.H. Taylor, D. Baxa, M. Sims. - [Б. м.] : Thieme, 2020. - URL: [https://medone-education.thieme.com/ebooks/cs\\_11090573#/ebook\\_cs\\_11090573\\_cs78](https://medone-education.thieme.com/ebooks/cs_11090573#/ebook_cs_11090573_cs78)
5. **Medical Microbiology, Virology, Immunology** [Электронный ресурс] : textbook.; 2 vol.; Vol. 2 / V. V. Zverev, M. N. Boichenko. - Москва : ГЭОТАР-Медиа, 2020. - 392 с. - URL: <https://www.studentlibrary.ru/ru/book/ISBN9785970457191.html>

### 8.2. Supplementary literature

1. **Workbook on discipline "Microbiology, virology"** [Электронный ресурс] : for students in the field of training 31.05.01 - General Medicine / comp. G. V. Simonova [и др.]. - Архангельск : Изд-во Северного государственного медицинского университета, 2020. - 102 с. - URL: [http://nb.nsmu.ru/cgi-bin/irbis64r\\_11/cgiirbis\\_64.exe?LNG=&Z21ID=&I21DBN=ELIB&P21DBN=ELIB&S21STN=1&S21REF=3&S21FMT=fullweb&C21COM=S&S21CNR=20&S21P01=0&S21P02=1&S21P03=I&S21STR=elb/W83-988002](http://nb.nsmu.ru/cgi-bin/irbis64r_11/cgiirbis_64.exe?LNG=&Z21ID=&I21DBN=ELIB&P21DBN=ELIB&S21STN=1&S21REF=3&S21FMT=fullweb&C21COM=S&S21CNR=20&S21P01=0&S21P02=1&S21P03=I&S21STR=elb/W83-988002)
2. **Thieme Test Prep for the USMLE®: Medical Microbiology and Immunology** [Электронный ресурс] / M. Harriott, M. Swanson-Mungerson, S. Ragheb, M. Jackson. - New York : Thieme, 2019. - URL: [https://medone-education.thieme.com/ebooks/2439321?fromSearch=true&context=search#/ebook\\_2439321\\_SL91224481](https://medone-education.thieme.com/ebooks/2439321?fromSearch=true&context=search#/ebook_2439321_SL91224481)

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

№	Resources	URL address	Resource Annotation
1	EBS "Student's Consultant" HPE, SPO.	<a href="http://www.studentlibrary.ru/">http://www.studentlibrary.ru/</a>	Sets: Medicine. Healthcare. Humanities and social sciences. Natural Sciences

		<a href="http://www.studmedlib.ru/">http://www.studmedlib.ru/</a> <a href="http://www.medcollegelib.ru/">http://www.medcollegelib.ru/</a>	Access is activated through registration on any computer of the university.
2	Scientific electronic library eLIBRARY.RU	<a href="http://www.elibrary.ru">http://www.elibrary.ru</a>	Open resource

#### 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	<a href="#">Microbiology, virology</a> The authors are teachers of the department  <a href="#">2 к_1660_2кPm_ogy</a>	web-based training

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

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	Training room for laboratory and practical classes	№2629	Number of seats -16 microscopes, micropreparations, biological products, laboratory glassware, spirit-lamps, bacteriological loops, tools, nutrient mediums, reactants, Notebook Samsung p28, Multimedia projector
2	Training room for laboratory and practical classes	№ 2611	Number of seats -16 microscopes, micropreparations, biological products, laboratory glassware, spirit-lamps, bacteriological loops, tools, nutrient mediums, reactants, Notebook Samsung p28, Multimedia projector
3	Training room for laboratory and practical classes	№ 2627	Number of seats -16 microscopes, micropreparations, biological products, laboratory glassware, spirit-lamps, bacteriological loops, tools, nutrient mediums, reactants, Notebook Samsung p28, Multimedia projector
4	Training room for laboratory and practical classes	№ 2612	Number of seats -16 microscopes, micropreparations, biological products, laboratory glassware, spirit-lamps, bacteriological loops, tools, nutrient mediums,

			reactants, Notebook Samsung p28, Multimedia projector
5	Training room for laboratory and practical classes	№ 2613	Number of seats -14 microscopes, micropreparations, biological products, laboratory glassware, spirit-lamps, bacteriological loops, tools, nutrient mediums, reactants/



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APPROVED

Dean of the International Faculty  
of General Practitioner



A.K. Sherstennikova

June 16<sup>th</sup> 2021

**SYLLABUS OF THE DISCIPLINE**

Discipline **Pathological anatomy**

Field of training **31.05.01 General Medicine**

Year (s) of study / term (s) **3 / 5, 6**

Form of the interim assessment **Examination**

Department **of Pathological anatomy, forensic medicine and law**

Discipline workload **252** (academic hours) / **7** (credits)

Approved at the department meeting

Minutes No.

June 15<sup>th</sup> 2021

Head of the department



Ivshin Ilya Valerianovich

**Author and compiler:**

Gladkov Sergei Anatolevich, PhD., associate professor of the Department of pathological anatomy, forensic medicine and law

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: medical biology and genetics; general and organic chemistry; medical and biological physics; histology, cytology and embryology; normal physiology and restorative medicine; biomedical chemistry; microbiology, virology, immunology.

The discipline is related to subsequent subjects of the curriculum: pharmacology, hygiene, internal diseases, surgical diseases, infectious diseases, dermatovenerology, psychiatry and narcology, pediatrics.

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

### 2. Goal and tasks of the mastering of the discipline

The goal of mastering the discipline – training of students to carry out professional activities in the field of providing primary health care to the population in medical organizations (polyclinics, outpatient clinics, inpatient polyclinic institutions of the municipal health system and medical and preventive institutions providing primary health care to the population): formation of students' universal, general professional and professional competencies in the field of theoretical medicine to study general patterns and specific mechanisms of occurrence, the development and outcomes of pathological processes, individual diseases and painful conditions occurring in the body; the study of clinical and morphological features of evaluating the results of the study of biopsy, surgical and sectional (autopsy) material, mastering the basic postulates of the doctrine of diagnosis, familiarization with the practical activities of a pathologist in medical institutions.

Tasks of the discipline:

1. Formation of knowledge about morphofunctional, physiological conditions and pathological processes in the human body; algorithm and rules for conducting modern laboratory and instrumental studies, morphological analysis, biopsy, surgical and sectional material.
2. Formation of skills for assessing morphofunctional, physiological and pathological processes in the human body, analyzing the results of modern laboratory and instrumental studies, morphological analysis, biopsy, surgical and sectional material.
3. Formation of proficiency in determining 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.

### 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 assess morphofunctional, physiological conditions and pathological processes in the human body to solve professional problems	AI-1. Knows anatomy, histology, topographic anatomy, physiology, pathological anatomy and physiology of human organs and systems. AI-2. Able to identify and evaluate morphofunctional, physiological states and pathological processes in the human body. AI-4. Able to analyze the results of clinical, laboratory and functional diagnostics to assess morphofunctional, physiological conditions and pathological processes in the human body.

Professional competencies *(PC)- № 2 The ability and willingness to conduct a patient examination in order to establish a diagnosis	AI-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.
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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	
		5	6
<b>Students' contact work with the teacher (total)</b>	<b>110,3</b>	<b>48</b>	<b>62,3</b>
Including:			
Lectures (L)	34	16	18
Seminars (Sem.)			
Practical classes (PC)	74	32	42
Clinical practicals (CP)			
Laboratory-based practicals (LBP)			
Simulation-based practicals (SBP)			
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)	<b>108</b>	<b>60</b>	<b>48</b>
Examination control (EC)	33,7		33,7
<b>Total discipline workload</b>	<b>252/7</b>	<b>108</b>	<b>144</b>

#### 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.	General pathological anatomy	<p>Topic 1. Cell Injury (Reversible cell injury I)</p> <p>Topic 2. Extracellular Pathology.</p> <p>Amyloidosis (Reversible cell injury II).</p> <p>Topic 3. Disturbances of pigment and mineral metabolism (Reversible cell injury III).</p> <p>Topic 4. Cell death (Necrosis. Apoptosis).</p> <p>Topic 5. Hemodynamic Disorders.</p> <p>Topic 6. Inflammation.</p> <p>Topic 7. Diseases of the Immune System.</p> <p>Topic 8. Tissue Repair: Regeneration, Healing, and Fibrosis.</p> <p>Topic 9. Neoplasia I (The theory of tumors. Tumours of the epithelium).</p> <p>Topic 10. Neoplasia II (Mesenchymal tumors; tumors of melanin forming tissues; tumors of nervous system and the meninges)</p>

		Topic 11. Neoplasia III (Tumours of the blood
2.	Special pathological anatomy	Topic 12. Atherosclerosis. Hypertensive vascular disease. Topic 13. Ischemic Heart Disease. Cerebrovascular disease. Topic 14. Rheumatic diseases (Collagenoses). Topic 15. Diseases of the Respiratory system Topic 16. Diseases of the Gastrointestinal Tract. Intestinal infections. Topic 17. Diseases of the Liver. Diseases of the Gallbladder & Pancreas. Topic 18. Diseases of the Kidney. Topic 19. Diseases of the Genital System, Breast, pregnancy, childbirth and the postpartum period Topic 20. Diseases of the Endocrine System. Topic 21. Acute respiratory viral infections, bacterial airborne infections. Topic 22. Tuberculosis. Topic 23. Sepsis.
3.	Fundamentals of clinical pathological anatomy	Topic 24. Pathoanatomical autopsy

## 5.2. Sections and types of studies

No.	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
1.	General pathological anatomy	12	-	33	-	-	-	42	87
2.	Special pathological anatomy	22	-	36	-	-	-	54	112
3.	Fundamentals of clinical pathological anatomy	2	-	3	-	-	-	12	17

## 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 pathological anatomy	Preparation of essays on the topic: 1. The death, the signs of death, post-mortem changes.	a report of the essay
		2. Genetic diseases.	a report of the essay
		3. Storage diseases.	a report of the essay
		4. Pathology of the cell nucleus	a report of the essay
		5. Pathology of cytoplasm	a report of the essay
		6. Apoptosis	a report of the essay
		7. Lymphatic circulation disorders	a report of the essay

		8. Accidental involution of the thymus gland	a report of the essay
		9. Hypersensitivity reactions	a report of the essay
		10. Primary immunodeficiency syndromes	a report of the essay
		11. Sclerosis	a report of the essay
		12. Tumors of exocrine glands, epithelial integuments	a report of the essay
		13. Tumors of the endocrine glands	a report of the essay
		14. Tumors of the peripheral nervous system	a report of the essay
2.	Special pathological anatomy	Preparation of essays on the topic:	a report of the essay
		1. Anemia.	a report of the essay
		2. Thrombocytopenia and thrombocytopathy.	a report of the essay
		3. Endocarditis. Heart defects. Myocarditis. Cardiomyopathy.	a report of the essay
		4. Vasculitis	a report of the essay
		5. Diseases of the intestine.	a report of the essay
		6. Tumors of the gallbladder and pancreas.	a report of the essay
		7. Diseases of bile ducts.	a report of the essay
		8. Diseases of the urinary tract.	a report of the essay
		9. Tumors of kidney.	a report of the essay
		10. Tumors of genital organs	a report of the essay
		11. Diseases of the skin.	a report of the essay
		12. Diseases of the musculoskeletal system.	a report of the essay
		13. Diseases of the central nervous system, peripheral nerves.	a report of the essay
		14. Diseases of the eye and ear.	a report of the essay
		15. HIV-infection.	a report of the essay
		16. Quarantine infections.	a report of the essay
		17. Fungal infections (mycoses).	a report of the essay
		18. Diseases caused by protozoa and helminths.	a report of the essay
3.	Fundamentals of clinical pathological anatomy	Preparing for roleplay "Student clinical-anatomical conference" on analysis of the death case.	a report, a group discussion

## 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 (examination)

#### Stages of the interim assessment

#### Stages of examination

1. Stage - verification of theoretical knowledge - test control with the use of examination papers.
2. Stage - testing the practical skills (diagnosis of macropreparations and micropreparations).

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. Earl J. Brown. Pathology PreTest Self-Assessment and Review 13th Edition. - The McGraw-Hill, 2010.
2. Kumar V. Pathologic Basis of Disease [Text] Vol. I: учебное пособие/ V. Kumar. -Б.м., 2014. - 1391 p.-ISBN 978-1-4557-2613-4.-ISBN 978-81-312-3902-5, Б.ц
3. Kumar V. Pathologic Basis of Disease [Text] Vol. II: учебное пособие/ V. Kumar. -Б.м., 2014. - 1391 p.-ISBN 978-81-312-3902-5.-ISBN 978-1-4557-2613-4, Б.ц
4. Short lectures on pathology (pathological anatomy)/ Crimean state medical university named after S.I. Georgievsky; Ed. Zagoroulko A.K.. -2th. ed.. -Simferopol: Crimea, 2002. -222 ,[1] p.
5. Zagoroulko A. Digest on pathomorphology/ A. Zagoroulko, T. Filonenko; Crimean medical university named after S.I. Georgievsky. -Simferopol, 2007. -519 p.
6. Pathology: in 2 v...: [textbook](#) for med. universities / ed. by M.A. Paltseva, V.S. Paukova V.2. - M.: GEOTAR - Media, 2010 - 485: ill., col.ill.
7. Pathology: in 2 v...: [textbook](#) for med. universities / ed. by M.A. Paltseva, V.S. Paukova V.1. - M.: GEOTAR - Media, 2010 - 512 p: ill., col.ill.
8. Strukov A.I. Pathological anatomy: textbook / A.I. Strukov, V.V. Serov. - 5th ed., - M.: Litterra, 2010. - 846: ill., 4 p. col. ill.

### 8.2. Supplementary literature

1. Kovrov, K.N. Guidelines for students on discipline "Pathology" [Text]: a method. instr. / K.N. Kovrov, O.V. Horeva; North. state med. univ. - Arkhangel: NSMU. - 2009 Part 1: General pathological anatomy: the method. instr. / North. state med. univ; auth. comp.: K.N. Kovrov, O.V. Horeva. - Archangel: NSMU, 2009. - 27 p.
2. Kovrov, K.N. Guidelines for students on discipline "Pathology" [Text]: a method. instr. / K.N. Kovrov, O.V. Horeva; North. state med. univ. - Arkhangel: Publ. NSMU, 2010 - P. II: Special pathological anatomy. - 2010. - 35,[1] p.
3. Milovanov, A.P. Pathological analysis of the causes of maternal deaths [Text] / A.P. Milovanov. - M.: Medicine, 2003. - 76 p.
4. Paltsev M.A. Atlas of Pathological Anatomy / M.A. Paltsev, A.B. Ponomarev, A.V. Berestova. - M.: Medicine, 2003. - 422 p.: ill.
5. Paltsev M.A. Guide on biopsy-sectional course: tutorial for medical students of med. universities / M.A. Paltsev, V.L. Kovalenko, N.M. Anichkov. - 2nd ed., Sr. - M.: Medicine, 2004. - 254 p.: ill.
6. Paltsev, M.A. Guide on biopsy-sectional course [Text]: tutorial for medical students. / M.A. Paltsev, V.L. Kovalenko, N.M. Anichkov. - 2nd ed., Sr. - M.: Medicine, 2004. - 254 p.: ill.
7. Povzun S.A. Pathological anatomy in questions and answers. - SPb.: Piter Kom, 1998. - 352 p.
8. Rykov, V.A. Reference book of a pathologist [Text]: a reference book/ V.A. Rykov. - Rostov n / D.: Phoenix, 2004. - 254, [2] p.

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

№	Resources	URL address	Resource Annotation
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1	Pathological anatomy [electronic resource]: textbook / A.I.Strukov, V. V. Serov. - 6 th ed., Rev. and add. -Moscow: GEOTAR Media, 2015. - 846: ill., 4 l. col. ill. -	<a href="http://www.studentlibrary.ru/book/ISBN9785970435519.html">http://www.studentlibrary.ru/book/ISBN9785970435519.html</a>	A textbook for medical students containing questions of general and private pathology.
2	Pathological anatomy: atlas [electronic resource]:a textbook for medical students and postgraduate education / Ed. O.V. Zairatyants. - Moscow: GEOTAR Media, 2012. -960 p .:ill.	<a href="http://www.studentlibrary.ru/book/ISBN9785970427804.html">http://www.studentlibrary.ru/book/ISBN9785970427804.html</a>	Atlas for students of medical universities and postgraduate education, containing micrographs of issues of general and private pathology.
3	Special pathological anatomy: a guide to practical exercises for medical faculties [electronic resource]: a manual / Ed .: O.V. Zairatyants, L.B. Tarasova. - 2-Ed., Rev. and add. - Moscow: GEOTAR Media, 2013. - 404 p .: ill.	<a href="http://www.studentlibrary.ru/book/06-COS-2387.html">http://www.studentlibrary.ru/book/06-COS-2387.html</a>	A guide to practical classes in pathological anatomy for medical students, containing questions of private pathological anatomy.
4	Pathology: a guide [electronic resource]: / ed. by M.A. Paltsev, V.S. Paukov V.2. - M .: GEOTAR - Media, 2015. – 2500 p.	<a href="http://www.rosmedlib.ru/book/06-COS-2369.html">http://www.rosmedlib.ru/book/06-COS-2369.html</a>	A guide contains questions of general and private pathological anatomy.
5	Pathological anatomy in questions and answers [Electronic resource]: textbook / S. A. Povzun. - 2nd ed., reprint. and add. - Moscow : GEOTAR-Media, 2016. - 176 p.	<a href="http://www.studentlibrary.ru/book/ISBN9785970436394.html">http://www.studentlibrary.ru/book/ISBN9785970436394.html</a>	A textbook containing basic questions and answers on general and private pathological anatomy.

#### 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
	Moodle	Name: 3 cours English medium Pathological anatomy Author: Gladkov Sergei Anatolevich, PhD., associate professor of the Department of pathological anatomy, forensic medicine and law URL address: <a href="https://edu.nsmu.ru/course/view.php?id=590">https://edu.nsmu.ru/course/view.php?id=590</a>	web support, mixed learning +EC

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

MS Windows Prof 7, MS Office 2007

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

No.	Name of the study room	Location of the study room	List of the main equipment of the study room
1	Classroom for practical classes №216	Sibiryakovtsev road, 2, building 3, office № 216	Seats: 40 Gross view (575), microslides (334). Visual aids (sets of tables for all sections of the discipline), Microscopes.

2	Classroom for practical classes №214	Sibiryakovtsev road, 2, building 3, office № 214	Seats: 24 Visual aids (sets of tables for all sections of the discipline), Microscopes.
3	Classroom for practical classes №213	Sibiryakovtsev road, 2, building 3, office № 213	Seats: 24 Visual aids (sets of tables for all sections of the discipline), Microscopes.
4	Classroom for practical classes №212	Sibiryakovtsev road, 2, building 3, office № 212	Seats: 14 Visual aids (sets of tables for all sections of the discipline), Microscopes.
5	Class for group consultations and current control (computer classroom)	Sibiryakovtsev road, 2, building 3, office № 211	Computers (3), laptop (1), a digital microscope with camera (1).



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 16<sup>th</sup> 2021

**SYLLABUS OF THE COURSE (MODULE)**

Course **Pathophysiology**

Training field **31.05.01 General Medicine**

Year of study / term(s) **3 / 5,6**

Form of the interim assessment **Examination**

Department **of pathological physiology**

Course workload **288** (hours) / **8** (credits)

Approved at the department meeting:

Minutes No 9

«15» June 2021

Head of the department



Solovieva N.V.

**Author and compiler:**

Solovieva Natalia Vladislavovna Staff department, doctor of medicine science, docent

Last name, first name, patronymic name, academic degree, academic title, position

Arkhangelsk, 2021

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

The program is drawn up following the requirements of the Federal State Education Standard (FSES) in the training field:

(A section (package) of the educational program with the course coming under is to be indicated. There should be a list of courses for which mastering of the course is a necessary prerequisite).

Discipline "Pathophysiology" refers to the cycle of mathematics, natural sciences, specialty "Medicine" higher professional medical education, taught in the fifth, sixth, seventh semester.

Basic knowledge necessary for studying the discipline form:

- in the cycle of humanitarian, social and economic disciplines (philosophy, bioethics, jurisprudence, history of medicine, Latin);
- in a series of mathematical, natural sciences: physics, mathematics; medical informatics; chemistry; biology; biochemistry; Anatomy; topographical anatomy and operative surgery; histology, embryology, cytology; normal physiology; microbiology; immunology;
- in a series of professional disciplines: health; life safety, disaster medicine.

It is prior to study disciplines: public health and health care, health economics; epidemiology; medical rehabilitation; Dermatology; psychiatry, medical psychology; otolaryngology; ophthalmology, forensic science; obstetrics and gynecology; pediatrics; faculty therapy, occupational diseases; Hospital therapy, endocrinology; infectious diseases; phthisiology; polyclinic therapy; anesthesiology, intensive care, intensive therapy; Faculty surgery, urology; Hospital surgery, pediatric surgery; oncology, radiation therapy; traumatology, orthopedics, propaedeutics internal medicine, X-ray diagnostics; general surgery, X-ray diagnostics; dentistry; neurology, medical genetics, neurosurgery.

## **2.Goal and tasks of the mastering of the course**

The purpose of mastering the discipline is to prepare students to carry out professional activities in the field of health protection, to effectively solve professional medical tasks based on pathophysiological analysis of data on pathological processes, conditions, reactions and diseases using knowledge about general regularities and mechanisms of their occurrence, development and completion, as well as to form principles (algorithms, strategy) and methods of their detection, treatment and prevention.

Tasks of the discipline:

- formation of knowledge about the etiology, pathogenesis, principles of detection, treatment and prevention of the most significant pathological processes and diseases;

- formation of skills to conduct pathophysiological analysis of data on pathologic syndromes, pathological processes, forms of pathology and individual diseases;
- formation of skills of clinical thinking and rational actions of the patient;

### 3.The planned results of the development of the educational program provided by the discipline

codes of formed competencies / formulations of competencies	Competence Achievement Indicator
GPC-5. It is able to evaluate morphofunctional, physiological states and pathological processes in the human body for solving professional tasks	<p>ID-1. He knows anatomy, histology, topographic anatomy, physiology, pathological anatomy and physiology of human organ systems.</p> <p>ID-2. It is able to determine and evaluate morphofunctional, physiological states and pathological processes in the human body</p> <p>ID-4 is able to analyze the results of clinical, laboratory and functional diagnostics to assess morphofunctional, physiological conditions and pathological processes in the human body.</p>

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

Total workload of the course is 8 credits.

Type of the academic work	Total hours	Term	
		5	6
<b>Students' contact work with the teacher (total)</b>	<b>128,3</b>	<b>64</b>	<b>64.3</b>
Including:			
Lectures (L)	42	22	20
Seminars (Sem.)			
Practical classes (PC)	84	<b>42</b>	<b>42</b>
Clinical practicals (CP)			
Laboratory-based practicals (LBP)			
Simulation-based practicals (SBP)			
Preparation for the examination (PE)			
Preparation for the credit (PC)	0,3		0,3
Exam consultations (EC)	2		2
Coursework (CW)			
Unsupervised work (UW) (total)	<b>126</b>	<b>80</b>	<b>46</b>
Examination control (EC)	33,7		33,7
<b>Total discipline workload</b>	<b>288/8</b>	<b>144</b>	<b>144</b>

## 5. Content of the course:

### 5.1. Content of the sections of the course

No	Name of the course section	Content of the section
1	2	3
2	<p>The subject matter of Pathophysiology. Nosology</p> <p>Etiology and pathogenesis.</p>	<p>The notion of "nosology", parts nosology. The notions of "pathologic process", pathologic state", "pathologic reactions", "typical pathologic processes", "remission", "recurrence", "complication". Disease, definition. Principles used in classification of diseases. Stages of disease.</p> <p>Etiology, definition. The nature and characteristics of pathogenic factors. Factors of diseases: environmental, genetic, social. The relation between causes and conditions in the development of diseases. The notions of "pathogenesis", "vicious circles".</p>
3.	DISORDERS OF THE REGIONAL CIRCULATION AND MICROCIRCULATION	<p>Arterial hyperemia: definition, causes, types (physiologic and pathologic), mechanisms (neurogenous, neuromyoparalytic and humoral) and consequences. Reactive hyperemia. Manifestations of arterial hyperemia and its mechanisms.</p> <p>Venous hyperemia: definition, causes and consequences. Manifestations of venous hyperemia and their mechanisms.</p> <p>Ischemia: definition, causes and consequences. Manifestations of ischemia and their mechanisms, factors that influence on the consequences of ischemia.</p> <p>Stasis: types and causes.</p> <p>Sludge syndrome: types, causes, and mechanisms.</p>
4.	INFLAMMATION	<p>Definition and significance of inflammation. Causes of inflammation. Primary and secondary alteration in the focus of acute inflammation: causes, mechanisms of development, manifestation. Physico-chemical changes in the focus of inflammation. Exudation. Definitions of an exudate and transudate. Sequence and mechanisms of vascular changes in acute inflammation. Inflammatory mediators that influence on these processes. Phagocytosis: stages. Local and systemic signs of inflammation. Nature and effects of inflammatory mediators: vasoactive amines, complement, kinin, and clotting systems, arachidonic acid metabolites, platelet-derived factor, cytokines and chemokines, nitric oxide, lysosomal constituents. General features of acute and chronic inflammation.</p>
5.	DISORDERS OF THERMOREGULATION. FEVER.	<p>Definition of fever. Differences between fever and hyperthermia. Types of pyrogens. The biological significance of fever. Pathogenesis of fever. Features of thermoregulation at different stages of fever. Types of fever: - based on the extent of temperature rise;- based on the circadian temperature fluctuations.</p>

		Exertional hyperthermia: causes, mechanisms. Definition of hypoxia and its classification.
6.	REACTIVITY. Typical forms of disorders of immunological reactivity	Reactivity of the body and its role in the development of disease. Forms and types of reactivity. Typical forms of disordered immunologic reactivity. Principles of classification of immunodeficiency states. Primary immunodeficiencies: classification and clinical manifestations. Forms of primary immunodeficiency (causes, mechanisms, clinical manifestations): a) B system-dependent; T system-dependent; combined. Secondary (acquired) immunodeficiency states. AIDS
7.	ALLERGY	The notion of the "allergy". Types of allergens. Exogenous and endogenous allergens. Stages of allergy.a) Immunologic stage.b) Pathochemical stage.c) Pathophysiological stage. Anaphylactic (I) type of allergy. The nature of allergen and antibody. Mediators of the anaphylactic reaction. Type II hypersensitivity. The nature of allergen and antibody. Mechanisms and clinical examples of type II allergies. Type III hypersensitivity. The nature of allergen and antibody.Mechanisms and clinical examples of type III allergies. Systemic and local immune complex disease. Type IV hypersensitivity. The nature of allergen and antibody.
8.	DISORDERS OF CARBOHYDRATE METABOLISM. DIABETES MELLITUS.	Hypoglycemia: causes and mechanisms. Hypoglycemic coma. Hyperglycemia: causes and mechanisms. Diabetes mellitus: characteristic features, classification, pathogenesis of type I and type II forms. Metabolic disorders (carohydrate, protein, lipid) in diabetes mellitus. Complications of diabetes mellitus (chronic and acute). Ketoacidotic coma.
9.	DISORDERS OF LIPID METABOLISM. ATHEROSCLEROSIS.	The main classes of lipoproteins and their functions. Atherogenic and antiatherogenic lipoproteins. Mechanisms of hyperlipidemia. Obesity: definition, diagnostic approaches, pathological significance. Types and pathogenesis of obesity. Atherosclerosis: description and pathological features. Risk factors of atherosclerosis. Stages of atherogenesis:- initiation;- formation and evolution of atheroma;- complications.
10.	WATER DYSBALANCE. EDEMA.	Hypohydration: causes, types, mechanisms of development, manifestations, consequences, and prnciples of treatment. Overhydration: causes, types, mechanisms of development, manifestations, consequences, and prnciples of treatment. Edema: definition, types, the main factors of development, principles of treatment. Edema during cradiac failure: etiology, pathogenesis, and manifestations. Renal edema: etiology, pathogenesis, manifestations, and consequences.

11.	DISORDERS OF THE TISSUE GROWTH. NEOPLASMS.	Definition of neoplasms. Principles of classification of neoplasms. Forms of neoplastic cell abnormality. Characteristic features of benign and malignant tumors. Genetic hypothesis of cancer; classes of genes that incur mutations during neoplastic transformation of a cell. The concept of oncogenes. Mechanisms of transformation of protooncogene to oncogene. Role of antioncogenes in carcinogenesis. Role of genes that regulate DNA repair in carcinogenesis. Chemical carcinogenesis: types of carcinogens; initiation and promotion. Radiation carcinogenesis. Viral carcinogenesis. The concept of tumor progression. Antineoplastic mechanisms. Principles of prevention and treatment of neoplastic diseases.
12.	EMERGENCY STATES	Shock: characteristics, types, etiology, pathogenesis, manifestations, principles of treatment. Coma: characteristics, types, etiology, general pathogenesis, manifestations, principles of treatment.
13.	PATHOPHYSIOLOGY OF ENDOCRINE SYSTEM	General etiology and pathogenesis of endocrine disorders. Typical forms of functional pathology of adenopituitary. Hypopituitarism: types, causes, mechanisms of development and manifestations. Hyperpituitarism: types, causes, mechanisms of development and manifestations. Acromegaly and gigantism. Typical forms of disorders of neurohypophysis. Diabetes insipidus. Typical forms of adrenals' dysfunction. Hypercortisolism: types, pathogenesis and manifestations. Cushing's disease and syndrome, hyperaldosteronism. Hypocortisolism: types, pathogenesis and manifestations. Acute adrenal failure and Addison's disease, hypoaldosteronism, syndromes of adrenal androgen excess. Disorders of adrenal's medulla. Manifestations and consequences of pheochromocytoma. Synthesis and control of secretion of thyroid hormones. Physiological effects of thyroid hormones. Hypothyroidism: types, causes, mechanisms of development and clinical manifestations. Common hypothyroid states: myxedema, cretinism, endemic goiter. Hyperthyroidism: types, causes, mechanisms of development and clinical manifestations. Pathogenesis and manifestations of Grave's disease, Hashimoto's thyroiditis.
14.	PATHOPHYSIOLOGY OF THE RED BLOOD CELLS SYSTEM. ANEMIA.	Definition of anemia and its classification. Anemias of blood loss: types, causes, hematological signs. Hemolytic anemias: types, common causes, manifestations, hematological signs. Hereditary spherocytosis: pathogenesis, manifestations, hematological signs. Sickle cell disease: pathogenesis, manifestations, hematological signs. Thalassemia syndromes: types, pathogenesis, manifestations,

		<p>hematological signs. B12 (Megaloblastic) anemia: causes, pathogenesis, manifestations, hematological signs. Iron deficiency anemia: causes, pathogenesis, manifestations, hematological signs. Aplastic anemia: causes and pathogenesis, hematological signs. Erythrocytosis: causes and mechanisms</p>
15.	<p>PATHOPHYSIOLOGY OF THE WHITE BLOOD CELL SYSTEM. LEUKOCYTOSIS, LEUKOPENIA. MALIGNANCIES OF HEMATOPOIETIC CELLS. LEUKEMIA</p>	<p>Leukopenia: definition and causes. General mechanisms of leukopenia. Patterns of shift to the right. Leukocytosis: causes and mechanisms. Types of leukocytosis; patterns of shift to the left. Leukemoid reactions: typical features, causes, mechanisms of development, physiologic significance. Typical features, types, etiology, and general pathogenesis of hematopoietic cell tumors. Leukemia: general characteristics, causes, classification and mechanisms of development. Characteristics of the leukemic reaction of the peripheral blood; types of leukemic reaction. Lymphoid tumors: pathological basis, clinical manifestations, and peripheral blood picture in acute lymphoblastic leukemia and chronic lymphocytic leukemia. Myeloid tumors: classification, pathological basis, clinical manifestations, and peripheral blood picture in acute myeloblastic leukemia and chronic myelogenous leukemia. Phenomenon of tumor progression in hematopoietic cell tumors.</p>
16.	<p>PATHOPHYSIOLOGY OF HEMOSTASIS</p>	<p>The system of hemostasis: components and their function. Typical forms of pathology of the hemostatic system. Thrombotic syndrome: its main causes, mechanisms of development, manifestations and consequences. Hemorrhagic syndrome: causes, mechanisms of development, manifestations and consequences. Causes and mechanisms of thrombocytopenia and thrombocytopathia. Abnormalities in clotting factors. Hemophylia. The syndrome of disseminated intravascular coagulation: stages, mechanisms of development, manifestations and consequences.</p>

17.	Disorders of cardio-vascular system	<p>Definition of coronary insufficiency. The main causes of coronary insufficiency. Adaptive mechanisms developing during acute and chronic coronary insufficiency.</p> <p>The syndromes of coronary insufficiency: angina pectoris, myocardial infarction, chronic ischemic heart disease, sudden coronary death.</p> <p>Definition, general causes and classification of heart failure. Myocardial and nonmyocardial cardiac insufficiency. Adaptive reactions during acute and chronic heart failure: Frank-Starling mechanism, myocardial hypertrophy, redistribution of cardiac output, salt and water retention, activation of the sympathetic system. Pathogenesis of the myocardium decompensation during hypertrophy. Hemodynamic abnormalities in heart failure. Clinical features of heart failure: the syndromes of cardiac edema and cachexia.</p> <p>Definition and principles of classification of arterial hypertension. Renal arterial hypertension: pathogenesis of renovascular, renovascular, renal parenchymal hypertension. Pathogenesis of endocrinogenic arterial hypertension. Essential hypertension: etiology and pathogenesis.</p>
18.	PATHOPHYSIOLOGY OF RESPIRATORY SYSTEM HYPOXIA	<p>Alveolar hyper- and hypoventilation: causes, mechanisms of development, consequences, and typical changes in breathing volumes. Disorders of the neurogenic control of breathing. Pathological forms of breathing. Types and consequences of perfusion disorders: pulmonary arterial hyper- and hypotension. Types and mechanisms of ventilation-perfusion mismatch. Abnormal diffusive capacity of the alveolar-capillary barrier.</p> <p>Definition of hypoxia and its classification. Exogenous hypoxia: causes, types and typical changes.</p> <p>Respiratory hypoxia: causes, types and typical changes in the given type of hypoxia. Anemic hypoxia: causes, types and typical changes. Circulatory hypoxia: causes, types and typical changes. Histotoxic and substrate types of hypoxia: causes, types and typical changes. Adaptive reactions in acute hypoxia.</p> <p>Mechanisms of long-term adaptation to hypoxia.</p>
19.	PATHOPHYSIOLOGY OF KIDNEY	<p>General causes and mechanisms of kidneys dysfunction. Disorders of filtration, tubular reabsorption and excretion. Syndromes of acute renal insufficiency: typical features, causes and manifestations.. Syndromes of chronic renal insufficiency: typical features, causes and manifestations. Uremic coma. Nephrotic and nephritic syndromes: typical features, causes and manifestations. Pyelonephritis: characteristic features, causes and pathogenesis. Nephrolithiasis: causes, mechanisms of development, consequences.</p>



20.	PATHOPHYSIOLOGY OF DIGESTION PATHOPHYSIOLOGY OF THE LIVER. JAUNDICE.	<p>Typical forms of functional pathology of the digestive tract: general etiology. Disorders of appetite, taste, and initial treatment of food in the oral cavity. Disorders of swallowing: dysphagia, achalasia, diffuse esophageal spasm. Disorders of digestion in the stomach: disturbance of secretory and motor function. Disorders of digestion in the intestine: disturbance of secretion, motor function, and absorption. The syndrome of malabsorption: etiopathogenesis, manifestations and consequences. Typical disorders of cavity digestion: causes, manifestations.</p> <p>Typical disorders of parietal digestion: causes, manifestations. Pathogenesis of peptic ulcer of the stomach and duodenum ulcers</p> <p>General causes of liver dysfunction. The syndrome of hepatic insufficiency. Causes, types and pathogenesis of hepatic coma. The syndrome of hepatic insufficiency. Typical disorders of carbohydrate, aminoacid, protein, and lipid metabolism in hepatic insufficiency; failure of detoxification function.</p> <p>Hemolytic jaundice: causes, mechanisms, clinical and laboratory manifestations. Obstructive jaundice: types, causes, mechanisms, clinical and laboratory manifestations, consequences. Hepatocellular jaundice: causes, mechanisms, stages, clinical and laboratory manifestations.</p>
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## 5.2. The number of hours allocated for the study of individual sections of the discipline and types of classes

№	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
	2	3	4	5	6	7	9	8	10
1	The subject matter of Pathophysiology. Nosology Etiology and pathogenesis.	2	6					14	22
2	Disorders of regional circulation and micro circulation Inflammation. Disorders of thermoregulation. Fever.	4	9					24	37
3	test1	0	3						3
4	Reactivity.	4	6					22	32

5	Typical forms of disorders of ummunologic reactivity Allergies.								
	test 2	0	3						3
6	Derangements of carbohydrate metabolism. Derangements of lipid metabolism. Athrosclerosis. Disorders of water exchange. Edema.	6	6					24	36
7	Test3	0	3						3
8	Abnormal tissue growth. Tumors.	2	3					12	17
9	<b>Final test</b>	0	3						3
10	Emergency states.	2	3					4	9
11	Pathophysiology of the endocrine system	2	3					4	9
12	Test 4	0	3						3
13	Pathophysiology of the red blood cell system Pathophysiology of the white blood cell system Pathophysiology of hemostasis	6	9					8	23
14	Test 5	0	3						3
15	Pathophysiology of cardio-vascular system Typical disorders of respiratory dysfunction. Hypoxia.	8	9					8	25
16	Test 6		3						3
16	Pathophysiology of digetion. Pathophysiology of liver. Pathophysiology of kidneys.	6	6					6	18
17	<b>Final test</b>	0	3						3
18	Contact work during examination	0,3							0,3

	Consaltations for examination								2
19	Control								33,7
20	<b>Total workload (hours)</b>	42	84					126	288

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

<b>№</b>	<b>Name of the course section</b>	<b>Types of the unsupervised work</b>	<b>Forms of control</b>
1.	Basic Concepts general nosology.	Reports on "General nosology, the doctrine of the disease" Nosology (MOODLE)	test test
2.	Reactivity and resistance of the body. Immunopathology. Allergies.	Reports on topics: reactivity, immunopathology, allergies Allergies (MOODLE)	test
3.	Microcirculatory disorders. Inflammation. Violations heat balance Fever.	Reports on topics: peripheral circulatory disorders, inflammation, disorders of thermoregulation	test
4.	Typical forms of metabolic disorders.	Presentations on the topic of metabolic disorders. Summary on the topic: a metabolic disorder Disorders of water exchange. Edema. (MOODLE) Derangements of lipid metabolism Athrosclerosis (MOODLE)	test
5.	Damage to the cells. Typical violations of tissue growth. Tumors.	Reports on the subject: pathological tissue growth Abnormal tissue growth Tumors. (MOODLE)	test
6.	Emergency state Pathophysiology of the endocrine system.	Reports on the themes: the pathophysiology of the endocrine systems, emergency states (MOODLE)	test
7.	Typical forms of disease of the blood system. Typical forms of disturbances in the hemostatic system.	Reports on topics: Pathophysiology of blood hemostasis Pathophysiology of the red blood cell system(MOODLE) Pathophysiology of the white blood	test

		cell system(MOODLE) Pathophysiology of hemostasis (MOODLE)	
8.	Typical forms of diseases of the circulatory system. Typical forms of disease gas exchange function of the lungs. Pathophysiology of hypoxia and hyperoxia.	Reports on the themes: the pathophysiology of the cardiovascular system, the pathophysiology of the respiratory system, hypoxia. Essay on "Pathophysiology of the cardiovascular system."	test
9.	Typical forms of digestive disorders in the stomach and intestines. Stomach ulcer. Liver failure. jaundice Typical forms of renal disease.	Reports on topics: Pathophysiology of the gastrointestinal tract, the pathophysiology of liver, renal pathophysiology (the list is attached in Section 4). Pathophysiology of kidneys (MOODLE)	test

## 7. Forms of control

### 7.1. Current forms of control:

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

A theme list of abstracts, reports, review papers, tests collections and situational problems are shown at the Appendix 4 of the syllabus of the course «Evaluation tools»

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

Stages of the interim assessment:

1. Stage – test;
2. Stage – interview;
3. Stage – practical skills (blood and urine tests).

Questions for a pass/fail test and an examination, a theme listed of test collections and situational problems are shown at the Appendix №4 to the syllabus of the course «Set of evaluation tools for the current control and interim assessment of students».

## 8. Library and information materials of the course

### 8.1. Compulsory course literature

**Литвицкий П.Ф.** Патофизиология = Pathophysiology : лекции, тесты, задачи [Электронный ресурс] : учебное пособие для студентов вуза на англ. языке/ П. Ф. Литвицкий, С. В. Пирожков, Е. Б. Тезиков. -Москва: ГЭОТАР-Медиа, 2016 - Режим доступа: <http://www.studentlibrary.ru/book/ISBN9785970436004.html>

**2.Silbernagl S.** Color Atlas of Pathophysiology. [Электронный ресурс]/ S. Silbernagl, F. Lang. -3rd Edition: Thieme, 2016 - Режим доступа: [https://medone-education.thieme.com/ebooks/2107638?fromSearch=true#/ebook\\_2107638\\_SL80812974](https://medone-education.thieme.com/ebooks/2107638?fromSearch=true#/ebook_2107638_SL80812974).

## **8.2. Supplementary literature**

**1.Kemp W.** Thieme Test Prep for the USMLE®: Pathology Q&A. [Электронный ресурс]/ W. Kemp, T. Brown. -1st ed.: Thieme, 2017 - Режим доступа: [https://medone-education.thieme.com/ebooks/2139746?fromSearch=true#/ebook\\_2139746\\_SL81747749](https://medone-education.thieme.com/ebooks/2139746?fromSearch=true#/ebook_2139746_SL81747749).

**2.Litvitsky P.F.** Concise lectures and tests on pathophysiology [Текст] : Testbook for Students studying Pathophysiology/ P. F. Litvitskiy, S. V. Pirozhkov, E. B. Tezikov, 2008. -97,[1] p

**3.Steffers G.** General Pathology and Internal Medicine for Physical Therapists [Электронный ресурс] : учебник/ G. Steffers, S. Credner. -1st ed.: Thieme, 2012 - Режим доступа:[https://medoneeducation.thieme.com/ebooks/2093236?fromSearch=true#/ebook\\_2093236\\_SL80475533](https://medoneeducation.thieme.com/ebooks/2093236?fromSearch=true#/ebook_2093236_SL80475533).

**4.Theml H.** Color Atlas of Hematology. Practical Microscopic and Clinical Diagnosis. [Электронный ресурс]/ H. Theml, H. Diem, T. Haferlach. -2nd ed.: Thieme, 2004 - Режим доступа: [https://medone-education.thieme.com/ebooks/2153250?fromSearch=true#/ebook\\_2153250\\_SL82105013](https://medone-education.thieme.com/ebooks/2153250?fromSearch=true#/ebook_2153250_SL82105013).

**5.Zagoroulko A.** Digest on pathomorphology [Текст]/ A. Zagoroulko, T. Filonenko; Crimean medical university named after S.I. Georgievsky. -Simferopol, 2007. -519 p.

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

Name of the resource	URL adress	Resource annotation
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ELS "Student Consultant": Medicine, humanities and social sciences, natural sciences	<a href="http://www.studentlibrary.ru/">http://www.studentlibrary.ru/</a>	access under the contract through registration on all computers of the SSMU (under the IP address of the university)
Научная электронная библиотека eLibrary.ru	<a href="http://www.elibrary.ru">http://www.elibrary.ru</a>	open access journals, personal registration is required to access the full texts. Journals by subscription of the university-access is carried out on the computers of the university (1st, 2nd building of SSMU, WI-FI access, personal registration is required)
Научная электронная библиотека Web of Science	<a href="https://login.webofknowledge.com/">https://login.webofknowledge.com/</a>	журналы открытого доступа, для доступа к полным текстам требуется личная регистрация. Журналы по подписке университета - доступ осуществляется на компьютерах университета (1, 2 корпус СГМУ, WI-FI-доступ, требуется личная регистрация)
Научная электронная библиотека Scopus	<a href="https://www.scopus.com/">https://www.scopus.com/</a>	журналы открытого доступа, для доступа к полным текстам требуется личная регистрация. Журналы по подписке университета - доступ осуществляется на компьютерах университета (1, 2 корпус СГМУ, WI-FI-доступ, требуется личная регистрация)
Электронный каталог и полнотекстовая электронная библиотека НБ СГМУ	<a href="http://lib.nsmu.ru/lib/">http://lib.nsmu.ru/lib/</a>	доступ к полнотекстовой электронной библиотеке по паролю, выдаваемому в зале электронной информации (каб. 2317)
Российское образование. Федеральный портал	<a href="http://www.edu.ru">http://www.edu.ru</a>	открытый ресурс
Федеральная электронная медицинская библиотека	<a href="http://feml.scsml.rssi.ru">http://feml.scsml.rssi.ru</a>	открытый ресурс

PubMedCentral (PMC) – полнотекстовый архив биомедицинских журналов Национальной библиотеки медицины США	<a href="http://www.pubmedcentral.nih.gov">http://www.pubmedcentral.nih.gov</a>	открытый ресурс
ClinicalKey	<a href="https://www.clinicalkey.com/">https://www.clinicalkey.com/</a>	доступ к базе данных издательства предоставлен в зале электронной информации научной библиотеки (каб. 2317)
MED-портал	<a href="http://www.medportal.ru/">http://www.medportal.ru/</a>	открытый ресурс
КонсультантПлюс – информационно- правовой портал	<a href="https://www.consultant.ru/">https://www.consultant.ru/</a>	открытый ресурс
Гарант.ру – информационно- правовой портал	<a href="https://www.garant.ru/">https://www.garant.ru/</a>	открытый ресурс

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

№	Platform EE and DLT	Name of the electronic course, authors, URL, adress	The model of the implementation of the electronic course
1.	E-course in EOS Moodle "Pathological physiology" for 3rd-year students of International Faculty of General Practitioner	3 course English medium Pathophysiology  <a href="https://edu.nsmu.ru/course/view.php?id=336">https://edu.nsmu.ru/course/view.php?id=336</a>	mixed EC trainig

*\*В столбце «Наименование ресурса» указать конкретное название ресурса - сайта/портала/цифровой коллекции/библиотеки/профессиональные базы данных/справочные системы (Гарант, Консультант и др.) и т.д, в столбце «URL адрес» разместить ссылку на ресурс, в столбце «Аннотация ресурса» указать содержание ресурса.*

#### **9.4. List of the information technologies used in the educational process of the course (module) including 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.**

- Illustrated materials for practical classes (sets of charts, tables on the topics "Peripheral circulatory disorders", "inflammation", "fever", "tumor", "Pathophysiology of the immune system", "allergy", "Disorders of water-salt metabolism", "Pathophysiology nervous system", "Pathophysiology of the endocrine system", "Pathophysiology of the cardiovascular system", "Pathophysiology of the respiratory system", "Pathophysiology of blood", "Pathophysiology of kidneys", "Pathophysiology of the gastrointestinal tract").
- Training DVD movies on the topics practical training, "shock", "pathophysiology of the peripheral circulation", "inflammation", "fever", "pathology of the immune system", "allergy", "atherosclerosis".

#### **10. Material and technical facilities necessary for the educational process**

<b>№</b>	<b>The name of the schools office</b>	<b>Location oa the study room</b>	<b>List of the main equipment of the studt rooom</b>
1	№ 1418	Пр.Троицкий д.51 ( 4 этаж, главный корпус, кафедра патофизиологии)	столов-14шт., стульев-25шт., доска классная-1шт., экран-1шт.
2	№ 1419	Пр.Троицкий д.51 ( 4 этаж, главный корпус, кафедра патофизиологии)	столов-18шт., стульев-33шт., доска классная-1шт., экран-1шт., телевизор-1шт.
3	№ 1421	Пр.Троицкий д.51 ( 4 этаж, главный корпус, кафедра патофизиологии)	столов-18шт., стульев-33шт., доска классная-1шт., экран-1шт., телевизор-1шт.

- 1 pc laptop., Multimedia set-top box 1 piece., Screen - 1 pc.



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 16<sup>th</sup> 2021

**SYLLABUS OF THE DISCIPLINE**

Discipline **Medicine of disasters**

Field of training **31.05.01 General Medicine**

Year (s) of study / term (s) **2,3 / 4,5**

Form of the interim assessment **Exam**

Department **of Mobilization Training of Public Health and Disaster Medicine**

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

Approved at the department meeting

Minutes No. 12

June 11<sup>th</sup> 2021

Head of the department



Yu.E. Barachevsky

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Arkhangelsk, 2021

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

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

The Medicine of disasters discipline is related to prior subjects of the curriculum: law, chemistry, biology, anatomy, normal physiology, life safety

The Medicine of disasters discipline is related to subsequent subjects of the curriculum: pathophysiology, biochemistry, pharmacology, hygiene, public health and public health, epidemiology, clinical pharmacology, psychiatry, medical psychology, forensic medicine, faculty therapy, infectious diseases, traumatology, fundamentals of clinical and laboratory diagnostics.

The Medicine of disasters 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 aim of mastering the Medicine of disasters discipline is training of students to carry out professional activities in terms of issues of readiness and ability to take practical actions to organize and provide medical assistance to victims in various types of emergency situations (emergencies) in peacetime and wartime.

Objectives of the Medicine of disasters discipline:

1. formation of knowledge about the functional subsystems of the Integrated State System for Preventing and Eliminating the Consequences of Emergencies and Civil Defense, responsible for the state of public health: the service of disaster medicine, sanitary supervision, and provision of medical property.

2. development of skills in the organization and provision of emergency, primary health care, specialized, palliative types of medical care for victims of emergencies.

3. creation of skills to develop and make management decisions in the provision of medical care in an emergency competently and reasonably.

### 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
<b>Universal competencies (UC)-№8/</b> Is able to create and maintain safe living conditions in everyday life and in professional activities for the protection of the natural environment, ensuring the sustainable development of society, including in the event of a threat and occurrence of emergencies and military conflicts	IA-8.1. Identifies dangerous and harmful factors within the framework of the activities carried out IA -8.2. Provides safe living conditions IA-8.3. Demonstrates the skills of using individual and collective protective equipment and first aid equipment IA-8.4. Provides first aid
<b>General professional competencies (GPC) -№6/</b> He is able to organize patient care, provide primary health care, ensure the organization of work and professional decision-making in urgent conditions at the prehospital stage, in emergency situations, epidemics and in centers of mass destruction	IA-4. He has an algorithm for providing first aid in emergency situations, epidemics and in centers of mass destruction. IA-5 He is able to organize the work of medical personnel in emergency situations, in emergency situations, epidemics and in centers of mass destruction

\*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 4 credits.

Type of the academic work	Total hours	Term	
		4	5
<b>Students' contact work with the teacher (total)</b>	<b>74,3</b>	<b>28</b>	<b>28,3</b>
Including:			
Lectures (L)	18	10	8
Seminars (Sem.)			
Practical classes (PC)	36	18	18
Clinical practicals (CP)			
Laboratory-based practicals (LBP)			
Simulation-based practicals (SBP)			
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	44	10
Examination control (EC)	33,7		33,7
<b>Total discipline workload</b>	<b>144/4</b>	<b>72</b>	<b>72</b>

## 5. Course content:

### 5.1. Contents of the sections of the course

No	Name of the course section	Content of the section
1	2	3
1.	Types of predicted centers of emergencies and their medical and tactical characteristics.	<p>The concept of the medical and tactical characteristics of the forecasted center of emergencies. The role of the information environment in predicting of emergencies and organizing of medical care for victims.</p> <p>Types of transport accidents (road, water, railway, aviation) and their medical and tactical characteristics.</p> <p>Medical and tactical characteristics of terrorist acts.</p> <p>Medical and tactical characteristics of technogenic emergencies at national economy facilities, including healthcare (fire-explosive, chemical, radiation).</p> <p>Medical and tactical characteristics of natural and biological-social emergencies.</p> <p>Information, telecommunication systems and infrastructures designed for emergency protection, crisis management: models and technologies for emergency prevention, civil defense management, notification and informing the population.</p>
2.	National Service of Disaster Medicine, as a functional subsystem of the Integrated State System for Preventing and Eliminating the Consequences of Emergencies and Civil Defense.	<p>The structure of administrative bodies and health care institutions of the province, as the basis for the creation of a territorial disaster medicine system: types of administrative bodies and medical organizations in the regions, their tasks and functions in daily activities; the role of these structures and their personnel in the event of an emergency. Their creation of forces and means to work in emergencies and options for their use.</p> <p>Fundamentals of Disaster Medicine System management organization.</p> <p>National Disaster Medicine System: history of development, purpose, tasks, levels of functioning and legal basis of activity.</p> <p>Types of institutions and formations of the disaster medicine system, their characteristics, the procedure for staffing, equipping with property and options for use in emergencies.</p>
3.	Fundamentals of the organization of medical evacuation support for the population in emergency situations.	<p>The essence of the system of medical evacuation of the population in an emergency. The concept of the stage of medical evacuation, evacuation routes, types and scope of medical assistance to victims in emergencies, the procedure for their supply. Medical triage and medical evacuation of emergency victims, types, methods and organization of their carrying out, their role in the medical evacuation process.</p>
4.	Organization of sanitary and hygienic and anti-epidemic measures in emergency situations. Fundamentals of organizing medical supplies in peacetime emergencies.	<p>The structure of the sanitary service and its tasks, levels and mode of operation. The formation of a sanitary service to work in emergencies, their characteristics, capabilities. Types of sanitary condition of territories.</p> <p>Regime-restrictive measures carried out in an emergency.</p>
5.	Fundamentals of organizing medical supplies in emergencies	<p>The concept of medical supplies in emergencies, its goals, objectives, principles. Classification of medical property, its characteristics, organization of accounting and reporting.</p>

		Types of medical property reserves. Options for using medical property reserves. Organization of protection of medical property in emergency situations from their damaging factors.
6.	Civil defense in the field of healthcare.	Civil defense in the sphere of healthcare: the history of development, purpose, tasks, structure and principles of functioning. Medical facilities and civil protection units. Medical support for evacuation and dispersal of the population to the countryside. Types of evacuation points and the organization of medical support for the evacuated population in them.

## 5.2. Sections and types of studies

No.	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
1.	Types of predicted centers of emergencies and their medical and tactical characteristics.	6		8				10	24
2.	National Service of Disaster Medicine, as a functional subsystem of the Integrated State System for Preventing and Eliminating the Consequences of Emergencies and Civil Defense.	2		8				10	20
3.	Fundamentals of the organization of medical evacuation support for the population in emergency situations.	4		8				10	22
4.	Organization of sanitary and hygienic and anti-epidemic measures in emergency situations. Fundamentals of organizing medical supplies in peacetime emergencies.	2		4				8	14
5.	Fundamentals of organizing medical supplies in emergencies	2		4				8	14
6.	Civil defense in the field of healthcare.	2		4				8	14
<b>Total hours</b>		<b>18</b>		<b>36</b>				<b>54</b>	<b>108</b>

## 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.	Types of predicted centers of emergencies and their medical and tactical characteristics.	- study of educational material, search and review of scientific publications and electronic sources of information on the topic of the class - study of the materials presented in the Moodle	- holding a discussion on the designated topic - review of the abstract - solving tasks presented in the Moodle
2.	National Service of Disaster Medicine, as a functional subsystem of the Integrated State System for Preventing and Eliminating	- study of educational material, search and review of scientific publications and electronic sources of information on the topic of the class - study of the materials presented in the Moodle	- review of the abstract - solving tasks presented in the Moodle

	the Consequences of Emergencies and Civil Defense.		
3.	Fundamentals of the organization of medical evacuation support for the population in emergency situations.	<ul style="list-style-type: none"> <li>- study of educational material, search and review of scientific publications and electronic sources of information on the topic of the class</li> <li>- study of the materials presented in the Moodle</li> <li>- preparation for the work game "Organization of medical evacuation in a locality in the case of an emergency on its territory".</li> </ul>	<ul style="list-style-type: none"> <li>- oral interview;</li> <li>- review of the abstract</li> <li>- solving tasks presented in the Moodle</li> </ul>
4.	Organization of sanitary and hygienic and anti-epidemic measures in emergency situations. Fundamentals of organizing medical supplies in peacetime emergencies.	<ul style="list-style-type: none"> <li>- study of educational material, search and review of scientific publications and electronic sources of information on the topic of the class</li> <li>- study of the materials presented in the Moodle</li> <li>- preparation for solving the case on the topic</li> </ul>	<ul style="list-style-type: none"> <li>- oral interview;</li> <li>- development of practical skills in the order of use of personal protective equipment.</li> <li>- solving tasks presented in the Moodle</li> </ul>
5.	Fundamentals of organizing medical supplies in emergencies	<ul style="list-style-type: none"> <li>- study of educational material, search and review of scientific publications and electronic sources of information on the topic "Organization of medical supplies in emergency situations in the territory where the future professional activity of the student is planned" with the preparation of an abstract, report.</li> <li>- study of the materials presented in the Moodle</li> </ul>	<ul style="list-style-type: none"> <li>- oral interview;</li> <li>- review of the abstract</li> <li>- solving tasks presented in the Moodle</li> </ul>
6.	Civil defense in the field of healthcare.	<ul style="list-style-type: none"> <li>- study of educational material, search and review of scientific publications and electronic sources of information on the topic of the class</li> <li>- study of the materials presented in the Moodle</li> </ul>	<ul style="list-style-type: none"> <li>- oral interview;</li> <li>- review of the abstract</li> <li>- solving tasks presented in the Moodle</li> </ul>

## 7. Forms of control

### 7.1. Current forms of control

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

A theme list of abstracts, reports, essays, review papers, test collections and situational problems are shown at the "Evaluation tools for the current control of the course's (module's) academic performance, interim assessment of students" part of the syllabus of the course (module).

### 7.2. Forms of the interim assessment – pass exam

#### Stages of examination

1. Stage - testing with using of the Moodle platform.
2. Stage - oral interview

Questions for a pass/fail test and an examination, a theme list of test collections and situational problems are shown at the "Evaluation tools for the current control of the course's (module's) academic performance, interim assessment of students" part of the syllabus of the course (module).

## 8. Library and information materials of the course

### 8.1. Compulsory literature

1. Левчук, И. П. Disaster Medicine = Медицина катастроф : учебник на английском и русских языках / И. П. Левчук, А. П. Назаров, Ю. А. Назарова. - Москва : ГЭОТАР-Медиа, 2021. - 240 с. - URL: <https://www.studentlibrary.ru/book/ISBN9785970460740.html>
2. Levchuk, I. P. Life Safety in Medicine : учебное пособие / I. P. Levchuk. - Москва : ГЭОТАР-Медиа, 2021. - 112 p. - URL: <https://www.studentlibrary.ru/book/ISBN9785970459980.html>

### 8.2. Supplementary literature

1. Organization of public protection in emergency situations: study guide / R.V. Kubasov, A.G. Kalinin, Y.E. Barachevsky. - Arkhangelsk: NSMU Publishing, 2020. - 120 p.

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 electronic library "Student's Consultant": Medicine, Humanities and Social Sciences, Natural sciences.	<a href="http://www.studentlibrary.ru/">http://www.studentlibrary.ru/</a>	access by contract through registration on all computers of NSMU (under the IP address of the university)
2.	Scientific Electronic Library Web of Science	<a href="https://login.webofknowledge.com/">https://login.webofknowledge.com/</a>	open access journals, personal registration is required to access the full texts. Journals by subscription of the university - access is carried out on university computers (1st, 2nd building of NSMU, WI-FI access, personal registration is required)
3.	Scientific Electronic Library Scopus	<a href="https://www.scopus.com/">https://www.scopus.com/</a>	open access journals, personal registration is required to access the full texts. Journals by subscription of the university - access is carried out on university computers (1st, 2nd building of NSMU, WI-FI access, personal registration is required)
4.	Electronic catalog and full-text electronic library of NSMU	<a href="http://lib.nsmu.ru/lib/">http://lib.nsmu.ru/lib/</a>	access to the full-text electronic library by password issued in the electronic information room (room 2317)
5.	PubMedCentral (PMC) - full-text archive of biomedical journals of the US National Library of Medicine	<a href="http://www.pubmedcentral.nih.gov">http://www.pubmedcentral.nih.gov</a>	open access
6.	ClinicalKey	<a href="https://www.clinicalkey.com/">https://www.clinicalkey.com/</a>	access to the full-text electronic library by password issued in the electronic information room (room 2317)

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	E-course in EL Moodle " Medicine of Disasters " for 2-3-nd year students.	Medicine of Disasters 2-3 course Medicine of Disasters <a href="https://edu.nsmu.ru/course/view.php?id=1006">https://edu.nsmu.ru/course/view.php?id=1006</a> Roman Kubasov	mixed EL training+

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

MS Windows 10; MS Office 365; AdobeReader, SPSS, ABBYYLingvo, ISpring, Zoom

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	2406, 2409, 2428,2429	Arkhangelsk, Troitskiy ave., 51.	multimedia projectors with laptop or 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 16<sup>th</sup> 2021

**SYLLABUS OF THE DISCIPLINE**

Discipline **Propaedeutics of Internal Diseases**

Field of training **31.05.01 General Medicine**

Year (s) of study / term (s) **2,3 / 4,5**

Form of the interim assessment **Exam**

Department **of Family Medicine and Internal Diseases**

Discipline workload **360** (academic hours) / **10** (credits)

Approved at the department meeting

Minutes No. 12

June 11<sup>th</sup> 2021

Head of the department



V.V. Popov

**Author and compiler:**

Khlopina I.A., Candidate of Medical Sciences, Associate Professor of the Department of  
Family Medicine and Internal Diseases of NSMU

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 (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: anatomy, normal physiology, pathological physiology, histology, embryology, cytology.

The discipline is related to subsequent subjects of the curriculum: faculty therapy, hospital therapy, outpatient therapy.

The discipline is realized in the structure of the following types of professional activity tasks defined by the curriculum: diagnostic/ therapeutic/research

### **2. Goal and tasks of the mastering of the discipline**

The purpose of mastering the discipline: preparation of students for the implementation of professional activities in the field of formation of skills in the methodology of examination of the patient (p.1.12. FGOS).

Tasks of the discipline:

1. Formation of knowledge of leading syndromes in the clinic of internal diseases.
2. Formation of skills to collect complaints and anamnestic data from patients.
3. Formation of skills to evaluate laboratory and instrumental research data.
4. Formation of skills of physical examination of the patient.
5. Formation of skills in providing emergency pre-medical care.

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

<b>Codes of the formed competences</b>	<b>Indicator of the competence achievement</b>
General professional competencies (GPC) - №5 Able to assess morphofunctional, physiological conditions 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. Is able to identify and evaluate morphofunctional, physiological states and pathological processes in the human body ID-5.3. Knows the methods of clinical, laboratory and functional diagnostics for solving professional tasks. ID-5.4. Is able to analyze the results of clinical, laboratory and functional diagnostics to assess morphofunctional, physiological conditions and pathological processes in the human body.
Professional competencies *(PC)- №2 The ability and willingness to conduct a patient examination in order to establish a diagnosis	ID-2.1. Is able to collect complaints, anamnesis of the patient's life and illness and analyze the information received, conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation) and interpret its results. 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>ID-2.3. Is able to justify the necessity and scope of laboratory and instrumental examination of the patient in accordance with the current procedures for 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. Performs early diagnosis of diseases of internal organs and performs differential diagnosis of diseases of internal organs from other diseases</p>
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#### 4. Volume of the discipline (module) and types of the academic classes:

Total workload of the course is 10 credits.

Type of the academic work	Total hours	Term	
		4	5
<b>Students' contact work with the teacher (total)</b>	<b>164,3</b>	<b>82</b>	<b>82,3</b>
Including:			
Lectures (L)	54	30	24
Seminars (Sem.)			
Practical classes (PC)			
Clinical practicals (CP)	100	48	52
Laboratory-based practicals (LBP)			
Simulation-based practicals (SBP)	8	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)	<b>162</b>	<b>134</b>	<b>28</b>
Examination control (EC)	33,7		33,7
<b>Total discipline workload</b>	<b>360/10</b>	<b>216</b>	<b>144</b>

#### 5. Course content:

##### 5.1. Contents of the sections of the course

No	Name of the course section	Content of the section
1	Objective and subjective methods of study patients	<p>Subject and tasks propaedeutics internal diseases. The scheme of history.</p> <p>Internal medicine and its place among other medical disciplines. Ask-chi propaedeutic therapy. The types and methodology of diagnosis. The scheme of the history of the disease - the importance of history as a science and medical and legal documents.</p> <p>Scheme Questions sick. The classification of complaints. Diagnostic value of disease history and the history of life of patients.</p> <p>The general condition of the patient. Consciousness, the types of violations.</p>

		<p>The situation of the pain-tion. Build. The temperature of the body. Condition of skin. Subcutaneous fatty cellular tissue. Edema, their localization and distribution. A study of lymph nodes, muscle and bone and joint systems. Diagnostic value of the identified changes.</p>
2	Methods of research and semyology for diseases of the respiratory system	<p>The main complaint, and the mechanism of their formation: a cough, pain in the chest cells Cayes, dyspnoea, sputum production department, hemoptysis. Features a general examination in the pathology of the respiratory system: forced, the type of fever. Chest: the types of breath, chest definition format (normal or pathological maximum) and its symmetry.</p> <p>The technique of chest palpation. Definition of pain points, resistant study of voice tremor. The diagnostic value of identifying certain changes.</p> <p>General rules and percussion equipment. Topographic percussion light: urban Nice light in normal conditions and in pathology. Comparative light percussion: diversity percussion sound: clear lung, dull, tympanic. Because of changes percussion sound with lung diseases.</p> <p>General rules and lung auscultation technique. The basic and additional (side) breathing noises, the mechanism of their formation and diagnostic value: vesicular and bronchial breath, dry and wet bubbling rale, crepitating, rubbing sound pleura. Brochophony and its diagnostic value.</p> <p>The method of sputum collection, inspection, microscopy of native and pre-painted bacterioscopy. Characteristics of sputum at various bronchopulmonary syndromes. Tech pleural puncture study of pleural effusion, diagnosis transsudate and exudation.</p> <p>Semiotics infiltrative compression syndrome (complaints, palpation, percussion, auscultation). Localized and croupous pneumonia: overview of the etiology and pathogenesis, clinical and</p>

		<p>laboratory features. Of croupous complicated by pneumonia.</p> <p>Semiotics accumulation of fluid in pleural cavity (syndrome hydrothorax). Semiotics accumulation of air in the pleural cavity (syndrome pnevmo-RAXEN). Semeiology dry and exudative plevritis.</p> <p>Semiotics of bronchial obstruction syndrome (complaints, palpation, percussion, auscultation). Semeiology acute bronchitis. Chronic bronchitis: a general understanding of the etiology and pathogenesis, clinical and laboratory features. Bronchial asthma: overview of the etiology and pathogenic, clinical and laboratory signs, asthmatic status.</p> <p>Semiotics syndrome ethereality high light (complaints, palpation, percussion, auscultation). Emphysema lung: the concept and the primary and secondary emphysema.</p> <p>Semiotics syndrome air cavities in the lungs (complaints, palpation, perkus-Federation, auscultation). Lung abscess: clinical and laboratory signs, depending on the stage of disease. The notion of bronchiectasia, types and mechanism of formation. Semeiology bronchiectasis disease.</p> <p>Types of atelectasis, the cause of. Semiotics syndrome obturatsion-tion atelectasis (complaints, palpation, percussion, auscultation). Semiotics syndrome compression atelectasis (complaints, palpation, percussion, auscultation).</p> <p>The concept of respiratory failure, the causes, types of respiratory-of-failure. Semiotics syndromes restrictive respiratory insufficiency and obstructive types (complaints, palpation, percussion).</p> <p>A study of respiratory function - spirometry. The notion of basic governmental lung volumes and capacities. Methods of analysis spirogrammy, the calculation of basic indicators and indices, the definition of the functions of external respiration.</p>
3	Methods of research and semyology for diseases of the digestive system	The main complaint, and the mechanism of their formation: the pain syndrome

		<p>(diurnal rhythm of pain), gastrointestinal syndrome (nausea, vomiting, belching, heartburn) and intestinal term (rumbling stomach, flatulence, diarrhea, constipation), dyspepsia, a violation of appetite. Features a general examination of patients. Examination of the abdomen: topography-profit area, shape and volume of the stomach, his participation in the act of breathing.</p> <p>The main complaint, and the mechanism of their formation: the pain syndrome (distantion pain, colic liver), liver syndrome dyspepsia, change in skin color, urine and stools, itchy skin. Features a general examination of patients: the changes of consciousness (hepatic coma), the state of the skin (small signs, jaundice), the formation of edema, ascites. Examination of the abdomen: limited protrusion front abdominal wall, the overall increase in the abdomen (ascites), extension of venous network, the umbilical ring.</p> <p>The technique of surface indicative abdominal palpation, the definition of pain, degree of strain the abdominal wall, the divergence of muscles. Palpation of the liver and spleen, the definition of a free liquid-bone in the abdominal cavity method of balloting. Diagnostic value of results of palpation. Percussion stomach of percussion sound. Defining the lower limit of the stomach. The method of fractional gastric sensing, the concept of basal and stimulated secretion, the study of physical and chemical properties of gastric contents, the notion of flow-hour with hydrochloric acid.</p> <p>Chronic gastritis: the concept of the etiology, pathogenesis, classification, clinical symptoms of chronic gastritis with low and normal (or increased) acid function.</p> <p>Peptic ulcer disease: classification, the main causative factor, especially semeiology pathogenesis of stomach ulcer, peptic ulcer disease KDP. Complications of peptic ulcer disease. Semiotics major clinical syndromes: the type of jaundice (parenchymal,</p>
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		<p>hemolytic, mechanical), portal hypertension, liver encephalopathy, liver cell failure.</p> <p>Chronic hepatitis and cirrhosis of the liver: classification, etiology, pathogenesis, clinical and laboratory symptoms, complications.</p> <p>Semeiology biliary tract disease.</p> <p>Semiotics of pancreatic disease: particularly of pain syndrome, dyspeptic manifestations, diagnostic value koprologich research.</p>
4	Methods of research and semyology for diseases of the circulatory system	<p>The main complaint, and their pathogenesis: pain in the heart (ischemic, muscle, neurogenic), dyspnea, edema, palpitation, cough. Features a general inspection of the patient: diagnostic entity, forced the situation, change of skin, revealing edema. Examination of vessels (venous pulse, dance karotid). Examination of the heart area: cardiac hump, and cardiac apical impulse, pulsation epigastrium. Palpation of the area of the heart: identification of the properties of apical push, a study of cardiac shock, epigastrium pulsation, systolic and diastolic tremor, other fluctuations. Palpation of peripheral vessels: a study of the properties of the pulse at the radial artery, the definition of the pulse in the other peripheral arteries.</p> <p>Delimitation of the relative and absolute cardiac dullness, the width of vascular bundle, width heart. Diagnostic value of identified governmental changes.</p> <p>Methods of cardiac auscultation. The projection of heart valves in the chest, place and sequence of their listening. Heart tones, how they arise, parts I and II heart tones. Changing the colors of heart: the basis, amplification, separation. Noises of heart, the mechanism of their occurrence. Classification. The difference between functional noise from organic, systolic and diastolic sounds. Di-agnostic value of auscultation.</p> <p>Electrocardiography. Engineering registration of ECG, ECG formation, the notion of ECG-aside. Decoding algorithm of ECG, standard rates.</p>

		<p>An overview of the methodology fonokardiografii diagnostic possibilities FKG. The concept of the diagnostic capabilities of echocardiography.</p> <p>Methods of measuring blood pressure, the concept of systolic, diastolic, pulse pressure, diurnal blood pressure monitoring.</p> <p>The concept of atherosclerosis and its major forms, the classification of ischemic heart disease. Semyology ischemic heart disease: clinical, laboratory and electrocardiographic signs of angina pectoris, when, myocardial infarction. Atypical forms, and complications of IM.</p> <p>The definition of hypertension, the WHO classification. Semiotic syndrome and pathogenesis of hypertension. Clinical symptoms of hypertensive disease, stage of GB, the notion of hypertensive crisis. Classification of secondary (symptomatic) hypertension.</p> <p>The concept of rheumatism, congenital and acquired heart disease. Symptoms: stenosis of left atrioventricular opening is not enough of the mitral valve, aortic stenosis mouth, aortic valve insufficiency, tricuspid valve insufficiency: changes in hemodynamics, semiotics, the importance of auscultation, ECG, and FKG in the diagnosis of PPP.</p> <p>ECG-diagnosis of major violations of the cardiac rhythm and conduction: SEAnusovaya tachy-and bradycardia, sinus-arrest, sinus (breathing) arrhythmia. The concept of the mechanism of re-entry of excitation (re-entry). Extrasystoles (auricular, nodal, ventricular), the notion of alloritmia. Parocsizmal loss tachycardia (supraventricular, ventricular). Flutter and fibrillation atrium and ventricle. Heart block: atrioventricular, ventricular. Definition of circulatory insufficiency, classification, and patogenesis. Heart failure: acute left ventricular semeiology good heart failure (cardiac asthma, pulmonary edema), acute right ventricular heart failure, chronic mental heart failure. Syndrome of acute circulatory failure: definition,</p>
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		pathogenesis and semiotics fainting, collapse.
5	Methods of research and semyology for diseases of kidneys and urinary tract	<p>The main complaints, and their pathogenesis: urine excretion disorders, kidney domestic settings, pain syndrome (inflammatory pain, renal colic), changes in properties of urine. General examination patient: especially renal edema, uremic coma, changes in the lumbar area. Palpation and percussion kidneys, pain points. Auscultation renal arteries.</p> <p>General urine analysis, physical-chemical studies, microscopic studies following urinary sediment and its diagnostic value. Quantitative methods for the study of urine Nechiporenko, Qualitative methods to study urine Zimnitskomu, Reberg. Diagnostic importance of biochemical analysis of blood in Nephrology: determination of urea, creatinine, residual nitrogen.</p> <p>Semiotics of clinical and laboratory syndromes in nephrology: uric, jade-cal, renal hypertension, renal eclampsia, Semeiology of acute and chronic glomerulonephritis, chronic pyelonephritis. The clinic, diagnosis and complications.</p>
6	Methods of research and semyology for diseases of endocrine system	<p>Definition of diabetes, classification, pathogenesis. Semiotics of diabetes types 1 and 2. Laboratory Methods: determination of the content of glucose in the blood and urine, acetone in the urine, glycemic Cree-tries, the test of tolerance to glucose. Micro-and makroangiopatii diabetes. Diabetic coma and hypoglycemic.</p> <p>Syndromes increase and decrease the function of thyroid gland (tireotoksi-goats and myxedema): main complaint, especially the appearance of the patient, cardial and eye symptoms. Palpation of the thyroid gland.</p> <p>Obesity: definition, pathogenesis, classification, complications. The main clinical signs of pituitary (nanizmom, gigantism, acromegaly), and hypersteroidism, adrenal insufficiency, laboratory research methods.</p>
7	Methods of research and semyology for diseases of blood	The definition of anemia, classification, pathogenesis. Clinical and laboratory

		<p>diagnosis of anemia: iron, B12-folate deficiency (complaints, especially the clinical manifestations and haematological picture). The notion of hemolytic anemia.</p> <p>The definition of acute and chronic leukemia. Clinical and hematologic features of acute leukemia. Semiology of leukemia: acute, chronic myeloid leukemia.</p>
8	Critical condition in the clinic of internal diseases	Clinical manifestations of choking, asthmatic status, gastrointestinal bleeding, pulmonary edema, anaphylactic shock, hypertonic-civil crisis. Methods to medical care.
9	Semiology disease of bone and muscular system and joints	The main clinical syndromes: inflammatory dysfunction, degenerative-dystrophic lesions. Semiology of spinal osteochondrosis. Semiology of rheumatoid arthritis, nonspecific arthritis.
10	Observation patients	Writing an academic history. Individual work with the patient: Questions, inspection of (total and in systems), analysis of the results of laboratory and instrumental methods of investigation, systematization of the data, a clinical diagnosis and its rationale.

## 5.2. Sections and types of studies

No.	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
1	Objective and subjective methods of study patients			8			10		18
2	Methods of research and semiology for diseases of the respiratory system	10		24	4		20		58
3	Methods of research and semiology for diseases of the digestive system	10		24			20		54
4	Methods of research and semiology for diseases of the circulatory system	18		32	4		20		64
5	Methods of research and semiology for diseases of kidneys and urinary tract	4		4			15		23



6	Methods of research and semyology for diseases of endocrine system	4		4			15		23
7	Methods of research and semyology for diseases of blood	4		4			15		23
8	Critical condition in the clinic of internal diseases	4					15		19
9	Semyology disease of bone and muscular system and joints						15		15
10	Observation patients						17		17
11		54		100	8		162		324

**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	Objective and subjective methods of study patients	Preparation of the medical history.	Written presentation of the medical history.
2	Methods of research and semyology for diseases of the respiratory system	1. Listening to audio recordings. 2. Viewing on the website of the department of spirometry, sputum tests. 3. Preparation for classes.	Testing. Situational tasks.
3	Methods of research and semyology for diseases of the digestive system	1. Viewing on the site of biochemical blood tests. 2. Preparation for classes	Testing. Situational tasks.
4	Methods of research and semyology for diseases of the circulatory system	1. Listening to audio recordings. 2. Viewing on the website of the ECG department. 3. Preparation for classes.	Testing. Situational tasks.
5	Methods of research and semyology for diseases of kidneys and urinary tract	1. Viewing on the website of the department of urine tests with a conclusion. 2. Preparation for classes.	Testing. Situational tasks.
6	Methods of research and semyology for diseases of endocrine system	Preparation for classes.	Testing. Situational tasks.
7	Methods of research and semyology for diseases of blood	1. Viewing on the website of the Department of blood tests with a conclusion. 2. Preparation for classes.	Testing. Situational tasks.
8	Critical condition in the clinic of internal diseases	1. Introduction to the lecture.	Testing. Situational tasks.
9	Semyology disease of bone and muscular system and joints	1. Introduction to the lecture.	Testing. Situational tasks.

## 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)

Control of formation of practical skills in a discipline during the practical classes number 33. Each student must have a bed patient to demonstrate the practical skills you mentioned in the ticket-branes (total - 3 on the key sections of discipline). The audit recorded on a special form and included in the overall rating evaluation of the student.

### 7.3 Stages of examination (pass/fail test)

Form of final control - an examination that is conducted in three phases:

1. Test of theoretical knowledge - a test control using paper.
2. Testing the practical skills of the patient's bed.
3. Interviewing for the tickets.

The contents of the final test of control

For final verification tests used 2-3 levels of complexity. Total developed the 10 test cards, each of which consists of 15 tasks: 13 tasks lines closed and 2 open-ended assignments. The test event is held during the practical sessions number 34, towards the test-ticket reads 50 minutes. Test results are included in the student's overall rating.

The list of questions to verify the practical skills of the discipline:

1. Name the sequence reflect this state of a patient.
2. Determine the general condition of the patient. List the types of general condition of the.
3. Determine the position of the patient. List major types of patient.
4. Determine the patient's state of consciousness. Give a description of various types of violations of consciousness.
5. Determine the patient's body type. Give a description of types of body-adding.
6. Assess skin color, define the degree of purity. Give the characteristics of core-ku sypey skin.
7. Rate elasticity of the skin, the skin appendages and the degree of development subcutaneous adipose tissue.
8. Determine the existence of edema, their location, extent of. Re-number methods for detection of edema.
9. Show the sequence of palpation of peripheral lymph node-ance. What are the signs needed to be assessed in the study of lymph node?
10. Assess the state of the muscular system of the patient.
11. Determine that the development of bony skeleton, establish the presence of misshapen bones, spinal curvature.
12. Give a description of the state of joints, determine their mobility, object-eat movements configuration.
13. Define the shape of the patient's chest. What are the normal and pa-tologicheskie form of the thorax.
14. Perform inspection of the chest in a patient with pathology of respiratory organs. Give a description of breath.
15. Perform palpation of the chest in a patient with pathology-tion of Haniyeh.
16. Show method of determining a voice tremor, give characteristics of normal and pathology.

17. Show perkutornogo variety of sound, let characterized by stiku in norm and pathology.
18. Determine the height of standing light tops front and rear, give the characteristics of normal and pathology.
19. Determine the width of fields Kreniga give a characterization of normal and Patolo-gies.
20. Determine the bottom of the left lung, allow characterization of normal and pathology.
21. Determine the bottom of the right lung, give description of standard measures and pathology.
22. Determine the maximum mobility of the lower edge of light, let the characteristics of normal and pathology.
23. Show how to conduct a comparative light percussion.
24. Spend lung auscultation; give basic description dyhatel-governmental noise.
25. Spend lung auscultation; call differential-diagnostic signs of moist rale.
26. Spend lung auscultation; call differential-diagnostic signs of dry rale
27. Spend lung auscultation; call differential-diagnostic signs krepitatsii.
28. Spend lung auscultation, call differential-diagnostic signs of friction noise pleura.
29. Show bronhofonii research methodology.
30. Conduct a general inspection of the patient with cardiovascular disease, say the most frequent pathological signs
31. List the sequence of objective research on the heart area. As identified in the inspection area of the heart?
32. Perform palpation of apical push, give his testimonial in norm and pathology.
33. Show method of palpation of cardiac shock, epigastrium pulsation, symptoms «feline purr».
34. Show method of study of pulse and call its properties. Which arteries are exploring the pulse?
35. Determine the right border of the relative cardiac dullness, give its characteristics in normal and pathological.
36. Determine the right border of the absolute cardiac dullness, give its characteristics in normal and disease.
37. Determine the upper limit of relative cardiac dullness, give its characterization in normal and disease.
38. Determine the upper limit of the absolute cardiac dullness, give its characteristics in normal and disease.
39. Define the left edge of the relative cardiac dullness, give its characteristics in normal and disease.
40. Define the left edge of the absolute cardiac dullness, give its characteristics in normal and disease.
41. Determine the width of vascular bundle, let his performance in normal and disease.
42. Show the sequence of cardiac auscultation. Name differential diagnostic signs I tone.
43. Spend cardiac auscultation. Name differential diagnostic signs II tone.
44. Determine the focus of tone in the aorta II explain the mechanism and causes him to events.
45. Determine II focus on the tone of pulmonary trunk, and call arrangements with the causes of its emergence.
46. Spend cardiac auscultation. Give a description of systolic vnutriserdechnyh noise.
47. Spend cardiac auscultation. Give a description of diastolic vnutriserdechnyh noise.
48. Spend cardiac auscultation. Name differential diagnostic signs of friction noise pericardiocentesis.
49. Define blood pressure using the NS Korotkova. Give the characteristics pulse pressure, assess the degree of hypertension.
50. Conduct a general inspection of a patient with liver disease, tell them the most frequent pathological signs.
51. Perform inspection of the stomach, tell them how to clarify the reasons for the increase in the stomach.
52. Spend a superficial palpation of the abdomen.
53. Palpate sigmoid colon.

54. Palpate cecum.
55. Palpate ascending colon department.
56. Palpate downstream division large intestine.
57. Palpate transversely your colon.
58. Palpate greater curvature of stomach.
59. Palpate pyloric stomach.
60. Palpate liver.
61. Palpate spleen.
62. Determine the size of the liver by method Kurlov. What is their value in the norm?
63. Show how to increase the differences between the liver of omission.
64. Determine the size of the spleen. What is their value in the norm?
65. Determine the presence of free fluid in the patient's abdominal cavity.
66. Determine the bottom of the stomach.

Control of formation of practical skills in a discipline during the practical classes number 33. Each student must have a bed patient to demonstrate the practical skills you mentioned in the ticket-branes (total - 3 on the key sections of discipline). The audit recorded on a special form and included in the overall rating evaluation of the student.

1. The subjective method of examination of patients. Complaints of detail, research, thorium disease, history of life.
2. An objective method of examination of patients, their sequence. Type body. Diagnostic entity.
3. An objective method of examination of patients, their sequence. Situation the patient. Types of violations of consciousness. Signs of the coma, the main types of components.
4. An objective method of examination of patients, their sequence. Characteristics of skin, skin types syepey.
5. An objective method of examination of patients, their sequence. Assessment of subcutaneous adipose tissue. Periferiche palpation of lymph node-based, consistency and performance evaluation.
6. Questions of patients with diseases of the respiratory system. The mechanism of formation of the major complaints of their characteristics.
7. Examination of patients with diseases of the respiratory system. Inspection and palpation of the chest. Changes in voice tremor in the pathology of the lung.
8. Percussion light: species of percussion, percussion sequence. Changing the sound when perkutornogo lung pathology.
9. Auscultation of lungs. Vesicular breath, his symptoms, the mechanism of forming mirovaniya, the change in normal and pathological conditions. Rigid breath.
10. Bronchial breath: the conditions of formation and clinical significance.
11. Wet bubbling rale: mechanism of formation, classification, clinical importance.
12. Dry bubbling rale: mechanism of formation, classification, clinical importance of.
13. Crepitation and friction noise pleura: a mechanism of formation, differentiated socio-diagnostic features, clinical significance.
14. Compression syndrome infiltrative pulmonary tissue: mechanism of formation of tion, the clinical symptoms.
15. Syndrome accumulation of fluid in pleural cavity: causes of clinical symptoms.
16. Pneumothorax syndrome: classification of pneumothorax, with clinical-signs.
17. Syndrome of bronchial obstruction: the causes of the clinic.
18. Cavities in the lung syndrome: causes, clinical features.
19. Atelectasis syndrome: classification, clinical features.
20. Respiratory distress syndrome: mechanism of formation, classification, clinical and spirometry signs.
21. Syndrome of increased pulmonary ethereality tissue: mechanism of the formation, classification, major clinical symptoms of lung emphysema.

22. The main clinical signs of focal pneumonia.
23. The main clinical symptoms of pneumonia croup.
24. The main clinical symptoms of dry and exudate pleuritis.
25. The main clinical symptoms of acute and chronic bronchitis.
26. The main clinical symptoms of lung abscess and bronchoektasis disease.
27. The main clinical symptoms of bronchial asthma. Asthmatic status.
28. Laboratory study of sputum and clinical evaluation of the results.
29. Pleural puncture: technique torakotsenteza, assessing pleural contents zhimogo.
30. Spirography: basic indicators, the analysis spirography.
31. Questions of patients with diseases of the cardiovascular system: mechanism of formation of the major complaints of their characteristics.
32. Examination of patients with diseases of the cardiovascular system: mechanism of formation and characterization of cyanosis, cardiac edema.
33. Palpation of the area of the heart: apex of heart, the properties and their clinical evaluation.
34. Investigation of pulse: its properties and their significance in clinical practice.
35. Percussion heart: the concept of the boundaries of heart and vascular bundle, the reasons for changing the borders of the relative and absolute cardiac dullness.
36. Auscultation of heart: the rules and points of auscultation, listening to the sequence of the heart.
37. Heart tones: mechanism of formation, differential-diagnostic signs, causes changes in the heart tones.
38. Heart noises: classification, mechanism of their occurrence, the rules auscultation, clinical evaluation. A differential diagnostic signs of organic and functional heart of noise.
39. The method of electrocardiography: the right to make an electrocardiogram, the analysis of electrocardiograms.
40. The notion of functional methods for study of cardiovascular system and their possible application: measurement of arterial and vein pressure phonocardiography, echocardiography, veloergometry, X-ray hearts.
41. Syndrome of hypertension: classification, definition of the degree of hypertension. The concept of symptomatic arterial hypertension.
42. The main clinical symptoms of hypertensive disease, stage and risk of GB.
43. The concept of atherosclerosis, coronary heart disease. Classification of angina pectoris, major clinical symptoms, diagnostic methods.
44. Coronary insufficiency syndrome: major clinical symptoms of acute myocardial infarction, during acute myocardial infarction.
45. Electrocardiographic diagnosis of acute myocardial infarction: the ECG-signs of damage to the myocardium, the dynamics of an electrocardiogram from the pain-governmental myocardial infarction, the identification of the localization of myocardial infarction.
46. Laboratory diagnosis of acute myocardial infarction.
47. Atypical forms of myocardial infarction - clinical symptoms.
48. Complications of acute myocardial infarction - the main clinical features.
49. Syndrome of mitral valve insufficiency: a violation of hemodynamic, the main clinical symptoms, ECG changes.
50. Syndrome of the left atrioventricular aperture stenosis: a violation of hemodynamic, the main clinical symptoms, ECG changes.
51. Aortic valve insufficiency syndrome: a violation of hemodynamic, the main clinical symptoms, ECG changes.
52. Syndrome of the mouth of aortic stenosis: hemodynamic violations, major wedge Actual symptoms, ECG changes.
53. Tricuspid valve insufficiency syndrome: a violation of hemodynamic, the main clinical symptoms, ECG changes.

54. Violations of the rhythm of the heart: clinical and ECG signs of sinus-rhythm irregularities, paroxysmal tachycardia, extrasystoles, arrhythmia.
55. Conduction: clinical and ECG signs of block, atrioventricular block and its powers, ventricular block.
56. Circulatory insufficiency syndrome: pathogenic mechanisms, classification, stage of chronic heart failure.
57. Syndrome of acute heart failure: causes, clinical symptoms of cardiac asthma, pulmonary edema.
58. Syndrome of chronic heart failure: the main clinical symptoms of chronic left-and right heart failure.
59. Syndrome of acute circulatory failure: classification, mechanism of formation, clinical signs of fainting, collapse. The notion of hro technical vascular insufficiency.
60. The main complaint of patients with diseases of the stomach and intestines, mechanism of their formation. Examination of patients with gastrointestinal diseases.
61. The main clinical syndromes in patients with gastrointestinal diseases: gastric and intestinal dyspepsia, violations of secretory function of the stomach.
62. Acute gastritis: classification, major clinical symptoms.
63. Chronic gastritis: classification, causes, diagnostic methods, the main clinical symptoms.
64. Gastric ulcer: causes, diagnostic methods, the main clinical symptoms.
65. Peptic ulcer disease 12-rings intestine: the causes, methods of diagnostic, the main clinical symptoms.
66. Semyology complications of peptic ulcer disease: gastrointestinal haemorrhage, perforation, penetration, stenosis janitor, malignancy.
67. Modern methods of investigating the gastrointestinal tract: a study gastric juice and pH meter, a clinical analysis of the results.
68. The concept of the diagnostic possibilities of FGDS, biopsies, X-ray stomach.
69. Questions of patients with diseases of the liver and bile ducts, mechanism of forming the main complaints, the importance of history.
70. Examination of patients with diseases of the liver and bile ducts.
71. Syndrome of jaundice: differential-diagnostic signs of parenchymal, mechanical and hemolytic jaundice.
72. Portal hypertension syndrome: mechanism, clinical manifestations. Gepaticolienal syndrome and syndrome of hypersplenism.
73. The main biochemical syndromes in diseases of liver: cytolysis,olestasis, mesenchymal inflammation gepatodepressiya - Criteria diagnostician settings.
74. Syndrome of liver cell failure: mechanisms of formation, clinical signs, semyology hepatic coma.
75. Chronic hepatitis: classification, clinical and laboratory signs with.
76. Cirrhosis of the liver: clinical and laboratory features, complications.
77. Modern methods of diagnosing diseases of the liver and bile ducts: duodenal sensing technique, a clinical analysis of the results of the study duodenal contents. The concept of ultrasound, biopsy of the liver.
78. Semyology not calculary chronic cholecystitis, diskinezy sphincter Oddi, their differential-diagnostic signs.
79. Chronic pancreatitis: clinical signs, laboratory and instrument-mental methods of diagnosis (koprological, biochemical, ultrasound).
80. Questions and examination of patients with diseases of the kidneys and urinary tract, especially the collection of history, symptoms violations.
81. Diagnostic value of the total urine analysis, urine, quantitative research methods, their interpretation (Nechiporenko, Addis Kakovskogo).
82. Methods of research functions of the kidneys and their clinical evaluation (sample Zimnitskogo, Reberga). Biochemical studies of blood in patients with diseases of the kidneys.

83. Isolated urinary syndrome: clinical characteristics, origin and characteristics of individual symptoms (gematuria, proteinuria, leukocytes series).
84. Syndrome of renal hypertension: a mechanism of formation, the main clinical features.
85. Nephrotic syndrome: clinical and laboratory building, with signs.
86. Syndrome of chronic renal failure: mechanism, clinical and laboratory signs, stage, semyology uremic coma.
87. Glomerulonephritis: classification, characteristics of the main clinical forms.
88. Chronic pyelonephritis: causes, clinical and laboratory recognition settings.
89. The main complaints and the examination of patients with diseases of the endocrine system. Modern methods of laboratory and instrumental diagnostics.
90. The main clinical syndromes in patients with diseases of the endocrine system: hyperthyroidism, hypothyroidism, acromegaly, obesity.
91. Diabetes mellitus: classification, the main clinical symptoms and syndromes, laboratory diagnosis of diabetes.
92. Acute complications of diabetes: diabetic symptoms (ketoacidosis) and hypoglycemic coma.
93. Questions and examination of patients with diseases of the blood, modern laboratory and instrumental diagnostics.
94. Diagnostic value of total blood.
95. The main clinical syndromes in patients with diseases of CGB-vision: mieloplastic, bloody.
96. Anemic syndrome: clinical and laboratory signs symptom logiya-B12 and chronic iron-deficiency anemia.
97. Questions and examination of patients with diseases of the joints, the major clinical syndromes companies: inflammatory lesions, degenerative-dystrophic.
98. Critical condition in the clinic of internal diseases: anaphylactic shock and sudden death. Diagnosis and first aid, principles reanimation.

## 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 п.- URL: <https://www.studentlibrary.ru/ru/book/ISBN9785970455555.html>
2. Oslopov V. N. General Care of a Patient [Электронный ресурс] : tutorial/ V. N. Oslopov, O. V. Bogoyavlenskaya. -Москва: ГЭОТАР-Медиа, 2021. -208 с.- URL: <https://www.studentlibrary.ru/book/ISBN9785970460429.html>
3. Методика объективного обследования больного в терапевтической практике [Электронный ресурс] : учебное пособие / И.А. Хлопина, А.Н. Плакуев, Н.С. Суханова. - 2-е изд., испр. и доп. - Архангельск : СГМУ, 2021 – 126 стр. - Режим доступа: [http://oa.lib.nsmu.ru/view\\_docs.php?id\\_doc=731](http://oa.lib.nsmu.ru/view_docs.php?id_doc=731)
4. Хлопина И.А. и др. Заболевания внутренних органов: основные симптомы и синдромы, методы диагностики [Электронный ресурс] : учебное пособие / И.А. Хлопина, А.Н. Плакуев А, Н.С. Суханова. - Архангельск : СГМУ, 2021 – 187 стр. - Режим доступа: [http://oa.lib.nsmu.ru/view\\_docs.php?id\\_doc=730](http://oa.lib.nsmu.ru/view_docs.php?id_doc=730)

### 8.2. Supplementary literature

1. Milkamanovich VK Methodological examination, symptoms and symptoms-complexes in the clinic of internal diseases .- Mn.: ООО «Polifakt-Alpha», 1994.
2. Diseases of the respiratory system: Manual. In 4 volumes, ed. NR Palee Islands .- M.: Meditsina, 1990.
3. Manual of Gastroenterology: in 3 volumes / Under the general editorship FI Komarova and AL Grebeneva .- M.: Meditsina, 1995.
4. Clinical Endocrinology: A Guide, ed. NT Starkova .- M.: Meditsina, 1991 .- 512 pp.
5. Murashko VV, AV Strutynsky Electrocardiography: Training. manual, 2 nd ed .- M.: Meditsina, 1991 .- S. 206-246.

6. Minkin RB Diseases of the cardiovascular system .- St.Petersburg: Publishing House "Acacia", 1994 .- 273 pp.
7. Nephrology: Guidelines for doctors. In 2 volumes, ed. IE Tareeva .- M.: Meditsina, 1995.
- 8.3. List of the information and telecommunications Internet resources required for mastering of the course (module)\*

№	Resources	URL address	Resource Annotation
1	Medscape	<a href="http://www.medscape.com/">http://www.medscape.com/</a>	Medical foreign portal
2	Thieme Connect	<a href="https://www.thieme-connect.com/products/ejournals/journal/10.1055/s-00034793">https://www.thieme-connect.com/products/ejournals/journal/10.1055/s-00034793</a>	A medical resource that allows healthcare professionals and students to conduct research, providing them with online access to electronic journals, electronic books, electronic learning tools and reference works in Thieme (registration is required).
3	EBSCO	<a href="https://www.ebscohost.com/ebooks/medical">https://www.ebscohost.com/ebooks/medical</a>	EBSCO collects e-books and audiobooks in various fields of human activity, including medicine.
4	Channel <b>Doctor's Channel</b>	<a href="http://www.thedoctorschannel.com/"><u>http://www.thedoctorschannel.com/</u></a>	Medical training videos on the channel <b>Doctor's Channel</b>

#### 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	edu.nsmu.ru	e-course

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

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. License number 46850049, indefinitely

Radmin Viewer 3. Radmin Server 3. License number 11001793

Traffic inspector. License number №1051-08 or 10.04.2008, indefinitely.

#### 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
	Classroom for conducting lecture-type classes No. 2408	163000, Arkhangelsk, ave. Troitskiy, 51 administrative educational building, 1st floor	a) list of main equipment: A set of educational furniture (tables, chairs, a screen, a blackboard) a teacher's workplace, workplaces for students with 300 seats. b) sets of



			demonstration equipment projector, monoblock, screen, speakers c) a list of educational and visual aids: diagrams, tables
2	Classroom for seminar-type classes, group and individual consultations, ongoing monitoring and intermediate certification	163001, Arkhangelsk, ave. Troitsky, 180 No. 106 academic building, 1st floor	a) list of main equipment: A set of educational furniture (tables, chairs, a screen, a blackboard) a teacher's workplace, workplaces for students with 29 seats. b) sets of demonstration equipment Projector, laptop, virtual anatomical (transformable) table, digital belly palpation dummy Z982 c) list of educational and visual aids: Visual aids, handouts for practical classes on all subjects of the discipline.
3	Classroom for seminar-type classes, group and individual consultations, ongoing monitoring and intermediate certification Agreement No. 606 dated 26.07.2017 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 "Arkhangelsk City Clinical Hospital No. 7". The term of the Contract is 5 years. Equipment according to Appendix No. 3 to the Contract.	163062, Arkhangelsk region, Arkhangelsk, Yaroslavskaya str., 42 No. 38, 5th floor of the main building	a) list of main equipment: A set of educational furniture (tables, chairs, screen, blackboard), a teacher's workplace, workplaces for students with 14 seats. b) sets of demonstration equipment laptop, projector c) a list of educational and visual aids: Visual aids, handouts for practical classes on all subjects of the discipline, tables and reference materials, a couch

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 16<sup>th</sup> 2021

**SYLLABUS OF THE DISCIPLINE**

Discipline **Medical genetics**

Field of training **31.05.01 General Medicine**

Year (s) of study / term (s) **3 / 6**

Form of the interim assessment **Pass/fail test**

Department **of Medical biology and genetics**

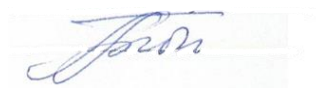
Discipline workload **72** (academic hours) / **2** (credits)

Approved at the department meeting

Minutes No.

June 15<sup>th</sup> 2021

Head of the department



N.A. Bebyakova

**Author and compiler:**

Chromova A.V., Associate Professor at the Department of Medical genetics and biology  
Fedotov D.M., Associate Professor at 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, normal physiology, biochemistry, bioethics, propaedeutics of internal diseases.

The discipline is related to subsequent subjects of the curriculum: obstetrics and gynecology, internal medicine, endocrinology, pediatrics, psychiatry, neurology and neurosurgery, oncology.

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

### 2. Goal and tasks of the mastering of the discipline

The goal of this discipline is to give a complete overview of the pivotal role of genetics in medicine to the medical students.

Tasks of the discipline are:

1. Studying of the fundamental characteristics of human living organisms on all levels of organization.
2. Studying of the causes of the genetic pathology and ways of prevention.
3. Studying of the etiology, pathogenesis, clinical features, methods of treatment and diagnostics of the common monogenic diseases and chromosomal syndromes, organization and principles of the genetic counseling.

### 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)- №	
PC-2. Ability and willingness to conduct an examination of a patient in order to establish a diagnosis	IC-2.1. Knows how to collect complaints, anamnesis of life and illness of the patient and analyze the information received, conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation) and interpret its results. IC-2.2. Possesses 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 problems. IC-2.3. Is able to justify the need and volume of laboratory and instrumental examination of a 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. IC-2.4. Carries out early diagnosis of diseases of internal organs and conducts differential diagnosis of diseases of internal organs from other diseases.

\*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
		6
<b>Students' contact work with the teacher (total)</b>	<b>36</b>	<b>36</b>
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)		
<b>Total discipline workload</b>	<b>72/2</b>	<b>72</b>

## 5. Course content:

### 5.1. Contents of the sections of the course

No	Name of the course section	Content of the section
1	Basic aspects of hereditary pathology.	Genetic apparatus of human cells: genome, plasmon, karyotype. Abnormalities of gene structure. Realization of genetic information. Spontaneous and induced mutagenesis. Antimutagenesis. Definition, classification of genetic disorders. The role of heredity in morbidity, mortality and disability of the paediatric population. Semiotics of hereditary diseases. Peculiarities of manifestation of hereditary diseases.
2	Methods of the medical genetics.	Clinical and genealogical method. Features of the different types of inheritance. Cytogenetic and molecular genetic methods: the polymerase chain reaction, <i>fluorescence in situ</i> hybridization. Indication for cytogenetic methods. Biochemical methods. Neonatal screening programs: purposes and objectives.
3	Monogenic diseases.	Classification and clinical manifestation of the monogenic diseases. Compendium of human genes and genetic phenotypes: MIM, OMIM. Classification of gene mutations. Mutation de novo. Clinical diversity and genetic heterogeneity of the monogenic disorders. Penetrance and expressivity. Methods of diagnostics of

		monogenic disorders. Genetics and clinical manifestation of some monogenic diseases: cystic fibrosis, phenylketonuria, <i>congenital hypothyroidism</i> , congenital adrenal hyperplasia, osteogenesis imperfect, neurofibromatosis, sickle cell anemia, thalassemia. Principles of treatment and diagnostics of these diseases. Genetics and clinical manifestation of X-linked monogenic diseases: Duchenne muscular dystrophy, haemophilia, color blindness. Principles of treatment and diagnostics of these diseases.
4	Chromosomal diseases.	Overview of chromosomal diseases. Indication for cytogenetic method. Clinical manifestation of main chromosomal diseases: Down`s, Patau`s, Edward`s, Turner, Klinefelter, triple X syndrome. Mosaic and translocation forms. Levels and ways of prevention of hereditary diseases. Medical and genetic counselling. Clinical manifestation of main chromosomal aberrations: Cri du chat syndrome, 9p+, 13q, Wolf–Hirschhorn syndrome.
5	Diseases with hereditary predisposition.	Determination of genetic predisposition. Diseases with genetic predisposition. Measures of prevention. Ecogenetics and ecogenetic disorders (Xeroderma pigmentosum, Coeliac disease etc.). Pharmacogenetics. Glucose-6-phosphate dehydrogenase deficiency. Overview of multifactorial diseases: atherosclerosis, Alzheimer's disease, diabetes. Determination of genetic predisposition. Diseases with genetic predisposition. Measures of prevention. Genetic aspects of cancerogenesis, inherited cancer syndromes, the Knudson hypothesis.
6	Disorders with nontraditional inheritance.	Disorders of the expansion of the trinucleotide repeats: clinical features of Martin-Bell syndrome, Huntington disease. Definition, classification, mechanism, clinical manifestation of the mitochondrial disorders (MELAS, Kearns-Sayre syndrome). Disorders of genomic imprinting, levels of imprinting, uniparental disomy (Prader-Willy syndrome, Angelmann syndrome).

7	Prevention of hereditary diseases. Congenital defects.	Levels and ways of prevention of hereditary diseases. Medical and genetic counseling. Prenatal diagnosis. Screening programs.
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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	Basic aspects of hereditary pathology.	2	4					2	8
2	Methods of the medical genetics.	-	4					10	14
3	Monogenic diseases.	2	4					6	12
4	Chromosomal diseases.	-	4					4	8
5	Diseases with hereditary predisposition.	2	4					4	10
6	Disorders with nontraditional inheritance.	4						6	10
7	Prevention of hereditary diseases. Congenital defects.	2	4					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))

No.	Name of the course section	Types of the unsupervised work	Forms of control
1	Basic aspects of hereditary pathology.	Studying of additional material. Determination of the congenital malformations and phenotype features.	Oral interview. Validation.
2	Methods of the diagnostics of medical genetics.	Pedigree analysis.	Validation.
3	Monogenic diseases.	Essay about monogenic disease.	Oral report.
4	Chromosomal diseases.	Essay about chromosomal disease.	Oral report.
5	Diseases with hereditary predisposition.	Studying of additional material.	Oral interview.
6	Disorders with nontraditional inheritance.	Studying of additional material.	Oral interview.
7	Prevention of hereditary diseases. Congenital defects.	Prepare recommendations on prevention of some genetic disorders, congenital defects, chromosomal syndromes.	Validation.

## 7. Forms of control

### 7.1. Current forms of control

- oral (an interview, a report)

- written (validation of the phenotype, pedigree, recommendations)

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

credit, the multiple choice format of test.

Questions for a pass/fail 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. Медицинская генетика : учебник / под ред. Н. П. Бочкова. - М. : ГЭОТАР-Медиа, 2014. - 224 с. : ил.

2. Клиническая генетика : учебник / Н. П. Бочков, В. П. Пузырев, С. А. Смирнихина ; под ред. Н. П. Бочкова. - 4-е изд., доп. и перераб. - М. : ГЭОТАР-Медиа, 2013. - 592 с. Lindsay K. W. Neurology and neurosurgery illustrated / K. W. Lindsay. -5th ed. - Edinburgh, 2010. - 600 p.

3. Davidson`s Principles and Practice of Medicine / ed. N. A. Boon [et al.]. -20th ed. - Edinburgh: ELSEVIER, 2008. -1381 p.: il.

4. Greenberg D. A. Clinical neurology / D. A. Greenberg, R.P. Simon, M. J. Aminoff. – 8th ed. - McGraw-Hill Professional, 2012. -400 p.

#### 8.2. Supplementary literature

1. Гинтер Е. К. Медицинская генетика. М. Медицина, 2003.

2. Иванов В. И., Барышникова Н. В., Билёва Дж. С., Дадали Е. Л., Л. М. Константинова, Кузнецова О. В., Поляков А. В.. Генетика. М. ИКЦ «Академкнига», 2006

3. Козлова С. И., Демикова Н. С.. Наследственные синдромы и медико-генетическое консультирование. КМК, Авторская академия, 2007.

4. Н.А. Курчанов Генетика человека с основами общей генетики. СПб.: Спецлит, 2009

5. Мутовин Г. Р.. Клиническая генетика. Геномика и протеомика наследственной патологии: учеб. пособие. – 3-е изд., перераб. и доп. – М.: ГЕОТАР – Медиа, 2010.

6. Д.Д. Притчарид, Б.Р. Корф Наглядная медицинская генетика М.: Геотар-Медиа, 2009.

7. В.П. Щипков, Г.Н. Кривошенко Общая и медицинская генетика. М.: Академия, 2005

8. Brazis P.W. *Localization in Clinical Neurology* / P. W. Brazis. - 6th ed. - Wolters Kluwer Health, 2013. - 668 p.

9. *Bradley's Neurology in Clinical Practice* / R.B.Daroff, J. Jankovich et al. - 6th ed. – Saunders, 2012. – 2544 p. Edition from Robert Daroff, Gerald Fenichel, Joseph Jankovic, John Mazziotta.

10. Gregory N. / *Practical Review of Neuropathology* / N. Gregory, J. Fuller, C. Goodman. - Lippincott Williams & Wilkins, 2001. – 343 p.:il.

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

№	Resources	URL address	Resource Annotation
1	National Center for Biotechnology Information	<a href="https://www.ncbi.nlm.nih.gov/">https://www.ncbi.nlm.nih.gov/</a>	The NCBI houses a series of databases relevant to biotechnology and biomedicine and is an important

			resource for bioinformatics tools and services.
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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	<a href="https://edu.nsmu.ru/course/view.php?id=587">https://edu.nsmu.ru/course/view.php?id=587</a> Chromova A.V., Fedotov D.M.	+ec

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

MS Windows Vista Starter

MS Windows Prof 7 Upgr

MS Office 2007

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 practical exercises, knowledge monitoring and intermediate certification	Arkhangelsk pr. Troitsky, 51 cab. 1222	15 seats, tables, chairs, board, TV, laptop



MINISTRY OF HEALTHCARE OF THE RUSSIAN FEDERATION  
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APPROVED

Dean of the International Faculty  
of General Practitioner

A.K. Sherstennikova

June 16<sup>th</sup> 2021

**SYLLABUS OF THE DISCIPLINE**

Discipline IMMUNOLOGY

Field of training **31.05.01 General Medicine**

Year (s) of study / term (s) 2-3/4-5

Form of the interim assessment (examination)

Department of clinical biochemistry, microbiology, laboratory diagnostics

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

Approved at the department meeting

No 10.

June 8<sup>th</sup> 2021

Head of the department

Professor \_\_\_\_\_ T.A. Bazhukova

**Author and compiler:**

Davidovich N.V. Cand. Med. sciences, associate professor,  
training Associate Professor

Bazhukova T.A., professor, Head of the Department

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: history of medicine; psychology and pedagogy; Latin language; physics; medical informatics; biological chemistry; biology; human anatomy, histology, embryology, cytology; normal physiology.

The discipline is related to subsequent subjects of the curriculum: infectious diseases, phthisiology, skin and venereal diseases, obstetrics and gynecology, faculty and hospital therapy, surgery, traumatology and orthopedics, ophthalmology.

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

Main goal of training is the formation of the competencies of a specialist (general practitioner) in the field of diagnosis of immunological diseases and pathological conditions in adults and adolescents based on laboratory immunological research methods in accordance with the requirements of the Federal State Educational Standard.

In recent years significant progress will make in immunology, achievements of theoretical immunology find the increasing application in clinical practice, the new medical discipline – clinical immunology was formed. The gained knowledge constantly is replenished, it leaves a special mark on teaching the new directions of modern immunology.

Tasks

- assimilation of a certain amount of information about the structure and functions of the immune system, the main types of immunity, the mechanisms of the immune response in normal and pathological conditions;
- development and development of students' skills in using immunological methods of laboratory diagnostics;
- the formation of skills for independent analysis and interpretation of immunological studies in the diagnosis of the disease;
- study of the structure and functional organization of the organs of the immune system; morphological and functional features of cells involved in the immune response; interactions of immunocompetent cells in the immune response; innate immunity factors aimed at eliminating foreign substances - antigens (complement, serum proteins, phagocytosis); mechanisms of anti-infection and anti-tumor immunity; methods of genetics and molecular biology in creating genetically engineered modern immunobiological preparations for diagnosis, immunoprophylaxis and immunotherapy.

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

<b>Коды формируемых компетенций/формулировки компетенций</b>	<b>Индикатор достижения компетенции</b>
ОПК -№2. Способен проводить и осуществлять контроль эффективности мероприятий по профилактике, формированию здорового образа жизни и санитарно-гигиеническому просвещению населения	ИД-1. Умеет назначать профилактические мероприятия пациентам с учетом факторов риска для предупреждения и раннего выявления заболеваний, в том числе социально значимых заболеваний ИД-3. Организует и проводит иммунопрофилактику инфекционных заболеваний у взрослого населения в соответствии

	с действующими порядками оказания медицинской помощи, клиническими рекомендациями (протоколами лечения) по вопросам оказания медицинской помощи с учетом стандартов медицинской помощи
ПК№2. Способность и готовность к проведению обследования пациента с целью установления диагноза	ИД-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 ИД-2. Владеет навыками по определению у пациента основных патологических состояний, симптомов, синдромов заболеваний, нозологических форм в соответствии с действующей международной статистической классификацией болезней и проблем, связанных со здоровьем

\*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 7credits.

Type of the academic work	Total hours	Term 4-5
<b>Students' contact work with the teacher (total)</b>		
Including:		
Lectures (L)	24	12/12
Seminars (Sem.)	16	8/8
Practical classes (PC)	28	14/14
Clinical practicals (CP)		
Laboratory-based practicals (LBP)	4	2/2
Simulation-based practicals (SBP)		
Preparation for the examination (PE)		
Preparation for the credit (PC)		
Exam consultations (EC)		
Coursework (CW)		
Unsupervised work (UW) (total)	36	18/18
Examination control (EC)		
<b>Total discipline workload</b>	<b>108</b>	<b>54/54</b>

#### 5.Coursecontent:

##### 5.1.Contentsofthesectionsofthecourse

No	Nameofthecoursesection	Contentofthesection
1	<b>General Immunology</b>	The central and peripheral organs of the immune system. Basic elements of the cellular immune system.

		<p>The role of adhesion molecules, chemokines, and other mediators.</p> <p>Stem cells.</p> <p>T-lymphocytes. Characteristic markers, receptors, a role.</p> <p>B-lymphocytes. Identification, characterization, markers, receptors.</p> <p>Natural killer cells (NK-cells). Characteristic markers, receptors.</p> <p><b>Monocyte-macrophage cells. Characteristic markers, receptors. Role in the immune processes.</b></p> <p>Mediator cells in the immune response: neutrophils, eosinophils, basophils, mast cells.</p> <p>Mechanisms of the immune response.</p> <p>Cellular interactions in the immune response.</p> <p>The relationship between the components of the nervous, endocrine and immune systems.</p> <p>Age immunology. The formation of the immune system in embryogenesis.</p> <p>Aging of the immune system.</p> <p>Anti-infectious immunity. Antigens of viruses, bacteria, fungi, protozoa.</p> <p>Cellular and humoral immune response.</p>
2	<b>Clinical Immunology</b>	<p>Genetic laws of transplantation. Transplantation immunity. Graft rejection. Graft versus host disease.</p> <p>Immunology of cancer. Tumor antigens. The immune protection. Principles immunotherapy. Immunodeficiency diseases. Definition. Classification. Mechanisms of development. Diagnostics.</p> <p>Autoimmune disorders. Characteristics. Classification. Clinical manifestations. Diagnostics.</p> <p>Lymphoproliferative disorders (immune dyscrasias): leukemia, lymphoma, multiple myeloma. The mechanism of injury. Immunodiagnostics. Allergies. Classification of allergens. Allergic reactions of Jell-Coombs. Allergic disease.</p> <p><b>Reaginic mechanism. Bronchial asthma. Atopic dermatitis. Pollinosis. Food allergy. Hives and angioedema. Anaphylactic shock. Clinical forms, principles of diagnosis and treatment.</b></p>

		<p><b>The cytotoxic mechanism. Drug allergies. The clinical picture. Diagnostics. Prevention. Immune complex mechanism. Local anaphylaxis (Arthus phenomenon). Diagnostics.</b></p> <p>T cell allergy. Disease. Diagnostics. Immunomodulation: immunostimulation, immunosuppression. Types of action of glucocorticoids on the immune system. Cyclosporine A. Assessment immunotropic immunosuppressive action. Immunotherapy. Immunization. Types of vaccines. Vaccination.</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	<b>General Immunology</b>	12	8	14		4		18	
2	<b>Clinical Immunology</b>	12	8	14				18	
	<b>Total hours</b>	24	16	28		4		36	108

## 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	«Immunology» 2,3 course English medium (Moodle course)	Lectures video clip filling in tables science articles	table check final test
2	Workbooks «General Immunology», «Clinical Immunology»	filling in tables filling gaps	table check final test

## 7. Forms of control

### 7.1. Current forms of control

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

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)

Stages of the interim assessment

Stages of examination (pass/fail test)

1. Stage - testing

(name of the stage)

2. Stage - examination (interview under the ticket)

(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. Khaitov R.M. Immunology [Electron source] : textbook/ R. M. Khaitov - 3-rded. - Moscow : Geotar-M, 2018. - 496 с. : ил. - URL: <http://www.studentlibrary.ru/book/ISBN9785970446553.html>
2. Abbas, Abul K. Cellular and Molecular Immunology [Text] / A. K. Abbas, A. H. Lichtman, S. Pillai. - 8th ed., international ed. - Canada : ELSEVIER saunders, 2015. - 535 p. : ил. - Index: p. 517-535. - ISBN 978-0-323-22275-4. - ISBN 978-0-323-31614-9
3. Khaitov R.M. Immunology: Proc. for medical students. universities with a CD / RM Khaitov. - M.: GEOTAR Media 2008.
4. Color Atlas of Immunology. Burmester G, Pezzutto A, ed. 1st Edition. Stuttgart: Thieme; 2003. doi:10.1055/b-005-148845 [https://medone-education.thieme.com/ebooks/2148764#/ebook\\_2148764\\_SL81982709](https://medone-education.thieme.com/ebooks/2148764#/ebook_2148764_SL81982709)

### 9.2. Supplementary literature

1. Zaslavskaya M. I. Applied microbiology and immunology/ M. I. Zaslavskaya; Nizhny Novgorod State Medical Academy, Of the federal agency of public health and social development. - N. Novgorod: Publishing House of Nizhny Novgorod State Medical Academy, 2007. - 91 p.
2. Medical Microbiology. [Электронный ресурс] / F. Kayser [и др.]. - 1sted. - [Б. м.] : Thieme, 2004. - URL: [https://medone-education.thieme.com/ebooks/2151684?fromSearch=true#/ebook\\_2151684\\_SL82039511](https://medone-education.thieme.com/ebooks/2151684?fromSearch=true#/ebook_2151684_SL82039511)

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

№	Resources	URL address	Resource Annotation
1	EBS "Student's Consultant" HPE, SPO.	<a href="http://www.studentlibrary.ru/">http://www.studentlibrary.ru/</a> <a href="http://www.studmedlib.ru/">http://www.studmedlib.ru/</a> <a href="http://www.medcollege.ru/">http://www.medcollege.ru/</a>	Sets: Medicine. Healthcare. Humanities and social sciences. Natural Sciences Access is activated through registration on any computer of the university.
2	Scientific electronic library eLIBRARY.RU	<a href="http://www.elibrary.ru">http://www.elibrary.ru</a>	Open resource

### 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	<a href="https://edu.nsmu.ru/course/view.php?id=1114">https://edu.nsmu.ru/course/view.php?id=1114</a>	web-based training

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

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	Training room for laboratory and practical classes	№2629	Number of seats -16 microscopes, micropreparations, biological products, laboratory glassware, spirit-lamps, bacteriological loops, tools, nutrient mediums, reactants, Notebook Samsung p28, Multimedia projector
2	Training room for laboratory and practical classes	№ 2611	Number of seats -16 microscopes, micropreparations, biological products, laboratory glassware, spirit-lamps, bacteriological loops, tools, nutrient mediums, reactants, Notebook Samsung p28, Multimedia projector
3	Training room for laboratory and practical classes	№ 2627	Number of seats -16 microscopes, micropreparations, biological products, laboratory glassware, spirit-lamps, bacteriological loops, tools, nutrient mediums, reactants, Notebook Samsung p28, Multimedia projector
4	Training room for laboratory and practical classes	№ 2612	Number of seats -16 microscopes, micropreparations, biological products, laboratory glassware, spirit-lamps, bacteriological loops, tools, nutrient mediums, reactants, Notebook Samsung p28, Multimedia projector
5	Training room for laboratory and practical classes	№ 2613	Number of seats -14 microscopes, micropreparations, biological products, laboratory glassware, spirit-lamps, bacteriological loops, tools, nutrient mediums, reactants/

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 16<sup>th</sup> 2021

**SYLLABUS OF THE COURSE (MODULE)**

Discipline **Elective subjects of physical culture and sport. General physical preparation**

Field of training **31.05.01 General Medicine**

Year (s) of study / term (s) **1,2,3 / 1,2,3,4,5,6**

Form of the interim assessment **Pass/fail test**

Department **of Physical Culture and Medical Rehabilitation**

Course workload **328** (hours)

Approved at the department meeting

Minutes No. 10

June 7<sup>th</sup> 2021

Head of the department



N.I. Ishekova

**Author and compiler:**

M.N. Repitskaya

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 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: physical culture and sports.

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 physical culture course at a higher education institution is to develop the physical culture of students, as well as their capability to purposefully and on a reasonable methodological basis use various physical culture means, methods, and organizational forms allowing them to develop the personal health saving life activities required for the professional and personal formation.

In order to achieve this goal, the following *tasks* should be fulfilled during the course:

Mastering the system of practical skills that ensure the preservation and strengthening of health, mental well-being, development and improvement of psychophysical abilities, qualities and personality traits.

Ensuring general and professional physical fitness, which determines the psychophysical readiness of a student for a future profession.

To develop students' readiness to apply the sport and health improvement techniques to achieve a high level of physical health and maintain it during the study at a higher education institution and the further professional career.

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

<b>Codes of the formed competences</b>	<b>Indicator of the competence achievement</b>
Universal competencies (UC)-№ UK-7 Student is able to maintain the proper level of physical fitness to ensure full social and professional activity.	ИД -7.1. Student applies the principles of physical education to increase the adaptive reserves of the body and strengthen health ИД -7.2. Student chooses health-saving technologies to maintain a healthy lifestyle, taking into account the physiological characteristics of the body ИД -7.3. Student justifies competent planning of your working and free time for

	the optimal combination of physical and mental stress ИД -7.4. Student maintains an optimal level of physical fitness to ensure full social and professional activity
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#### 4. Volume of the discipline (module) and types of the academic classes:

Total workload of the course is 328 hours

Type of the academic work	Total hours	Term					
		1	2	3	4	5	6
<b>Students' contact work with the teacher (total)</b>	<b>192</b>	<b>12</b>	<b>12</b>	<b>42</b>	<b>42</b>	<b>42</b>	<b>42</b>
Including:							
Lectures (L)	24			6	6	6	6
Seminars (Sem.)	168	12	12	36	36	36	36
Practical classes (PC)							
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)	<b>136</b>	<b>18</b>	<b>18</b>	<b>12</b>	<b>38</b>	<b>12</b>	<b>38</b>
Examination control (EC)							
<b>Total discipline workload</b>	<b>328</b>	<b>30</b>	<b>30</b>	<b>54</b>	<b>80</b>	<b>54</b>	<b>80</b>

#### 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	Healthy life style of a person	1. Physical education 2. Track and field. Basketball 3. Sports and healthy lifestyle 4. Modern types of fitness 5. Health Concept. Human Body Build. 6. Assessment of Physical Development and Functional Status of Human Body. Assessment of Physical Development. 7. Health Loss Risk Factors.

		<p>8. Profession-specific physical training (pspt) of specialists.</p> <p>9. Hypodynamia. Physical Activity for Disease Prevention.</p> <p>10. Energy Metabolism during Physical Exercises. Dynamics of Physiological State during Physical Activities.</p> <p>11. Influence of Physical Activity on Various Body Systems. Role of Physical Exercises.</p> <p>12. Sports Injuries. Sports Injury Prevention.</p>
2	General physical fitness without equipment.	Introductory session. Safety. A set of simple exercises. A set of exercises to increase flexibility, agility, speed and strength. Testing of movement qualities and abilities, evaluation of physical development.
3	General physical training with weights.	Introductory session. Safety. Exercises with dumbbells. A set of exercises to increase flexibility, agility, speed and strength. Exercises with ball.
4	Stretching	Introductory session. Safety. Basic stretching exercises. Static stretching exercises.
5	Testing Section	<p>Test of residual physical culture knowledge. Testing of movement qualities and abilities,</p> <p>Evaluation of physical development.</p> <p>Functional status evaluation.</p> <p>Filling-in of a student's athletic health passport (medical and athletic records).</p> <p>Point-rating system based end-of-term test on physical culture.</p>

## 5.2. Sections and types of studies

No.	Name of the course section	L	S	P	CP	LBP	SB P	UW	Total hours
1	Healthy life style of a person	24						30	54

2	General physical fitness without equipment.			58				32	90
3	General physical training with weights.			78				32	110
4	Stretching			24				25	49
5	Testing Section			8				17	25

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	Healthy life style	Working with physical education notebook	Results interpretation
2	General physical training with weights	Self-study	Show of a set of exercises
3	Stretching	Self-study	Show of a set of exercises

## 7. Forms of control

### 7.1. Current forms of control

- Practical: testing of physical qualities and abilities
- In writing: check of workbooks, tests, library-research papers, and notes

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

#### 3. Stage – evaluation of physical training level using the point-rating system

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. Evseev, Yu. I. Physical culture [Electronic resource]: [for students and teachers of higher education. and Wednesday study. institutions] / Yu. I. Evseev. - 9th ed. - Rostov-on-Don: Phoenix, 2014. -- 444 p. - Access mode: <http://www.studmedlib.ru/>
2. Workbook on physical culture [Electronic resource]: hands. to theor. classes / comp. S. L. Sovershaeva [and others]. - Arkhangelsk: Publishing

house of the Northern State Medical University, 2016. - 60 p. - Access mode:  
<http://lib.nsmu.ru/lib/>

## 8.2. Supplementary literature

1. Zakharova, L. V. Physical culture [Electronic resource]: textbook / L. V. Zakharova, N. V. Lyulina, M. D. Kudryavtsev. - Krasnoyarsk: Siberian Federal University, 2017. -- 612 p. - URL:  
<http://www.studentlibrary.ru/book/ISBN9785763836400.html>

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

1. <https://www.sportedu.org.ua/index.php/PES-> Physical education of students

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	<b>General Medicine Elective course in physical culture and sports</b> <a href="https://edu.nsmu.ru/course/view.php?id=1203">https://edu.nsmu.ru/course/view.php?id=1203</a>	

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

### **Операционная система**

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\*

No.	The name of the school's office	Location of the study room	List of the main equipment of the study room
1	Classroom for lecture-type lessons No. 2403 of Marine	163000, Arkhangelsk, NSMU Troitsky av. 51	a) list of main equipment: A set of educational furniture (tables, chairs, screen, blackboard) teacher's workplace, workplaces for students for 300 places.

	Medicine, administrative building, 4th floor		<p>b) sets of demonstration equipment speakers, monoblock, projector, screen</p> <p>c) a list of teaching aids: schemas, tables</p> <p>d) 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 Upgr. MS Windows Server CAL 2008 Device CAL. License number 46850049, unlimited</p> <p>Radmin Viewer 3. Radmin Server 3. Document number 11001793</p> <p>Traffic inspector. License agreement No. 1051-08 dated 04/10/2008, unlimited</p>
2	Aerobics hall No. 1024, main educational building, 0 floor, area 63.5 sq.m.	163000, Arkhangelsk, NSMU Troitsky av. 51	Vinyl dumbbells, gymnastic mats, gymnastic balls, gymnastic steel hoops, gymnastic weighted hoops, gymnastic sticks, jump ropes, benches, wall bars, step board
3	Room for storage and preventive maintenance of educational equipment No. 1030, main educational building, 0 floor	163000, Arkhangelsk, NSMU Troitsky av. 51	Ski boots, ski bindings, skis, ski poles, Nordic walking poles
4	Wrestling hall № 1029, main educational building, 0 floor, area 123.1 sq.m.	163000, Arkhangelsk, NSMU Troitsky av. 51	Swedish wall, jump ropes, gymnastic mats
5	Gym № 1017, main educational	163000, Arkhangelsk, NSMU	Exercise machines, dumbbells, weights, mats, benches, jump ropes, weights

	building, 0 floor, area 140 sq.m.	Troitsky av. 51	
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MINISTRY OF HEALTHCARE OF THE RUSSIAN FEDERATION  
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APPROVED

Dean of the International Faculty  
of General Practitioner



A.K. Sherstennikova

June 16<sup>th</sup> 2021

**SYLLABUS OF THE COURSE (MODULE)**

Discipline **Elective subjects of physical culture and sport. Sport games**

Field of training **31.05.01 General Medicine**

Year (s) of study / term (s) **1,2,3 / 1,2,3,4,5,6**

Form of the interim assessment **Pass/fail test**

Department **of Physical Culture and Medical Rehabilitation**

Discipline workload **328** (academic hours)

Approved at the department meeting

Minutes No. 10

June 7<sup>th</sup> 2021

Head of the department



N.I. Ishekova

**Author and compiler:**

M.N. Repitskaya

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 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: physical culture and sports.

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 physical culture course at a higher education institution is to develop the physical culture of students, as well as their capability to purposefully and on a reasonable methodological basis use various physical culture means, methods, and organizational forms allowing them to develop the personal health saving life activities required for the professional and personal formation.

In order to achieve this goal, the following *tasks* should be fulfilled during the course:

1. Mastering the system of practical skills that ensure the preservation and strengthening of health, mental well-being, development and improvement of psychophysical abilities, qualities and personality traits.
2. Ensuring general and professional physical fitness, which determines the psychophysical readiness of a student for a future profession.
3. To develop students' readiness to apply the sport and health improvement techniques to achieve a high level of physical health and maintain it during the study at a higher education institution and the further professional career.

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

<b>Codes of the formed competences</b>	<b>Indicator of the competence achievement</b>
Universal competencies (UC)-№ UK-7 Student is able to maintain the proper level of physical fitness to ensure full social and professional activity.	ИД -7.1. Student applies the principles of physical education to increase the adaptive reserves of the body and strengthen health ИД -7.2. Student chooses health-saving technologies to maintain a healthy lifestyle, taking into account the physiological characteristics of the body ИД -7.3. Student justifies competent planning of your working and free time for the optimal combination of physical and mental stress ИД -7.4. Student maintains an optimal level of physical fitness to ensure full social and professional activity

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

Total workload of the course is 328 hours

Type of the academic work	Total hours	Term					
		1	2	3	4	5	6
<b>Students'contact work with the teacher (total)</b>	<b>192</b>	<b>12</b>	<b>12</b>	<b>42</b>	<b>42</b>	<b>42</b>	<b>42</b>
Including:							
Lectures (L)	24			6	6	6	6
Seminars (Sem.)	168	12	12	36	36	36	36
Practical classes (PC)							
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)	<b>136</b>	<b>18</b>	<b>18</b>	<b>12</b>	<b>38</b>	<b>12</b>	<b>38</b>
Examination control (EC)							
<b>Total discipline workload</b>	<b>328</b>	<b>30</b>	<b>30</b>	<b>54</b>	<b>80</b>	<b>54</b>	<b>80</b>

## 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	Basketball	Rules, technique and tactics of the game.
2	Volleyball	Rules, technique and tactics of the game.
3	Badminton	Rules, technique and tactics of the game.
4	Floorball	Rules, technique and tactics of the game.
5	Sport-related games	Kinds of sport-related games. Relays with additional objects.
6	Testing Section	Test of residual physical culture knowledge. Testing of movement qualities and abilities, Evaluation of physical development. Functional status evaluation. Filling-in of a student's athletic health passport (medical and athletic records). Point-rating system based end-of-term test on physical culture.
7	Healthy life style of a person	1. Physical education 2. Track and field. Basketball 3. Sports and healthy lifestyle 4. Modern types of fitness 5. Health Concept. Human Body Build. 6. Assessment of Physical Development and Functional Status of Human Body. Assessment of Physical Development. 7. Health Loss Risk Factors.

		8. Profession-specific physical training (pspt) of specialists. 9. Hypodynamia. Physical Activity for Disease Prevention. 10. Energy Metabolism during Physical Exercises. Dynamics of Physiological State during Physical Activities. 11. Influence of Physical Activity on Various Body Systems. Role of Physical Exercises. 12. Sports Injuries. Sports Injury Prevention.
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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	Basketball			54				28	82
2	Volleyball			56				40	96
3	Badminton			18				20	38
4	Floorball			24					24
5	Sport-related games			16				12	28
6	Testing Section							26	26
7	Healthy life style of a person	24						10	34

## 5. 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	Sport-related games	Prepare sport-related game	Conducting a sport-related game in the group of students
2	Basketball	Learning of game rules	Participation and judgment in competitions
3	Volleyball	Learning of game rules	Participation and judgment in competitions

## 7. Forms of control

### 7.1. Current forms of control

- Practical: testing of physical qualities and abilities
- In writing: check of workbooks, tests, library-research papers, and notes

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)

Stages of the interim assessment

### 3. Stage – evaluation of physical training level using the point-rating system

Questions for a pass 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

### 8.2. Supplementary literature

1. **Workbook on physical culture** [Электронный ресурс] : методический материал / S.

L. Sovershaeva [и др.]. - Архангельск : Изд-во Северного государственного

медицинского университета, 2016. - 36 р. - Режим доступа: [http://nb.nsmu.ru/cgi-bin/irbis64r\\_11/cgiirbis\\_64.exe?LNG=&Z21ID=&I21DBN=ELIB&P21DBN=ELIB&S21STN=1&S21REF=3&S21FMT=fullwebr&C21COM=S&S21CNR=20&S21P01=0&S21P02=1&S21P03=I&S21STR=elb/W83-286633](http://nb.nsmu.ru/cgi-bin/irbis64r_11/cgiirbis_64.exe?LNG=&Z21ID=&I21DBN=ELIB&P21DBN=ELIB&S21STN=1&S21REF=3&S21FMT=fullwebr&C21COM=S&S21CNR=20&S21P01=0&S21P02=1&S21P03=I&S21STR=elb/W83-286633)

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

№	Resources	URL address	Resource Annotation
1	International university sports federation	<a href="https://www.fisu.net/">https://www.fisu.net/</a>	ISU offers opportunity and inspiration to students around the world to play sport. The health, wellbeing, and experiences that students gain from sport help them become exemplary leading members of society. Hence, FISU's motto of Excellence in Mind and Body.
2	Volleyball advisors	<a href="http://www.volleyballadvisors.com">http://www.volleyballadvisors.com</a>	Includes volleyball game and practice tips - volleyball drills, skills, tactics, conditioning exercises and rules among others.
3	Basketball rules	<a href="https://www.fiba.basketball/">https://www.fiba.basketball/</a>	FIBA, the International Basketball Federation, is the world governing body for basketball. Founded by eight nations in 1932, we now bring together 212 National Basketball Federations from all over the world. A non-profit making organization, our mission is to develop and promote the game of basketball, uniting the wider basketball community, which counts more

			than 450 million players and fans.
4	World Health Organization	<a href="https://www.who.int/">https://www.who.int/</a>	Dedicated to the well-being of all people and guided by science, the World Health Organization leads

#### 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	<b>General Medicine Elective course in physical culture and sports</b> <a href="https://edu.nsmu.ru/course/view.php?id=1203">https://edu.nsmu.ru/course/view.php?id=1203</a>	

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

##### **Операционная система**

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\*

No.	The name of the school's office	Location of the study room	List of the main equipment of the study room
1	Учебная аудитория для проведения занятий лекционного типа No 2403 Морской медицины, административный учебный корпус, 4 этаж	NSMU Troitsky av. 51	а) перечень основного оборудования: Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 300 мест.  б) наборы демонстрационного оборудования колонки, моноблок, проектор,

			<p>экран</p> <p>в) перечень учебно-наглядных пособий: схемы, таблицы</p> <p>г) используемое программное обеспечение:</p> <p>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.</p> <p>Лицензионное соглашение No1051-08 от 10.04.2008,</p>
2	Спортивный зал No 1421, главный учебный корпус, 4 этаж	NSMU Troitsky av. 51	<p>площадь 466,8 кв.м</p> <p>Оборудование:</p> <p>Вышка металлическая, доска 1-элементная, кольца баскетбольные, маты гимнастические, скамейки гимнастические, стенка шведская, стойки волейбольные, табло спортивное, тренажёры силовые, турники к шведской стенке, щиты баскетбольные</p>

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 16<sup>th</sup> 2021

**SYLLABUS OF THE DISCIPLINE**

Discipline **Russian language**

Field of training **31.05.01 General Medicine**

Year (s) of study / term (s) **1, 2, 3, 4 years (terms 1, 2, 3, 4, 5, 6, 7, 8)**

Form of the interim assessment **graded test (5<sup>th</sup> term), exam (8<sup>th</sup> term)**

Department **of foreign languages and Russian language as foreign**

Discipline workload **720** (academic hours) / **20** (credits)

Approved at the department meeting

Minutes No. 10

June 15<sup>th</sup> 2021

Head of the department



O.I. Vorobyova

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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 tasks of the mastering of the course:*

1) READING TRAINING:

- development and improvement of reading skills (texts up to 1000 words, reading speed - 50-60 words per minute when studying reading; 70–80 words per minute when reading with a general coverage of the content).
- the formation of skills and abilities in reading texts of educational and professional and socio-political spheres.

2) WRITING TRAINING:

- teach written monologue on the proposed topic (socio-cultural, educational and professional topics);
- teach written monologue on the basis of read or heard text.

3) SPEAKING TRAINING:

in monologue speech

- teach yourself how to create coherent, logical statements in accordance with the proposed topic, including the educational and professional sphere;
- teach to build a monologue utterance based on the text you have read or heard.

in dialogic speech

- To teach to understand the content of the interlocutor's statements in a certain situation, to adequately respond to them, to start and conduct a dialogue.

4) LISTENING TRAINING:

- to teach to understand the main content of the monologue /dialogue with sufficient completeness (socio-cultural and educational professional areas of communication).

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:

The discipline is related to subsequent subjects of the curriculum:

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. This discipline is implemented in the first and second semesters of the first year of study and is a logical continuation of the course "Foreign language" (Russian language). The students develop the necessary language skills in reading, listening, speaking and writing at the elementary level (A1) and lay the foundations for mastering Russian as a foreign language at the basic level (A2).

Knowledge of Russian as a foreign language at an elementary level will satisfy the basic communicative needs of foreign students in the field of everyday communication and in the socio-cultural sphere, and will also contribute to their early adaptation in the Russian language environment.

## **2. Goal and tasks of the mastering of the discipline**

The goal of mastering the discipline is the mastery by students of all types of speech activity (speaking, listening, reading, writing) in a volume corresponding to the threshold level of Russian language proficiency (B1 Threshold Level) in accordance with the requirements of the Federal State Educational Standard with the use of knowledge, skills and abilities in the field information technologies to improve speech skills, as well as increase the opportunities for independent mastery of the language of everyday communication and the language of the specialty.

Discipline objectives:



### 1. Formation of knowledge

- about the Russian language as the language of interethnic communication and the state language of the Russian Federation, about the stylistic differentiation of the modern Russian literary language and communicative tactics in everyday and professional communication;
- about the orthoepic norms of the modern Russian literary language, the peculiarities of the intonational design of the text;
- about the grammatical structure of the Russian language (paradigmatic and syntagmatic connections of words of different parts of speech; basic word-formation models of the Russian language, syntactic models of simple and complex sentences);
- about thematic groups (vocabulary of everyday communication in everyday, educational, socio-cultural situations; vocabulary of everyday and professional communication (in the amount of 2300 units);
- about the peculiarities of Russian general cultural and professional speech etiquette and basic communication tactics and strategies
- about the features of professional communication with different groups of patients;
- about the possibilities and ways of using electronic resources in the study of foreign languages (educational portals, websites, mobile applications, electronic translators and dictionaries).

### 2. Formation of skills (mastering different types of speech activity in a foreign language, as well as information resources in the field of learning foreign languages):

- read and understand texts of different types of speech (description, narration, reasoning), understand and extract basic and additional information from a small text on everyday and highly professional topics that use common words and constructions (reading);
- build written statements: a simple, coherent text on familiar topics or topics of interest to the participants in the communication, draw up separate parts of medical documentation (letter).
- to understand by ear the statements of the interlocutor, the content of dialogues and monologues in situations of daily and professional communication, as well as information programs related to personal or professional interests, subject to the observance of the literary norm and a low speed of speech delivery (listening);
- participate in dialogical everyday and professional communication, be able to answer / ask questions, in particular, about impressions, plans, recommendations, health status, symptoms, treatment methods, etc., using simple phrases; briefly state and argue your views (speaking);
- use different communication techniques, taking into account the situation and status of the communication participants: friendly, official, professional communication, including with patients with disabilities (communication);
- use electronic educational resources (sites, applications, electronic libraries) for the formation of speech skills, a solid mastery of the lexical and grammatical structure of the language; electronic translators and dictionaries for understanding / producing speech;
- understand in Russian the inscriptions and markings on equipment for people with disabilities.
- use electronic translators and dictionaries, electronic educational resources, linguistic simulators for the formation and consolidation of speech skills and the development of lexical and grammatical material.

### 3. Skills formation

- fluent reading and understanding of simple texts on familiar topics (monologues and dialogues);
- listening and understanding speech in the target language with an average speed of pronunciation;
- the use of the studied linguistic units in the classroom and in the conditions of real communication (everyday, socio-cultural, professional spheres of communication) for the production of oral and written statements;
- the use of educational portals, sites, video channels for the study of foreign languages for the formation of your own language learning strategy.
- effective use of information technologies for unsupervised work and homework when learning foreign languages (educational portals, websites, mobile applications, electronic translators and dictionaries, linguistic simulators, etc.)

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

<b>Codes of the formed competences</b>	<b>Indicator of the competence achievement</b>
Universal competencies (UC)-№4 - capable to use modern communication technologies, including in a foreign (s) language (s), for academic and professional interaction	UC-4.1. Expresses his thoughts in Russian and foreign languages in business communication UC-4.2. Complies with the norms of Russian and foreign languages when speaking in public UC-4.3. Compiles texts in Russian and foreign languages related to professional activities UC-4.4. Uses modern information and communication tools and technologies UC-4.5. Drafts, translates, edits various academic and professional texts
Universal competencies (UC)-№5 Able to analyze and take into account the diversity of cultures in the process of intercultural interaction	ID-5.1. Respects ethical standards and human rights ID-5.2. Analyzes and takes into account ethnocultural, national and confessional peculiarities in professional activity ID-5.3. Forms a tolerant environment for interaction when performing professional tasks ID-5.4. Overcomes barriers in the process of intercultural interaction
Universal competencies (UC)-№9 Able to use basic defectological knowledge in social and professional spheres	UC-9.1. Applies effective communication and creates a tolerant environment when interacting with people with disabilities and people with disabilities in social and professional activities UC-9.2. Provides medical, social and organizational support to people with disabilities when they receive medical care

\*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 20 credits.

Type of the academic work								
Students'contact work with the teacher (total)	Total hours	Terms	Total hours	Terms	Total hours	Terms	Total hours	Terms
Including:								
Practical classes (PC)	108	1, 2	72	3,4	90	5, 6	72	7
Unsupervised work (UW) (total)	108	1, 2	72	3,4	90	5, 6	108	7
<b>Total discipline workload</b>	<b>720</b>							

## 5. Course content:

### 5.1. Contents of the sections of the course

1<sup>st</sup> year

No	Name of the course section	Content of the section
	Repetition (basic information about the language obtained in the course "Foreign language")	<p>Repetition of basic information about the language, basic reading rules. Grammar. Noun: gender, number, singular case forms (nominative and prepositional). Thematic group "Names of persons by sex, age, profession, etc.", "Kinship terms". Russian proper names. Pronouns. Personal pronouns. Meaning, case forms and use. Possessive and demonstrative pronouns. Meaning, forms of genus and use. Concordance with a noun ..</p> <p>Adjective. Full adjectives: agreement in gender and number with the noun in the nominative case. Brief adjectives .. Thematic groups "Color", "Size", etc., evaluative adjectives.</p> <p>The verb as the center of the sentence. infinitive. Species-tense forms of the verb. Verb conjugations. Imperative.</p> <p>Numeral. Cardinal and ordinal numbers in the nominative case. Adverbs of place, time, measure and degree. predicative adverbs, interrogative adverbs ..)</p> <p>Prepositions, conjunctions, particles.</p> <p>Simple sentences: two-part and one-part. Order of words in a sentence. The concept of a subject and a predicate. Compound sentences. Interrogative sentences.</p> <p>Basic textbooks and information and communication resources (LMS Moodle, video conferencing ZOOM, communication channel - WhatsApp). Resources for independent work (applications and sites for learning Russian for foreign citizens).</p> <p>Linguistic simulators for the formation of auditory-pronunciation skills. Online electronic keyboard with Russian fonts. Text scoring software (ICE Book Reader Professional) Electronic translators (PROMT machine translation system, Yandex translator, Google Translate)</p> <p>Electronic explanatory dictionaries (ABBY Lingvo live) Educational YouTube channels for learning Russian as a foreign language: RikiStudy, RussianLessons.Net; Learn Russian with RussianPod101.com</p>
	Main course: (lexical minimum, grammar topics)	<p>Vocabulary</p> <p>Words, phrases, lexical phrases and constructions that provide</p> <ul style="list-style-type: none"><li>- generation and understanding of texts within the framework of the studied topics;</li><li>- request and transfer of information of a domestic nature, as well as within the framework of the studied topics;</li><li>- correct start and end of the conversation;</li><li>- expression of their attitude to what is happening: assessment of a person, object, fact, event;</li><li>- expressions of the characteristics of a person, object, fact, event;</li><li>- expressions of greeting, acquaintance, farewell;</li><li>- expressions of gratitude, response to gratitude, apology, response to</li></ul>

	<p>apology;</p> <p>- expressions of a request, proposal, invitation, consent / disagreement, refusal.</p> <p>The vocabulary is limited (780 units) *, but it is sufficient to meet the basic communication needs in specific everyday situations (everyday and socio-cultural spheres of communication).</p> <p>The lexical minimum includes linguistic terms, medical vocabulary and vocabulary of social, everyday and socio-cultural spheres of communication.</p> <p>Grammar: cases of nouns.</p> <p>Prepositional case of nouns.</p> <p>Meanings:</p> <ul style="list-style-type: none"> <li>- в, на – place (Отец работает в банке.);</li> <li>- в, на – location (Книги на столе.)</li> <li>- о – object of speech, thought (Я читал о Москве.);</li> <li>- на – means of transportation (Мы ездим в университет на автобусе.);</li> <li>- на - object of influence (Студент работает на компьютере.);</li> <li>- в – time of action connected by words месяц, год, неделя (Я приехал в сентябре.)</li> </ul> <p>Functions:</p> <ul style="list-style-type: none"> <li>- object (Виктор рассказал о семье.);</li> <li>- circumstance of place (Я живу в Москве.);</li> <li>- circumstance of time (Я приехал в сентябре.).</li> </ul> <p>Accusative case of nouns</p> <p>Meanings:</p> <p>а) without preposition:</p> <ul style="list-style-type: none"> <li>- a person who has a direct object of action (Я знаю декана. Он читает журнал.);</li> <li>- designation of a person with the verb звать (Мою подругу зовут Ира.);</li> <li>- time of action : <ul style="list-style-type: none"> <li>а) duration (Я изучаю русский язык месяц);</li> <li>б) repeatability (Он ходит на стадион каждую неделю.) ;</li> </ul> </li> <li>- designation of the price after the verb стоить: (Книга стоит одну тысячу рублей.);</li> </ul> <p>б) with prepositions:</p> <ul style="list-style-type: none"> <li>в, на – direction (Набил идёт в магазин. Я еду в университет на автобусе.);</li> <li>в – time – day of the week, hour (Лекция в среду в 10 часов.)</li> <li>через – intersection (через мост, через улицу);</li> <li>через – time period (Студенты приедут через неделю).</li> </ul> <p>Functions:</p> <ul style="list-style-type: none"> <li>- logical subject ( Моего брата зовут Иван.);</li> <li>- direct object with transitive verbs (Мой друг любит музыку.);</li> <li>- circumstance of place (Студенты идут в общежитие.);</li> <li>- circumstance of time (Мы не учимся в воскресенье. Я живу в России месяц.).</li> </ul> <p>Accusative inanimate nouns. Transitive verbs читать, учить, слушать, смотреть, хотеть, делать, писать и др., which are used with accusative nouns without a preposition.</p>
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		<p>Accusative animate nouns. Transitive verbs встретить ,видеть, пригласить, ждать и др., which are used with accusative nouns without a preposition.: встретить преподавателя, видеть друга, ждать врача, пригласить гостя Formation and use of adjectives, possessive pronouns and ordinal numbers in the accusative case.</p> <p>Genitive case of nouns.</p> <p>Meanings:</p> <p>a) without preposition:</p> <ul style="list-style-type: none"> <li>- the person who owns something (Эта книга моего друга.);</li> <li>- social family relations (Анна – секретарь декана. Борис – брат Виктора.);</li> <li>- the absence of a person, an object (У меня нет брата. В городе нет театра.);</li> <li>- definition of the subject (Улица Гагарина);</li> <li>- amount, measure</li> </ul> <p>a) in combination with cardinal numbers 2-4, 5-20, in a strictly limited set ( два брата, пять студентов, 2 часа, 5 рублей);</p> <p>б) with words сколько, много, мало, несколько (Сколько студентов в группе?);</p> <ul style="list-style-type: none"> <li>- exact date of the event, action (Он родился 10-го мая 1999- го года.);</li> <li>- name of the month in the date (Сегодня первое сентября.).</li> </ul> <p>б) with prepositions:</p> <p>у – a person who owns something ( У Виктора есть машина.);</p> <p>у – location associated with the person (Я был у врача.);</p> <p>около, (не)далеко/близко от – location (Мы живём недалеко от университета.);</p> <p>из, с, от - starting point of movement: place, face (Он приехал из Индии. Он пришёл со стадиона. Я пришёл от врача.);</p> <p>до – final destination of the movement (Как доехать до центра?);</p> <p>до, во время, после – time of action ( Во время войны он работал врачом в госпитале.);</p> <p>от - object to move away from (Он отошёл от окна.);</p> <p>без – absence of anything (чай без сахара).</p> <p>Functions:</p> <ul style="list-style-type: none"> <li>- logical subject (У Рахула есть сестра.);</li> <li>- object when negated (У меня нет словаря.);</li> <li>- object (Я был на открытии выставки.);</li> <li>- definition of the subject ( день спорта, кабинет декана);</li> <li>- circumstance of place (Он приехал из Англии.).</li> <li>- circumstance of time (Она пришла после обеда.);</li> </ul> <p>Formation and use of adjectives, possessive pronouns and ordinal numbers in the genitive case.</p> <p>Dative case of nouns.</p> <p>Meanings:</p> <p>a) without preposition:</p> <ul style="list-style-type: none"> <li>- person who is in need of something (Мне надо позвонить.);</li> <li>- addressee of the action (Я написал письмо маме);</li> <li>- person experiencing a certain physical or emotional state (Мне</li> </ul>
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	<p>нравиться играть в футбол. Детям холодно.).</p> <p>- age of the person, the object (Сестре 20 лет. Городу 1000 лет.);</p> <p>б) with preposition:</p> <p>к – person as a target of movement (в ограниченном наборе) (Я иду к врачу.);</p> <p>к - person, object as the target of the approach (Мы подъехали к общежитию. Студент подошёл к преподавателю.);</p> <p>по – place of movement (Друзья гуляли по городу.);</p> <p>по – means of communication (Я говорю по телефону.)</p> <p>;по – sign of the subject in relation to the field of knowledge (Студенты слушали лекции по анатомии.);</p> <p>Function:</p> <p>- indirect object (Сампада позвонила подруге.);</p> <p>- logical subject (Мне нравится анатомия.);</p> <p>- circumstance of :</p> <p style="padding-left: 40px;">а) place (Я иду к врачу.);</p> <p>б) mode of action ( Я получил письмо по факсу.);</p> <p>- definition (У студентов был экзамен по биохимии.).</p> <p>Dative case in impersonal constructions (дат. п. + нужно / можно / нельзя / трудно / легко. Dative case with verbs of movement</p> <p>Formation and use of adjectives, possessive pronouns and ordinal numbers in the case.</p> <p>Instrumental case of nouns.</p> <p>Meanings:</p> <p>а) with preposition:</p> <p>- characteristic, sign of a person, an object with the verbs быть , стать, работать (Я буду врачом. Отец работает инженером.);</p> <p>- object of interest, activities (Студенты занимаются спортом. Я интересуюсь анатомией ).</p> <p>б) with prepositions:</p> <p>с – togetherness (Набил был в магазине с другом .);</p> <p>с – characteristic of the object (Я пью чай с молоком.);</p> <p>рядом с - location (Мой друг живёт рядом с аптекой.);</p> <p>перед – time (Консультация будет перед экзаменом.).</p> <p>Functions:</p> <p>- predicate (Он был врачом.);</p> <p>- object (Отец гулял с сыном.);</p> <p>- definition (Я люблю чай с сахаром.);</p> <p>- circumstance of:</p> <p style="padding-left: 40px;">а) place (Сестра живёт рядом с магазином.);</p> <p style="padding-left: 40px;">б) time (Перед экзаменом я много занимался.)</p> <p>Formation and use of adjectives, possessive pronouns and ordinal numbers in the instrumental case.</p> <p>Grammar: Verbs</p> <p>Conjugation of verbs. Perfect and imperfect verbs. Formation of perfective verbs using prefixes and suffixes: читать – прочитать, писать – написать, опаздывать – опоздать. Verbs that form perfect and imperfect form from different roots: говорить – сказать, брать – взять.</p>
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	<p>Verbs: идти-ходить, ехать-ездить.</p> <p>Verbs of movement. Verbs that show different kinds of movement: идти-ходить, ехать-ездить, бежать-бегать, плыть-плавать, лететь-летать, нести-носить, везти-возить, вести-водить.</p> <p>Meanings of verbs of movement with prefixes</p> <ul style="list-style-type: none"> <li>- по- - beginning of the movement (пойти, поехать);</li> <li>- при- - achievement of the ultimate goal of the movement (прийти, приехать);</li> <li>- у- - moving away from certain places (уйти, уехать);</li> <li>- в(о)-, в- - move inside (войти, въехать);</li> <li>- вы- - move outside (выйти, выехать);</li> <li>- под- - approaching a certain object (подойти, подъехать);</li> <li>- от- - moving a certain distance (отойти, отъехать);</li> <li>- пере- - moving from one place to another (перейти, переехать);</li> <li>- до- - reaching the final goal of the movement (доехать, дойти).</li> </ul> <p>Forms of the perfect and imperfect form of the verbs of movement with the prefixes: приходиться-прийти, приезжать-приехать и т.д. The use of imperfect and perfect verbs of movement.</p> <p>Verbs of unidirectional and multidirectional movementидти (пойти) – ходить, ехать (поехать) – ездить в in the present, past future tense and imperative mood.</p> <p>Verbs of movement combined with nouns.Prepositions В and НА with nouns in the accusative case when indicating the direction ( в театр, вы гости, на вокзал, на день рождения и др.)</p> <p>and in the prepositional case when indicating the type of transport ( на [в] машине, на [в] автобусе, на [в] такси и др.)</p> <p>verbs in combination with animate nouns in the dative case with the preposition К indicating the direction ( идти к врачу, к другу) и предлогом ОТ + родительный падеж с противоположным значением (идти от врача, от друга)</p> <p>Grammar - Syntax</p> <p>Simple and complex sentences. Simple and complex-composed sentences on an extended set of lexical-grammatical material. Complex sentences (explanatory, attributive, temporary, conditional, target).</p> <p>Basic textbooks and information and communication resources (LMS Moodle, video conferences ZOOM, communication channel - WhatsApp). Resources for independent work (applications and sites for learning Russian for foreign citizens).Electronic translators (PROMT machine translation system, Yandex translator, Google Translate)</p> <p>Electronic explanatory dictionaries (ABBY Lingvo live) Educational YouTube channels for learning Russian as a foreign language: RikiStudy, RussianLessons.Net; Learn Russian with RussianPod101.com</p>
Speech topics (dialogues, texts on everyday, educational, professional topics)	<p>Speech practice:</p> <p>Conversational topics: "My working day", "My day off", "Birthday", "Russian language lesson", "My future profession"</p> <p>"About myself", "My family", "My friend" ("My girlfriend") - expansion of the topic.</p> <p>Dialogues: "Where do you live?", "Free time: what are you doing in the evening / on Sunday?" , "In the store: I go to the store for groceries / I buy</p>

		<p>a gift", "In the city / on the bus", "In the cafeteria", "In the library", "Calling a taxi", "At the airport / check-in"</p> <p>Working with texts (topics) corresponding to the profile of training: "Jeswin is sick", "Polyclinic of NSMU", "Jeswin goes to the pharmacy", "Disease of a friend", "Healthy lifestyle".</p> <p>Dialogues: "At the reception", "At the doctor's appointment", "At the pharmacy", "Calling an ambulance."</p> <p>Speaking:</p> <p>Monologue speech: A story on a given topic.</p> <p>Dialogue speech: influence, negotiate, maintain dialogue in situations related to the topics studied.</p> <p>Listening:</p> <p>Understand information by ear (topic, main idea); understand the main content of the dialogue; listen to a monologue and dialogical speech with the selection and subsequent discussion of the main ideas. Specially compiled or adapted texts are used, built on the basis of the lexical and grammatical material of this level.</p> <p>Reading:</p> <p>Types of reading: reading with general content coverage, learning reading, browsing and searching reading.</p> <p>The prevailing topic is relevant for the social and social and cultural spheres of communication. The texts are used corresponding to the profile of training (texts of professional topics).</p> <p>Letter:</p> <p>Based on the text read</p> <ul style="list-style-type: none"> <li>- create a written monologue of a reproductive nature in accordance with the communicative task;</li> <li>- using questions, create a written statement of a productive nature on the proposed topic in accordance with the communicative attitude.</li> </ul> <p>Text type: narration or message. Specially compiled texts are used based on the studied lexical and grammatical material. The volume of the presented text: up to 100 words. There are no unfamiliar words in the text. The volume of the created text: no more than 5 sentences.</p> <p>Basic textbooks and information and communication resources (LMS Moodle, video conferencing ZOOM, communication channel - WhatsApp). Resources for independent work (applications and sites for learning Russian for foreign citizens).</p> <p>Electronic translators (PROMT machine translation system, Yandex translator, Google Translate)</p> <p>Electronic explanatory dictionaries (ABBY Lingvo live) Educational YouTube channels for learning Russian as a foreign language: RikiStudy, RussianLessons.Net; Learn Russian with RussianPod101.com.</p>
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2<sup>nd</sup> year

№	Name of the discipline section	Contents of section
1	2	3
1	Repeat the material	Input control



	<p>learnt in the first year</p> <p>Basics of professional communication</p>	<p>Revision of grammar material of the 1st course: prepositional-singular system of nouns, adjectives and pronouns (demonstrative and possessive)</p> <p>Plural Nominative case of nouns, adjectives, demonstratives, and possessive pronouns</p> <p>Verbs of movement (идти – ходить, ехать – ездить)</p> <p>Time constructs (когда? Как долго? Как часто?)</p> <p>The text " M. V. Lomonosov, the great Russian scientist "(see text in the App)</p> <p>Vocabulary: название практики, больница, стационар, приемное отделение, терапевтическое отделение, помещения в отделении, мебель, сантехническое оборудование, медицинский персонал, одежда и обувь медперсонала, медицинские предметы, белье постельное и нательное, объективные показатели физического состояния пациента (рост, вес, пульс, давление, температура)</p> <p>Conversational topic "Preparing for practice in the hospital"</p> <p>Control under section 1</p>
2	<p>Genitive plural of nouns, adjectives, possessive pronouns, and demonstrative pronouns.</p> <p>Basics of professional</p>	<p>Nouns, adjectives, and demonstrative and possessive pronouns in the genitive plural</p> <p>Use of the pronoun "себя"</p> <p>Numerals + nouns (Genitive plural)</p> <p>Text "Doctor Elena" (textbook by Yu. G. Ovsienko)</p> <p>Words for body parts and internal organs Constructions «Я болею», «У меня болит что?», «У меня болит где?», «Боль где?», «Боль какая?», «Как ты себя чувствуешь?»</p> <p>Conversational topic "At a doctor's appointment"</p> <p>Control under section 2</p>

	communication	
3	Accusative plural of nouns, adjectives, possessive pronouns, and demonstrative pronouns.  Basics of professional communication	Nouns, adjectives and demonstrative and possessive pronouns in the Accusative case plural  Groups of verbs (идти – ходить, видеть – смотреть, слышать – слушать, брать/взять, покупать / купить, показывать / показать, сдавать / сдать, есть/ съесть, пить / выпить, лечить/вылечить, чистить / вычистить, выписывать/выписать, мыть / вымыть, принимать / принять, лечить/вылечить)  The text "Dr. Lisa" (see text in the App)  Vocabulary on the topic «Острые респираторные заболевания»: простуда, простудиться, повышенная температура, насморк, кашлять (кашель), чихать (чихание), осложнение, измерять/измерить (что?)  The construction “ при + prepositional case”  The text "Острые респираторные заболевания " (see text in the App)  Conversation topic «Colds Prevention»  Control under section 3
4	Prepositional plural of nouns, adjectives, possessive pronouns, and demonstrative pronouns  Basics of professional communication	Nouns, adjectives, and demonstrative and possessive pronouns in the Prepositional plural  Verbs: находиться, родиться, жить, лечиться, рассказывать/рассказать, брать/взять, покупать/ купить, спрашивать/спросить, выступать/ выступить, думать/подумать  Text of "М. В. Пиккель " (see the text in the appendix)  Vocabulary on the topic «У меня болит горло» (шея, глотать (глотание), воспаляться (воспаление), гной (гнойный), запах, полоскать (полоскание), слюнные железы, нёбо, слюна, лимфатические узлы, повязка)  The text "Angina" (see text in the App)  Colloquial topic "Strengthening the immune system"  Control under section 4
5	Dative case of plural nouns, adjectives,	Nouns, adjectives, and demonstrative and possessive pronouns in the Dative plural

	<p>possessive and demonstrative pronouns</p> <p>Basics of professional communication</p>	<p>Sentences with the word «который», которая, которое, которые</p> <p>The "надо, нужно + infinitive" construction</p> <p>The text " Anton Pavlovich Chekhov "(see text in the App)</p> <p>Verbs: давать / дать, объяснять / объяснить, назначать / назначить, посылать / послать, говорить / сказать, идти – ходить к (кому?)</p> <p>Vocabulary on the topic "Bronchitis": легкие, бронхи, дыхательные пути, сухой/влажный кашель, хрипы, мокрота, слизистая оболочка, табачный дым, назначать (назначение), возбуждать (возбудитель), дышать (дыхание), защищать (защита) etc.</p> <p>The text "Bronchitis" (see text in the App)</p> <p>Conversational topic of the "Healthy Lifestyle" block: "Bad habits"</p> <p>Control under section 5</p>
6	<p>Instrumental case of plural nouns, adjectives, possessive and demonstrative pronouns</p> <p>Basics of professional communication</p>	<p>Nouns, adjectives and demonstrative and possessive pronouns in the Instrumental case plural</p> <p>Verb groups: заниматься / заняться, встречаться / встретиться, идти – ходить, знакомиться / познакомиться, здороваться / поздороваться, прощаться / попрощаться, питаться, болеть / заболеть, лечиться</p> <p>Text "The city on the banks of the Northern Dvina" (see text in the App)</p> <p>Flu vocabulary: инкубационный период, инфекция, интоксикация, суставы, мышцы, озноб, слабость, потливость, вялость, осложнение, постельный режим, обильное питье, препараты (жаропонижающие, болеутоляющие, противовирусные), влажная уборка, маска и т.д., etc.</p> <p>The text " Flu " (see text in the App)</p> <p>Colloquial topic "Care for infectious patients"</p> <p>Control under section 6</p>
7	<p>Verbs of movement</p>	<p>Unidirectional and multidirectional verbs</p> <p>Verbs without prefixes: идти – ходить, ехать - ездить, and with prefixes: прийти, уйти, приехать, уехать</p>

	Basics of professional communication	<p>The "чтобы + infinitive" construction</p> <p>The text of " V. A. Kudryavtsev "(see text in the App)</p> <p>Vocabulary on the topic "Stomach aches" (живот, желудок, кишечник, слизистая оболочка, питание, нарушение стула, тошнота, рвота, плохой аппетит)</p> <p>The text "Gastritis" (see text in the App)</p> <p>Conversational topic of the "Healthy Lifestyle" block: "Proper nutrition"</p> <p>Control under section 7</p>
8	<p>Degrees of comparison of adjectives and adverbs</p> <p>Basics of professional communication</p>	<p>Comparative degree of adjectives and adverbs (больше/меньше, лучше / хуже, дальше / ближе, дороже / дешевле, старше / младше, теплее / холоднее, труднее / легче, громче / тише, реже / чаще)</p> <p>Superlative degree of adjectives (самый+ adjective)</p> <p>Text "Medical care in Russia" (see text in the App)</p> <p>Vocabulary on the topic " Allergy "( аллергия аллерген, зуд, покраснение, слезы, наследственность, иммунитет, экология, образ жизни)</p> <p>Forms of the imperative mood (ешьте, не пейте, etc.)</p> <p>The text "Allergy" (see text in the App)</p> <p>Conversational topic of the "Healthy Lifestyle" block: "Compliance with sanitary and hygienic standards"</p> <p>Control under section 8 9</p>
9	<p>Generalization of the studied material</p> <p>Final control</p>	<p>Groups of professional vocabulary words: body parts, internal organs, symptoms, diseases, doctors, drug groups</p> <p>Lexico-grammar test</p>

3<sup>rd</sup> year

№ п/п	Name of the discipline section	Contents of section
1.	Repetition of the material studied in the first year. The profession of a doctor. Patient's medical record	Entrance control - Lexico-grammatical test (Moodle). Repetition of grammatical material of the 2nd course: - Fundamentals of professional communication (medical vocabulary); - Genitive plural of nouns, adjectives, possessive and demonstrative pronouns. - Accusative plural of nouns, adjectives, possessive and demonstrative pronouns. - Prepositional plural of nouns, adjectives, possessive and demonstrative pronouns - Dative plural of nouns, adjectives, possessive and demonstrative pronouns - Instrumental plural of nouns, adjectives, possessive and demonstrative pronouns - Verbs of movement - Comparison of adjectives and adverbs Control work on section No. 1.
2.	First practice at a medical university Grammar: Verbs. Specific pairs of verbs. Verbs with a particle –ся. Movement verbs. Basics of professional communication	Specific pairs of verbs of different groups. Verbs with a particle –ся. Reflexive verbs. Passive verbs. Movement verbs with different prefixes. Specific pairs of verbs of movement. Label constructions "Appeal", "Ways to attract attention" Medical terms Professional text "First practice at a medical university" (part 1) Control work on section No. 2.
3.	Verb forms. The verbal participle. Participle. Basics of professional communication	Word formation of verb forms (participles and participles). Participle sentence = sentence with the word "который". Exam topic "Practice in the hospital". Control work for section No. 3
4.	Musculoskeletal system. Bones and Muscles. Grammar: Active, passive constructs. Basics of professional communication	Short forms of participles. Examples of the use of short participles and verbs in passive constructions. Label constructions "Gratitude", "Apology" Medical terms Professional text "Musculoskeletal system. Bones and Muscles" Control work on section No. 4.

5.	<p>Musculoskeletal system. The structure of the human skeleton Grammar: Expressing tense in simple and complex sentences</p> <p>Basics of professional communication</p>	<p>Expression of tense by a noun in the accusative case without a preposition and with a preposition (на, за, через).  Expression of time by a noun in the genitive case with a preposition (до, после, во время).  Expression of time by nouns in the instrumental case with the preposition "перед".  Expression of tense with nouns in the dative case with the preposition "по" (по вторникам)  Time constructions «за... до ...», «через ... после...».  The adverb of time.  Expression of time in a complex sentence.  The use of conjunctions «до того как, после того как, перед тем как, как только и т.д..</p> <p>Medical terms  Professional text "Musculoskeletal system. The structure of the human skeleton "</p>
6.	<p>Musculoskeletal system. Human skeleton. Posture.  Grammar: Expressing cause and effect in a simple and complex sentence.</p> <p>Basics of professional communication</p>	<p>Expression of cause in a simple sentence (из-за, от + сущ. в Р.п.; благодаря, по + сущ. в Д.п.).  Expression of reason in a simple sentence (предлоги: из-за того что, благодаря тому что, потому что, так как)  Expression of effect.</p> <p>Medical terms.  Professional texts «Musculoskeletal system. Human skeleton. Posture.</p>
7.	Control slice of knowledge for the 5th semester	Doctor-patient dialogue, final test
8.	<p>Musculoskeletal system. Diseases and injuries.  Grammar: Expressing purpose and condition in a simple and complex sentence.</p> <p>Basics of professional communication</p>	<p>Expressing purpose in a simple sentence (предлог + сущ. в Р.п, Т.п, В.п.)  Expression of purpose in a complex sentence.  Constructions «чтобы + прош. вр.», «чтобы + инф.»  Expressing condition in a simple sentence (при + сущ. в П.п., в случае , при наличии , при отсутствии + сущ. в Р.п.)  Expressing condition in a complex sentence  Types of conditional relationships: real, potential and surreal conditions.</p> <p>Medical terms Professional text  «Musculoskeletal system. Diseases and injuries»</p>

9.	Doctors of Russia. Grammar: Expressing concession in a simple and complex sentence.  Basics of professional communication	Expressing concession in a simple sentence (несмотря на + сущ. в В.п) Expressing concession in a complex sentence (союзы: несмотря на то что, хотя) Etiquette constructions "Regret, sympathy" Medical terms Professional texts "Doctors of Russia"
10.	Dative impersonal constructions  Basics of professional communication	Dative case of nous, pronouns, adjectives Можно, надо, нужно, нельзя + инф. Word «нельзя» in different meanings Д.п. + трудно, легко + инф. Д.п. + безличн.. глаголы (осталось, казалось и т.д.) + инф.  Medical terms Exam topic "Doctors of Russia"
11.	Repetition of the material learned. Exam topics "Doctors of India", "Healthy lifestyle", "Physical inactivity"  Basics of professional communication	Prepositional-case system The kind of the verb. Impersonal forms of the verb. Simple and complex sentence. Expression of different meanings in a simple and complex sentence. Formation of verbal nouns. Control on the topic "Medical vocabulary"
12.	Module control	Summing up the course. Acceptance of debts on examination topics. Final control work (lexical and grammatical tasks, drawing up questions to the proposed text)

4<sup>th</sup> year

No.	Name of the course section	Contents of the section
	SECTION 1.1. Conversation topic "Diseases of the XX and XXI centuries." Fundamental systems of human organs. Human skin.	<p>COMMUNICATION PRACTICE:</p> <p>1. Conversation topic ""Diseases of the XX and XXI centuries." "Smallpox". "Spanish influenza". "AIDS: the XXI century plague".</p> <p>Lexicaltools:</p> <p>Чума, испанский грипп, оспа, синдром приобретённого иммунного дефицита человека,</p> <p>умереть от / страдать от (чего? Р.п.)</p> <p>болеть / заболеть (чем? Т.п.), заразиться (чем? Т.п.)</p> <p>является чем; исследуется кем;</p> <p>определяется чем; характеризуется чем;</p> <p>предупредить = предотвратить (что? В.п.)</p>

		<p>2. Fundamental systems of human organs. Human skin, its structure and functions. General surveying of the skin. Working with video materials "Human skin".</p> <p>Lexicaltools:</p> <p>Кожный покров, наружный покров тела, кожа, потоотделение, мочеви́на</p> <p>наружный слой / эпидермис, средний слой / дерма, внутренний слой / подкожная жировая клетчатка /гиподерма</p> <p>защитная функция, терморегуляторная функция, выделительная функция</p> <p>вредное воздействие,</p> <p>предохранять от (чего?), защищать от (чего?), защищать от ультрафиолетовых лучей</p> <p>GRAMMAR:</p> <p>Word-building structure of noun and adjective. Prepositional-case system of nouns, adjectives, pronouns in the singular and plural.</p> <p>(The grammar is repeated, its studying is more profound and it's based on the texts of medical topics in this section. Thus, a functional-communicative approach in teaching grammar is implemented.)</p> <p>READING: Professionally oriented texts "What is plague?"</p>
	<p>SECTION 1.2.</p> <p>Conversation topic "Diseases of the XX and XXI centuries."</p> <p>Fundamental systems of human organs.</p> <p>Human skin.</p>	<p>COMMUNICATION PRACTICE:</p> <p>Conversation topic "Diseases of the XX and XXI centuries.""Cardiovascular diseases". "Diabetes". Osteochondrosis. "Oncological diseases". "Obesity", "Depression".</p> <p>Lexicaltools:</p> <p>причины, факторы, патология,</p> <p>характерный, двигательный, правильный / неправильный, вредный / полезный, опасный;</p> <p>сердечно-сосудистые заболевания, малоподвижный образ жизни, инфаркт, инсульт, ишемическая болезнь сердца, сахарный диабет, переедание, сладкая пища;</p> <p>остеохондроз, заболевания позвоночника, межпозвоночные диски, связки, костная ткань, мышечная ткань;</p> <p>опухоль, онкологический, аллергический, доброкачественный, злокачественный;</p> <p>онкологические заболевания; переедание, повышенное давление;</p> <p>сниженнонастроение, концентрациявнимания</p>



		<p>2. Fundamental systems of human organs. Skin diseases. Working with video materials “Healthy means wealthy! Summer epidemic: scabies ”(05/25/2018, 26-34 min).</p> <p>Lexical tools:</p> <p>цвет кожи, окраска кожи, патологическая окраска кожи, гиперемия, покраснения на коже, влажность кожи, сухость кожи, чистые покровы;</p> <p>бледная, синюшная (цианоз кожи), розовая, бронзовая, красная, землистая, желтушная / иктерическая кожа;</p> <p>пятна, папулы, волдыри, пузыри, пузырьки, чешуйки, ссадины, трещины, корки, язвы.</p> <p>GRAMMAR: Word-building structure of noun and adjective. Prepositional-case system of nouns, adjectives, pronouns in the singular and plural.</p> <p>(The grammar is repeated, its studying is more profound and it’s based on the texts of medical topics in this section. Thus, a functional-communicative approach in teaching grammar is implemented.)</p> <p>READING: Professionally oriented texts: 'What should everyone know about diabetes? ', "What should we know about cardiovascular diseases?"</p>
	<p>SECTION 1.3. Conversation topic "Diseases of the XX and XXI centuries." Fundamental systems of human organs. Human skin.</p>	<p>COMMUNICATION PRACTICE:</p> <p>1. Conversation topic "Diseases of the XX and XXI centuries." Revising the topic.</p> <p>Lexical tools: revising the vocabulary given on the previous classes.</p> <p>2. Fundamental systems of human organs. Skin diseases. Dialog “At the dermatologist’s attendance”.</p> <p>Lexical tools:</p> <p>симптомы заболеваний кожи: зуд, высыпания, чувство жжения, чувство покалывания, шелушение кожного покрова, бессонница;</p> <p>местное лечение, аэрозоли, мази, пасты, масла, компрессы, пластыри, лечебные мыла.</p> <p>GRAMMAR: Derivational structure of the verb. The imperative mood of verbs. Verbs in an imperative.</p> <p>(The grammar is repeated, its studying is more profound and it’s based on the texts of medical topics in this section. Thus, a functional-communicative approach in teaching grammar is implemented.)</p>

		<p>READING: Professionally oriented texts:What should you know about oncology?" / "What is the danger of pediculosis?"</p> <p>Control according to section 1. Lexico-grammatical test / Control work.</p>
	<p>2.1. Conversation topic "Fundamental principles of medical ethics". Fundamental systems of human organs. Excretory system.</p>	<p>COMMUNICATION PRACTICE:</p> <p>1.Conversation topic "Fundamental principles of medical ethics"."The profession of a doctor." "Professional behavior of a doctor"</p> <p>Lexical tools:</p> <p>Медицинская этика, правила и нормы поведения медицинского персонала, сформулировать принципы медицинской этики;</p> <p>Человеколюбие, сострадание, милосердие, доброта, отзывчивость, внимательное отношение к больному;</p> <p>речь доктора, чувство такта, поднять больному настроение, хранить врачебную тайну, совершенствоваться в своей профессии, читать научную литературу, участвовать в форумах врачей, обмениваться опытом;</p> <p>опрятный вид, чистый халат, чистая шапочка, аккуратная сменная обувь, чистые руки, коротко остриженные ногти.</p> <p>2.Fundamental systems of human organs. Excretory system. Working with video materials: Healthy means wealthy! What you need to know about the kidneys? (05/30/2017)</p> <p>Lexical tools:</p> <p>Выделительная система, продукты метаболизма, углекислый газ, азотсодержащие вещества, аммиак, мочевина, креатинин, мочевая кислота;</p> <p>Органы выделения, почки, лёгкие, желудочно-кишечный тракт, потовые железы, слюнные и желудочные железы, поджелудочная железа, кишечные железы</p> <p>GRAMMAR: Derivational structure of the verb. Imperfective and perfective verbs.</p> <p>(The grammar is repeated, its studying is more profound and it's based on the texts of medical topics in this section. Thus, a functional-communicative approach in teaching grammar is implemented.)</p> <p>READING: Professionally oriented texts: "Medical ethics: every doctor should know about it"</p>
	<p>2.2. Conversation topic "Fundamental principles of medical</p>	<p>COMMUNICATION PRACTICE:</p> <p>1.Conversation topic "Fundamental principles of medical ethics".</p>

	<p>ethics". Fundamental systems of human organs. Excretory system.</p>	<p>"The Hippocratic Oath". "Contemporary Issues of Medical Ethics"</p> <p>Lexicaltools: даватьклятвуГиппократ, древняяпрофессиональнаяклятваврача, взаимоотношения, деятельность, межличностный, обязанность, ответственность; физические и нравственные страдания, привести к физическим и нравственным страданиям пациентов; пересадка органов, донор, реципиент, эвтаназия.</p> <p>2. Diseases of the excretory system. Working with video materials: Healthy means wealthy! Urolithiasis disease. 02.10.2018 / Healthy means wealthy! Urinary infections. Necessary to treat! 01.10.2018</p> <p>Lexicaltools: пиелонефрит, мочекаменная болезнь почек, опухоли, уретрит, цистит воспалительный процесс, возбудитель, очаг воспаления, стафилококк, стрептококк, энтерококк, болезненное мочеиспускание общийанализмочи</p> <p>GRAMMAR: Derivational structure of the verb. Imperfective and perfective verbs. (The grammar is repeated, its studying is more profound and it's based on the texts of medical topics in this section. Thus, a functional-communicative approach in teaching grammar is implemented.)</p> <p>READING: Professionally oriented texts: "The underlying causes of kidney disease" / "Why do people need salt?"</p>
	<p>2.3. Conversation topic "Fundamental principles of medical ethics".</p> <p>Fundamental systems of human organs. Excretory system.</p>	<p>COMMUNICATION PRACTICE: 1.Conversation topic "Fundamental principles of medical ethics". Revising the topic.</p> <p>Lexicaltools: revising the vocabulary given on the previous classes.</p> <p>2.Fundamental systems of human organs. Excretory system. Diseases of the excretory system. Dialogue "At the Nephrologist's Attendance".</p> <p>Lexical tools: болит под рёбрами, болит под ложечкой, режет в боку, боль отдаёт иррадиирует вправо, кожный зуд,</p>

		<p>желтушность кожи, горечь во рту, субфебрильная температура, боль резкая, острая, колющая, режущая, приступообразная.</p> <p>GRAMMAR: Modal verbs. Constructions МОЖНО/ НУЖНО/ СЛЕДУЕТ/НЕОБХОДИМО + infinitive.</p> <p>(The grammar is repeated, its studying is more profound and it's based on the texts of medical topics in this section.)</p> <p>READING: Professionally oriented texts "What is useful and what is bad for the kidneys" / "Why do people have different skin colors?"</p> <p>Control according to section 2. Lexico-grammatical test / Control work.</p>
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## 5.2. Sections and types of studies

1<sup>st</sup> year

No.	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
1	Repetition (basic information about the language obtained in the course "Foreign language")			10				10	20
2	Main course: (lexical minimum, grammar topics)			58				58	116
3	Speech topics (dialogues, texts on everyday, educational, professional topics)			40				40	80
				108				108	216

2<sup>nd</sup> year

№	Name of the discipline section	L	S	P	CP	LBP	S	UW	Total hours
1	Repeating the material learned in the first year Basics of professional communication			9				9	18
2	Genitive plural of nouns, adjectives, possessive pronouns, and demonstrative pronouns.							9	18

	Basics of professional communication			9					
3	Accusative plural of nouns, adjectives, possessive pronouns, and demonstrative pronouns. Basics of professional communication			9				9	18
4	Prepositional plural of nouns, adjectives, possessive pronouns, and demonstrative pronouns Basics of professional communication			9				9	18
5	Dative case of plural nouns, adjectives, possessive and demonstrative pronouns Basics of professional communication			8				8	16
6	Instrumental case of plural nouns, adjectives, possessive and demonstrative pronouns Basics of professional communication			8				8	16
7	Verbs of movement Basics of professional communication			8				8	16
8	Degrees of comparison of adjectives and adverbs Basics of professional communication			8				8	16
9	Generalization of the studied material. Final control			4				4	8

3<sup>rd</sup> year

№ п/п	Name of the discipline section	L	S	P	CP	LBP	S	UW	Total hours
1)	Repetition of the material studied in the first year. The profession of a doctor. Patient's medical record			6				6	12
2.	First practice at a medical university Grammar: Verbs. Specific pairs of verbs. Verbs with a particle –ся. Movement verbs. Basics of professional communication			12				6	18

3.	Verb forms. The verbal participle. Participle. Basics of professional communication			6				6	12
4.	Musculoskeletal system. Bones and Muscles. Grammar: Active, passive constructs. Basics of professional communication			9				9	18
5.	Musculoskeletal system. The structure of the human skeleton Grammar: Expressing tense in simple and complex sentences  Basics of professional communication			9				9	18
6.	Musculoskeletal system. Human skeleton. Posture. Grammar: Expressing cause and effect in a simple and complex sentence.  Basics of professional communication			9				9	18
7.	Control slice of knowledge for the 5th semester			3				3	6
8.	Musculoskeletal system. Diseases and injuries. Grammar: Expressing purpose and condition in a simple and complex sentence.  Basics of professional communication			9				9	18
9.	Doctors of Russia. Grammar: Expressing concession in a simple and complex sentence.  Basics of professional communication			6				6	12
10.	Dative impersonal constructions  Basics of professional communication			6				6	12

11.	Repetition of the material learned. Exam topics "Doctors of India", "Healthy lifestyle", "Physical inactivity"			12				15	27
	Basics of professional communication								
12.	Module control			3				6	9

4<sup>th</sup> year

№	Name of the course section	P	UW	Total hours
1	2	4	8	9
1	Conversation topic "Diseases of the XX and XXI centuries." Fundamental systems of human organs. Human skin.	36	54	90
2	Conversation topic "Fundamental principles of medical ethics". Fundamental systems of human organs. Excretory system.	36	54	90
	TOTAL (HOURS)	72	108	180

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

1<sup>st</sup> year

No.	Name of the course section	Types of the unsupervised work	Forms of control
1	Repetition (basic information about the language obtained in the course "Foreign language")	<p>Repetition and consolidation of systemic phonetic and spelling skills using:</p> <ul style="list-style-type: none"> <li>- exercises for the formation of auditory-pronunciation skills (listening and reading), including using IT:</li> <li>- site for students of NSMU <a href="https://russianlaunch.blogspot.com/p/phonetics.html">https://russianlaunch.blogspot.com/p/phonetics.html</a></li> <li>- Talk2Russia mobile application (Phonetics section);</li> <li>- trainers of Russian pronunciation: <a href="http://learnrussian.rt.com/phonetics/">http://learnrussian.rt.com/phonetics/</a></li> <li><a href="https://easypronunciation.com/ru/practice-russian-pronunciation-online">https://easypronunciation.com/ru/practice-russian-pronunciation-online</a></li> <li><a href="http://www.russianforeveryone.com/Rufe/Lessons/Course1/Introduction/IntrUnit1/IntrUnit1.htm">http://www.russianforeveryone.com/Rufe/Lessons/Course1/Introduction/IntrUnit1/IntrUnit1.htm</a> (IR training)</li> </ul> <p>Reading text with preliminary preparation using text-to-speech software (ICE Book Reader Professional)</p>	<p>Testing the reading technique.</p> <p>Vocabulary dictation.</p> <p>Checking written assignments in workbooks, oral questioning in the lesson.</p> <p>Control</p>

		<p>2. Repetition and consolidation of the lexical and grammatical minimum using IT (interactive game tasks, exercises, simulators):</p> <ul style="list-style-type: none"> <li>- grammar  <a href="https://learningapps.org/5714683">https://learningapps.org/5714683</a>  <a href="https://wordwall.net/play/7554/255/347">https://wordwall.net/play/7554/255/347</a>  <a href="https://wordwall.net/play/9302/126/426">https://wordwall.net/play/9302/126/426</a>  <a href="https://wordwall.net/play/9303/553/992">https://wordwall.net/play/9303/553/992</a>  <a href="https://wordwall.net/play/9390/873/554">https://wordwall.net/play/9390/873/554</a>  <a href="https://quizlet.com/561076265/match?i=3ba7pu&amp;x=1Kqt">https://quizlet.com/561076265/match?i=3ba7pu&amp;x=1Kqt</a>  <a href="https://wordwall.net/play/9575/043/720">https://wordwall.net/play/9575/043/720</a></li> <li>- vocabulary  <a href="https://wordwall.net/play/7339/901/959">https://wordwall.net/play/7339/901/959</a>  <a href="https://wordwall.net/play/8219/686/966">https://wordwall.net/play/8219/686/966</a>  <a href="https://quizlet.com/ru/553744506/%D0%9A%D0%B0%D0%BA%D0%BE%D0%B9-%D1%86%D0%B2%D0%B5%D1%82- flash-cards /? x = 1jqt">https://quizlet.com/ru/553744506/%D0%9A%D0%B0%D0%BA%D0%BE%D0%B9-%D1%86%D0%B2%D0%B5%D1%82- flash-cards /? x = 1jqt</a>  <a href="https://edu.nsmu.ru/mod/quiz/attempt.php?attempt=1064859&amp;cmid=72942">https://edu.nsmu.ru/mod/quiz/attempt.php?attempt=1064859&amp;cmid=72942</a></li> </ul>	<p>exercises in the lesson. Checking tasks in LMS Moodle. Testing.</p>
2	Main course: (lexical minimum, grammar topics)	<p>Mastering vocabulary and grammar: Doing homework (writing exercises, reading texts on the studied lexical and grammatical material). Textbooks and tutorials:</p> <ol style="list-style-type: none"> <li>1. Овсиенко Ю.Г. Русский язык для начинающих (для говорящих на английском языке) [Текст] : [учебник]/ Ю. Г. Овсиенко Кн. 1: Русский язык, 2019. - 472 с.: ил.</li> <li>2. Алексеева О.В. Рабочая тетрадь по русскому языку как иностранному (предложно-падежная система). Учебно-методическое пособие. - Архангельск, 2018. 152 с.</li> <li>3. Маслова, О.Н. Русская грамматика [Электронный ресурс] : методич. рек. по русскому языку для иностр. обучающихся I–II курсов (базовый уровень) / О. Н. Маслова, О. В.Алексеева. - Архангельск: Изд-во Северного государственного медицинского университета, 2019 - 80 с.</li> <li>4. Орлова Л.В. Рабочая тетрадь. Основы медицинской лексики (элементарный уровень)/ Л.В.Орлова – Архангельск: Изд-во Северного государственного медицинского университета, 2019. - 85 с.</li> </ol> <p>Working with information and communication resources: Interactive game tasks</p> <ol style="list-style-type: none"> <li>1. Cases of nouns  <a href="https://wordwall.net/play/9819/124/166">https://wordwall.net/play/9819/124/166</a></li> <li>2. Verbs of motion  <a href="http://www.rus-on-line.ru/Exercises/Grammar/28-grammar.html">http://www.rus-on-line.ru/Exercises/Grammar/28-grammar.html</a></li> </ol>	<p>Testing the reading technique. Vocabulary dictation. Checking written assignments in workbooks, oral questioning in the lesson. Control exercises in the lesson. Checking tasks in LMS Moodle. Testing.</p>



		<p>Perfective-Imperfective Java Exercises is a network linguistic trainer for verb types, for motion verbs. Website: <a href="http://www.alphadictionary.com/rusgrammar/java.html">http://www.alphadictionary.com/rusgrammar/java.html</a></p> <p>Syntax <a href="https://wordwall.net/play/9575/043/720">https://wordwall.net/play/9575/043/720</a></p> <p><a href="https://wordwall.net/play/9575/043/720">https://wordwall.net/play/9575/043/720</a></p> <p><a href="https://quizlet.com/561076265/match?i=3ba7pu&amp;x=1Kqt">https://quizlet.com/561076265/match?i=3ba7pu&amp;x=1Kqt</a></p> <p>Video lessons</p> <p><a href="https://youtu.be/Pf6MSjnFTO4">https://youtu.be/Pf6MSjnFTO4</a> -propositional</p> <p><a href="https://youtu.be/qdknk8kJT3Q">https://youtu.be/qdknk8kJT3Q</a> - genitive</p> <p><a href="https://youtu.be/CKzDsa-vCgI">https://youtu.be/CKzDsa-vCgI</a> - instrumental case</p> <p><a href="https://youtu.be/EVIY-3frpAw">https://youtu.be/EVIY-3frpAw</a> - instrumental</p> <p><a href="https://youtu.be/xPCSeC_jeQI">https://youtu.be/xPCSeC_jeQI</a> - accusative case</p> <p><a href="https://youtu.be/3u3t3C0bd4U">https://youtu.be/3u3t3C0bd4U</a> - nominative</p> <p><a href="https://youtu.be/d1_cYOz4QuI">https://youtu.be/d1_cYOz4QuI</a> - dative case</p> <p>Control works and tests</p> <p><a href="https://edu.nsmu.ru/mod/quiz/attempt.php?attempt=1064859&amp;cmid=72942">https://edu.nsmu.ru/mod/quiz/attempt.php?attempt=1064859&amp;cmid=72942</a></p>	
3	Speech topics (dialogues, texts on everyday, educational, professional topics)	<p>Mastering vocabulary and grammar:</p> <p>Doing homework (writing exercises, reading texts on the studied lexical and grammatical material).</p> <p>Textbooks and tutorials:</p> <ol style="list-style-type: none"> <li>1.Овсиенко Ю.Г. Русский язык для начинающих (для говорящих на английском языке) [Текст]: [учебник]/ Ю. Г. Овсиенко Кн. 1: Русский язык, 2016. - 472 с.: ил.</li> <li>2. Алексеева О.В. Рабочая тетрадь по русскому языку как иностранному (предложно-падежная система). Учебно-методическое пособие. - Архангельск, 2018. 152 с.</li> <li>3. Орлова Л.В. Рабочая тетрадь. Основы медицинской лексики (элементарный уровень)/ Л.В.Орлова – Архангельск: Изд-во Северного государственного медицинского университета, 2016. - 85 с.</li> </ol> <p>Doing homework: working with speech topics (dialogues, texts for everyday, educational, professional).</p> <p>Textbooks and tutorials:</p> <ol style="list-style-type: none"> <li>1. Ovsienko Yu.G. Russian for beginners (for those who speak English) [Text]: [textbook] / Yu. G. Ovsienko Kn. 1: Russian language, 2016. -- 472 p. : ill.</li> <li>2. Alekseeva O.V. Workbook on Russian as a foreign language (prepositional-case system). Study guide. - Arkhangelsk, 2018.152 p.</li> <li>3. Orlova L.V. Workbook. Fundamentals of medical vocabulary (elementary level) / L.V. Orlova - Arkhangelsk: Publishing house of the Northern State Medical University, 2016. - 85 p.</li> </ol> <p>Working with information and communication resources:</p> <p><a href="http://lrwi.ru/?p=1">http://lrwi.ru/?p=1</a> - "Network text library". Network linguistic trainer (formation of reading skills)</p>	<p>Role-playing games with various types of communication tasks.</p> <p>Conversation in the lesson.</p> <p>Individual survey.</p> <p>Online conference with native speakers (conversation on the topics studied: getting into real communication).</p>

	<p><a href="http://www.lrwi.ru/?p=1&amp;t=29">http://www.lrwi.ru/?p=1&amp;t=29</a> - site of RCT enthusiasts (materials on topics) and other training videos (at the teacher's choice) on the channels RikiStudy, RussianLessons.Net (<a href="https://www.youtube.com/channel/UCq1b1x1nZbV-rmZDb3XOB2g">https://www.youtube.com/channel/UCq1b1x1nZbV-rmZDb3XOB2g</a>), (themes my day, my family, etc.)</p> <p>Learn Russian with RussianPod101.com  <a href="https://www.youtube.com/channel/UCUg_JDaHFAPEiFGDMddoIzA">https://www.youtube.com/channel/UCUg_JDaHFAPEiFGDMddoIzA</a>). THEMES</p> <p>LMS Moodle:  <a href="https://edu.nsmu.ru/mod/quiz/attempt.php?attempt=1064859&amp;cmid=72942">https://edu.nsmu.ru/mod/quiz/attempt.php?attempt=1064859&amp;cmid=72942</a></p>	
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## 2<sup>nd</sup> year

- 1) Маслова, О.Н. Русская грамматика [Электронный ресурс]: методич. рек. по русскому языку для иностр. обучающихся I–II курсов (базовый уровень) / О. Н. Маслова, О. В. Алексеева. - Архангельск : Изд-во Северного государственного медицинского университета, 2019 - 80 с. - [http://nb.nsmu.ru/cgi-bin/irbis64r\\_11/cgiirbis\\_64.exe?LNG=&Z21ID=&I21DBN=ELIB&P21DBN=ELIB&S21STN=1&S21REF=3&S21FMT=fullwebr&C21COM=S&S21CNR=20&S21P01=0&S21P02=1&S21P03=I=&S21STR=elb/M%2031-788369](http://nb.nsmu.ru/cgi-bin/irbis64r_11/cgiirbis_64.exe?LNG=&Z21ID=&I21DBN=ELIB&P21DBN=ELIB&S21STN=1&S21REF=3&S21FMT=fullwebr&C21COM=S&S21CNR=20&S21P01=0&S21P02=1&S21P03=I=&S21STR=elb/M%2031-788369)
- 2) Маслова О.Н., Алексеева О.В. Справочник медицинских терминов для обучающихся 2 курса международного факультета врача общей практики Северного медицинского государственного университета. – Архангельск, 2020
- 3) 2 course Russian Language Russian Language as foreign // <https://edu.nsmu.ru/course/view.php?id=1391>
- 4) Russian Language lessons (Learn Russian for Free) // <http://www.russianlessons.net>
- 5) Русский глагол: <http://www.webmetod.narod.ru/ddd/Veb1.htm>

№	Name of the discipline section	Types of independent work	Control forms
1	Repeat the material you learned in your first year. Basics of professional communication	Working with the Reference Book of medical terms (Maslova O. N., Alekseeva O. V. Reference book of medical terms)	Identification of the level of understanding of the material in practical lesson
2	Genitive plural of nouns, adjectives, possessive pronouns, and demonstrative pronouns. Basics of professional communication	Make a table "Names of internal organs of a human" in Russian and English	Vocabulary dictation and oral response in practical lesson
3	Accusative plural of nouns, adjectives, possessive pronouns, and demonstrative pronouns. Basics of professional communication	Learn vocabulary on the topic " Man and his body. Objective indicators of the patient's physical condition " (Maslova O. N., Alekseeva O. V.	Listening to a prepared monologue

		Handbook of medical terms)	
4	Prepositional plural of nouns, adjectives, possessive pronouns, and demonstrative pronouns	Prepare a presentation about one of the named NSMU classrooms (N. Amosov Auditorium, Lomonosov Auditorium, Bychikhin Auditorium, Kudryavtsev Auditorium)	Active participation in the practical lesson
5	Dative case of plural nouns, adjectives, possessive and demonstrative pronouns	Prepare a message on one of the topics "Why is smoking dangerous?", "What is the danger of alcohol consumption?", "What causes overeating?"	Active participation in the practical lesson
6	Instrumental case of plural nouns, adjectives, possessive and demonstrative pronouns	Prepare a message about your favorite place in Arkhangelsk. Presentation	Active participation in the practical lesson
7	Verbs of movement	Using verbs of movement, compose a text on the topic "A trip home during the summer holidays"	Listening to an audio response
8	Degrees of comparison of adjectives and adverbs	Preparation for the colloquial topic "Components of the concept of healthy lifestyle"	Active participation in the practical lesson
9	Generalization of the studied material	Preparation of lexical material based on specified models 1. Name of the disease -ит 2. Doctor's name-лог 3. Department name-ия 4. Name of medicines -ин	Verification of completed materials

### 3<sup>rd</sup> year

1) Маслова, О.Н., Полуэктова Т.Д. «Свидание с аутентичным текстом» / Учебно-методическое пособие

по русскому языку как иностранному для студентов 3-4 курсов (English medium) — Архангельск, 2020

2) Маслова О.Н., Алексеева О.В. Справочник медицинских терминов для обучающихся 2 курса международного факультета врача общей практики Северного медицинского государственного университета. – Архангельск, 2020

3) 3 course Russian Language Russian Language as foreign // <https://edu.nsmu.ru/course/view.php?id=1137&notifyeditingon=1>

4) Russian Language lessons (Learn Russian for Free) // <http://www.russianlessons.net>

5) Русский глагол: <http://www.webmetod.narod.ru/ddd/Veb1.htm>

№ п/п	Наименование раздела дисциплины	Виды самостоятельной работы	Формы контроля
1.	Repetition of the material studied in the first year. The	Working with tables in the electronic course Moodle and a reference book of medical terms	Revealing the level of understanding of the

	profession of a doctor. Patient's medical record	(Маслова О.Н., Алексеева О.В. Справочник медицинских терминов)	material in a practical lesson
2.	First practice at a medical university Grammar: Verbs. Specific pairs of verbs. Verbs with a particle –ся. Movement verbs. Basics of professional communication	Describe your daily routine with verbs, paying special attention to the diagram of your path from the hostel to different buildings of the university	Oral answer in a practical lesson
3.	Verb forms. The verbal participle. Participle. Basics of professional communication	Memorize the exam topic "Practice in the hospital"	Listening to a prepared monologue
4.	Musculoskeletal system. Bones and Muscles. Grammar: Active, passive constructs. Basics of professional communication	Learn the medical terms on the topic	Vocabulary dictation and oral answer in a practical lesson
5.	Musculoskeletal system. The structure of the human skeleton Grammar: Expressing tense in simple and complex sentences  Basics of professional communication	Learn the medical terms	Checking crosswords, classmates filling out each other's crosswords.
6.	Musculoskeletal system. Human skeleton. Posture. Grammar: Expressing cause and effect in a simple and complex sentence.  Basics of professional communication	Using conjunctions that express cause and effect in the proposal, make a dialogue on the topic "Doctor-patient"	Activity of participation in the practical lesson
7.	Control slice of knowledge for the 5th semester	Prepare for the test on grammatical and lexical material of the 5th semester	Intermediate testing
8.	Musculoskeletal system. Diseases and injuries. Grammar: Expressing purpose and condition in a simple and complex sentence.	Preparation of lexical material according to the given models 1. Name of the disease / injury 2. Phrases of the patient 3. Phrases of the doctor 4. Name of drugs	Checking the issued materials

	Basics of professional communication		
9.	Doctors of Russia. Grammar: Expressing concession in a simple and complex sentence.  Basics of professional communication	Draw up the table "Musculoskeletal system" in Russian and English	Vocabulary dictation and oral answer in a practical lesson
10.	Dative impersonal constructions  Basics of professional communication	Memorize the examination topic "Doctors of Russia"	Listening to a prepared monologue
11.	Repetition of the material learned. Exam topics "Doctors of India", "Healthy lifestyle", "Physical inactivity"  Basics of professional communication	Prepare a report on the topic "My idol. Great Indian doctor" Memorize the exam topics "Doctors of India", "Healthy lifestyle", "Physical inactivity"	Presentation to the class.  Listening to prepared monologues
12.	Module control	Prepare for the final test for the 3rd year	Acceptance of debts on exam topics. Final control work (lexical and grammatical tasks, drawing up questions to the proposed text)

4<sup>th</sup> year

<b>№</b>	<b>Name of the section</b>	<b>Types of unsupervised work</b>	<b>Forms of control</b>
1	SECTION 1.1. Conversation topic "Diseases of the XX and XXI centuries." Fundamental systems of human organs. Human skin.	Input control. Revising of the vocabulary and grammar for the third year of study.	Lexico-grammatical test in the Moodle system
2	SECTION 1.1. Conversation topic "Diseases of the XX and XXI centuries." Fundamental	Working with video materials "Healthy means wealthy! Summer epidemic: scabies" (05/25/2018, 26-34 min).	Checking the exercises in the Moodle system

	systems of human organs. Human skin.		
3	SECTION 1.3. Conversation topic "Diseases of the XX and XXI centuries." Fundamental systems of human organs. Human skin.	Reading: professionally oriented texts "What is plague?" 1. Working with pre-text exercises. Working with vocabulary. 2. Reading and translating the text. 3. Working with post-text exercises.	Checking pre-text and post-text exercises in the Moodle system
4	SECTION 1.3. Conversation topic "Diseases of the XX and XXI centuries." Fundamental systems of human organs. Human skin.	Drawing up the topic "Diseases of the XX and XXI centuries" and preparing for oral check-out test based on it.	Individual test on the topic "Diseases of the XX and XXI centuries".
5	SECTION 1.3. Conversation topic "Diseases of the XX and XXI centuries." Fundamental systems of human organs. Human skin.	Revising the section 1. Lexico-grammatical test.	Lexico-grammatical test in the Moodle system
6	SECTION 2.1. Conversation topic "Fundamental principles of medical ethics". Fundamental systems of human organs. Excretory system	Fundamental systems of human organs. Excretory system. Working with video materials: Healthy means wealthy! What you need to know about the kidneys? (05/30/2017)	Checking the exercises in the Moodle system
7	SECTION 2.2. Conversation topic "Fundamental principles of medical ethics". Fundamental	Reading: professionally oriented texts "What is useful and what is bad for the kidneys" / "Why do people have different skin colors?" 1. Working with pre-text exercises. Working with vocabulary.	Checking pre-text and post-text exercises in the Moodle system

	systems of human organs. Excretory system	2. Reading and translating the text. 3. Working with post-text exercises.	
8	SECTION 2.3. Conversation topic "Fundamental principles of medical ethics". Fundamental systems of human organs. Excretory system	Drawing up the topic "Fundamental principles of medical ethics" and preparing for oral check-out test based on it.	Individual test on the topic "Diseases of the XX and XXI centuries".
9	SECTION 2.3. Conversation topic "Fundamental principles of medical ethics". Fundamental systems of human organs. Excretory system	Revising the section 2. Lexico-grammatical test.	Lexico-grammatical test in the Moodle system

## 7. Forms of control

### 1<sup>st</sup> year

#### 7.1. Current forms of control

- oral (express-survey in a practical lesson, checking knowledge of thematic vocabulary, telling the text according to the plan, reciting the text by heart, restoring the text using key words, making sentences according to given schemes, drawing up a dialogue).
- written (checking written homework assignments, tests, vocabulary dictations).

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

##### Stages of the interim assessment

##### Stages of examination (pass/fail test)

Stage 1 - a series of tests on the completion of lexical and grammatical topics (performance of oral and written assignments on the LMS Moodle).

Stage 2 - the final test (test) in vocabulary and grammar (on the LMS Moodle).

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'.

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'.

## **2<sup>nd</sup> and 3<sup>rd</sup> year**

### **7.1. Forms of current control**

- oral (interview, speech, presentations)
- written (tests, test papers).

### **7.2. Forms of intermediate certification-none**

## **4<sup>th</sup> year**

### **7.1. Current forms of control**

- oral (an express checking-out test in a practical lesson, checking the knowledge of thematic vocabulary, retelling the text according to the plan, reciting the text by heart, restoring the text using key words, making sentences using the schemes given, drawing up a dialogue, making an interview, report, presentation)
- written (test, training exercises, module test, word quiz, essay, lecture notes).

A theme list of abstracts, reports, essays, review and term papers, test collections and situational problems are shown at the Appendix No 4 of the syllabus 'Set of the evaluation tools'.

### **7.2. Interim assessment**

Stage 1 - lexical and grammatical test.

Stage 2 - conversation topic.

Stage 3 - reading and translating the text. Discussing the text.

## **8. Library and information materials of the course**

### **1<sup>st</sup> year**

#### **8.1. Compulsory literature**

1. Дорога в Россию [Текст] : учеб. рус. яз. : (элементар. уровень)/ В. Е. Антонова [и др.] [Кн.] 1. - 10-е изд.: Златоуст: ЦМО МГУ, 2013. - 341, [1] с.: илл.
2. Овсиенко Ю.Г. Русский язык для начинающих (для говорящих на английском языке) [Текст] : [учебник]/ Ю. Г. Овсиенко Кн. 1: Русский язык, 2016. - 472 с.: ил.
3. Алексеева О.В. Рабочая тетрадь по русскому языку как иностранному (предложно-падежная система). Учебно-методическое пособие. - Архангельск, 2018. 152 с.
4. Маслова, О.Н. Русская грамматика [Электронный ресурс] : методич. рек. по русскому языку для иностр. обучающихся I–II курсов (базовый уровень) / О. Н. Маслова, О. В. Алексеева. - Архангельск: Изд-во Северного государственного медицинского университета, 2019 - 80 с. - [http://nb.nsmu.ru/cgi-bin/irbis64r\\_11/cgiirbis\\_64.exe?LNG=&Z21ID=&I21DBN=ELIB&P21DBN=ELIB&S21STN=1&S21REF=3&S21FMT=fullwebr&C21COM=S&S21CNR=20&S21P01=0&S21P02=1&S21P03=I=&S21STR=elb/M%2031-788369](http://nb.nsmu.ru/cgi-bin/irbis64r_11/cgiirbis_64.exe?LNG=&Z21ID=&I21DBN=ELIB&P21DBN=ELIB&S21STN=1&S21REF=3&S21FMT=fullwebr&C21COM=S&S21CNR=20&S21P01=0&S21P02=1&S21P03=I=&S21STR=elb/M%2031-788369)
5. Орлова Л.В. Рабочая тетрадь. Основы медицинской лексики (элементарный уровень)/ Л.В.Орлова – Архангельск: Изд-во Северного государственного медицинского университета, 2019. - 85 с.

#### **8.2. Supplementary literature**



1. Русский язык как иностранный: элементарный уровень: учебное пособие / Р.Р. Сабитова и др. – Казань, 2018. – 168 с.
2. Русский язык как иностранный: элементарный уровень: учебное пособие / Н.Ф. Башарова и др. – Казань, 2017.
3. Методические рекомендации по русскому языку как иностранному для студентов I - II курсов [Текст] / О. Н. Маслова; Север. гос. мед. ун-т. Каф. рус. яз. как иностр. - Архангельск: [б. и.], 2014. - 37 с.
4. Миллер Л.В. Жили-были... 12 уроков русского языка. Базовый уровень [Текст]: учебник/ Л. В. Миллер, Л. В. Политова. -6-е изд.. -Санкт-Петербург: Златоуст, 2013. - 197 с.
5. Маслова О.Н. Методические рекомендации по русскому языку как иностранному (2-й сертификационный уровень. Профессиональный модуль) [Электронный ресурс] :методический материал / О. Н. Маслова. - Архангельск : Северный государственный медицинский университет, 2012 - 60 с. – URL: [http://nb.nsmu.ru/cgi-bin/irbis64r\\_11/cgiirbis\\_64.exe?LNG=&Z21ID=&I21DBN=ELIB&P21DBN=ELIB&S21STN=1&S21REF=3&S21FMT=fullwebr&C21COM=S&S21CNR=20&S21P01=0&S21P02=1&S21P03=I=&S21STR=elb/M%2031-343370](http://nb.nsmu.ru/cgi-bin/irbis64r_11/cgiirbis_64.exe?LNG=&Z21ID=&I21DBN=ELIB&P21DBN=ELIB&S21STN=1&S21REF=3&S21FMT=fullwebr&C21COM=S&S21CNR=20&S21P01=0&S21P02=1&S21P03=I=&S21STR=elb/M%2031-343370)

## 2<sup>nd</sup> year

### 8.1. Compulsory literature

13. Овсиенко Ю.Г. Русский язык для начинающих. – М., 2016.
14. Маслова, О.Н. Русская грамматика [Электронный ресурс]: методич. рек. по русскому языку для иностр. обучающихся I–II курсов (базовый уровень) / О. Н. Маслова, О. В. Алексеева. - Архангельск: Изд-во Северного государственного медицинского университета, 2019. - 80 с.
15. Русский язык как иностранный: базовый уровень: учебное пособие. / Н.Ф. Башарова и др. – Казань, 2017.
16. Сиротина Т.Б., Русский язык как иностранный. Научный стиль речи: практикум для студентов-иностранцев подготовительных факультетов вузов / Т.Б. Сиротина - М. : ФЛИНТА, 2013. - 64 с. <https://www.studentlibrary.ru/cgi-bin/mb4x>

### 8.2. Supplementary literature

1. Маслова О.Н., Алексеева О.В. Справочник медицинских терминов для обучающихся 2 курса международного факультета врача общей практики Северного медицинского государственного университета. – Архангельск, 2020
2. Шустикова Т.В., Русский язык как иностранный. Русские глаголы. Формы и контекстное употребление / Шустикова Т.В. - М. : ФЛИНТА, 2017. - 394 с.

<https://www.studentlibrary.ru/book/ISBN9785893494341.html?SSr=2701343e3b1009cc31b05330.maslova16>

## 3<sup>rd</sup> year

### 8.1. Compulsory literature

- 1) Ю.Г. Овсиенко Русский язык: Учебник. Книга 2. Средний этап обучения. – 2-е изд. – М.: «Рус. яз.». Курсы, 2013. – 248 с.
- 2) Маслова О.Н., Верюжская А.Б. Практические учебные материалы по русскому языку как иностранному для студентов 3 курса (English Medium). – Архангельск, СГМУ, 2014.
- 3) Маслова, О.Н., Полуэктова Т.Д. «Свидание с аутентичным текстом» / Учебно-методическое пособие по русскому языку как иностранному для студентов 3-4 курсов (English medium) — Архангельск, 2020

4) Русский язык как иностранный: базовый уровень: учебное пособие. / Н.Ф. Башарова и др. – Казань, 2017.

5) Сиротина Т.Б., Русский язык как иностранный. Научный стиль речи: практикум для студентов-иностранцев подготовительных факультетов вузов / Т.Б. Сиротина - М. : ФЛИНТА, 2013. - 64 с. <https://www.studentlibrary.ru/cgi-bin/mb4x>

## 8.2. Supplementary literature

1) Маслова О.Н., Алексеева О.В. Справочник медицинских терминов для обучающихся 2 курса международного факультета врача общей практики Северного медицинского государственного университета. – Архангельск, 2020

2) Шустикова Т.В., Русский язык как иностранный. Русские глаголы. Формы и контекстное употребление / Шустикова Т.В. - М. : ФЛИНТА, 2017. - 394 с. <https://www.studentlibrary.ru/book/ISBN9785893494341.html?SSr=2701343e3b1009cc31b0533o.maslova16>

3) Антонова В.Е. Дорога в Россию: учебник русского языка (базовый уровень). – 6-е издание. – М.: ЦМО МГУ; С-Пб: Златоуст, 2012. – 256 с.

4) Антонова В. Е.. Дорога в Россию [Текст] : учеб. рус. яз. : (базовый уровень)/ В. Е. Антонова, М. М. Нахабина, А. А. Толстых [Кн.] 2. - 7-е изд.: Златоуст: ЦМО МГУ, 2013. - 256 с.: ил.3. .

4<sup>th</sup> year

## 8.1. Compulsory literature

1. Куриленко В.Б., Русский язык для будущих врачей. MedicalRussian (I сертификационный уровень владения РКИ в учебной и социально-профессиональной макросферах) / Куриленко В.Б. - М. : ФЛИНТА, 2017. - 133 с. (Русский язык как иностранный) - Текст : электронный // ЭБС "Консультант студента": [сайт]. URL :<https://www.studentlibrary.ru/book/ISBN9785976528161.html>

2. Русский язык как иностранный: лексика (продвинутый уровень) : учебно-методическое пособие / Л. К. Гатауллина, Р. Р. Сабитова; Минобрнауки России, Казан. нац. исслед. технол. ун-т. - Казань : Изд-во КНИТУ, 2018. - 96 с. - URL : <https://www.studentlibrary.ru/book/ISBN9785788223940.html>

## 8.2. Supplementary literature

1. Вишняков С.А., Русский язык как иностранный / С.А. Вишняков - М. : ФЛИНТА, 2016. - 240 с. - Текст : электронный // ЭБС "Консультант студента" : [сайт]. – URL :<https://www.studentlibrary.ru/book/ISBN9785893496390.html>

2. Одинцова И.В., Русский язык как иностранный. Он и она / Одинцова И.В. - М. : ФЛИНТА, 2017. - 160 с. - Текст : электронный // ЭБС "Консультант студента" : [сайт]. – URL :<https://www.studentlibrary.ru/book/ISBN9785893492705.html>

3. Антонова В. Е.. Дорога в Россию [Текст] : учеб. рус. яз. : (базовый уровень)/ В. Е. Антонова, М. М. Нахабина, А. А. Толстых[Кн.] 2. - 7-е изд.: Златоуст: ЦМО МГУ, 2013. - 256 с.: ил.3.

4. Антонова В. Е., Нахабина М. М., Толстых А. А. Дорога в Россию: учебник русского языка (первый уровень - I) : в 2 т. – Т.П. - 3-е изд. – СПб.: Златоуст, 2014.

5. Акишина М.А. Обучение синтаксису русского языка (Практическая часть) [Текст] : метод. рек. для иностр. студентов 2 курса EnglishMedium/ М.А. Акишина, А.Б. Верюжская; Сев. гос. мед. ун-т. Каф. рус. языка как иностр. - Архангельск : СГМУ, 2011. - 19, [1] с.
6. Верюжская А.Б. Способы выражения субъекта и предиката [Текст]/ А. Б. Верюжская. -Архангельск: Изд-во СГМУ, 2011. - 24 с., Б.ц
7. Маслова О.Н. Методические рекомендации по русскому языку как иностранному (2-й сертификационный уровень. Профессиональный модуль) [Электронный ресурс]: методический материал / О. Н. Маслова. - Архангельск : Северный государственный медицинский университет, 2012 - 60 с. –  
URL:[http://nb.nsmu.ru/cgi-bin/irbis64r\\_11/cgiirbis\\_64.exeLNG=&Z21ID=&I21DBN=ELIB&P21DBN=ELIB&S21STN=1&S21REF=3&S21FMT=fullwebr&C21COM=S&S21CNR=20&S21P01=0&S21P02=1&S21P03=I=&S21STR=elb/M%2031-343370](http://nb.nsmu.ru/cgi-bin/irbis64r_11/cgiirbis_64.exeLNG=&Z21ID=&I21DBN=ELIB&P21DBN=ELIB&S21STN=1&S21REF=3&S21FMT=fullwebr&C21COM=S&S21CNR=20&S21P01=0&S21P02=1&S21P03=I=&S21STR=elb/M%2031-343370)

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

1<sup>st</sup> year

№	Resources	URL address	Resource Annotation
Resources for learning curriculum (language theory) and practice exercises			
1	Electronic library of NSMU	<a href="http://www.nsmu.ru/lib/">http://www.nsmu.ru/lib/</a>	The resource contains electronic versions of textbooks on Russian as a foreign language from the main list of literature.
2	Time to speak Russian	<a href="https://www.irlc.msu.ru/irlc_projects/speak-russian/time_new/">https://www.irlc.msu.ru/irlc_projects/speak-russian/time_new/</a>	The site contains a variety of materials (lessons, grammar reference book, tests, dictionaries, etc.). Convenient interface, good structure of the course.
3	Learn Russian step by step	<a href="https://learnrussianstepbystep.com">https://learnrussianstepbystep.com</a>	The site provides lessons on all grammatical topics necessary for an elementary level, speech models and vocabulary tests are given in a separate section.
4	Everyday Russian	<a href="https://everydayrussianlanguage.com">https://everydayrussianlanguage.com</a>	The site contains educational materials (lessons with explanations of grammar, tasks for mastering vocabulary and grammar).
5	Russian for everyone	<a href="http://www.russianforever.yone.com">http://www.russianforever.yone.com</a>	The site contains educational materials, including an introductory phonetic course, as well as thematic lessons.
6	Quizlet	<a href="https://quizlet.com">https://quizlet.com</a>	A resource containing a variety of flashcards for learning

			educational material as well as games.
Resources for training exercises and monitoring			
	Learningapps	<a href="https://learningapps.org">https://learningapps.org</a>	A site containing exercise templates (for grading, multiple choice tests, etc.). Convenient for organizing students' independent work (memorizing language units). One of the ways to activate the mechanisms of memorizing new material with the help of motor and visual mechanisms.
	Wordwall	<a href="https://wordwall.net">https://wordwall.net</a>	A site containing templates for various tasks, including quizzes, word games, crosswords, which can be used both interactively and in print.
	Quizlet	<a href="https://quizlet.com">https://quizlet.com</a>	A resource containing a variety of flashcards for learning educational material as well as games.

2<sup>nd</sup> year

№	Resource name	URL address	Abstract of the resource
1	Russian for everybody (Русский язык для всех)	<a href="http://www.russianforeveryone.com/">http://www.russianforeveryone.com/</a>	Prepositional -singular system, verb conjugation
2	Materials on Russian as a foreign language by Prof. T.Beyer (Middlebury College)	<a href="http://community.middlebury.edu/~beyer/mapryal/">http://community.middlebury.edu/~beyer/mapryal/</a>	Interactive materials on Russian as a foreign language. Prepositional-case system of the Russian language in the singular. Word formation. Syntax.
3	2 course Russian Language Russian Language as foreign	<a href="https://edu.nsmu.ru/course/view.php?id=1391">https://edu.nsmu.ru/course/view.php?id=1391</a>	System of classes in the program of the module of the discipline "Russian language" 2nd year

3<sup>rd</sup> year

№	Resource name	URL address	Abstract of the resource
1	Russian for everybody (Русский язык для всех)	<a href="http://www.russianforeveryone.com/">http://www.russianforeveryone.com/</a>	Prepositional-case system in the singular, conjugation of verbs
2	Материалы по русскому языку как иностранному проф. Т.Байера (Middlebury College)	<a href="http://community.middlebury.edu/~beyer/mapryal/">http://community.middlebury.edu/~beyer/mapryal/</a>	Interactive materials on Russian as a foreign language. Prepositional-case system of the Russian language in the singular. Word formation. Syntax. Conjunctions.
3	3 course Russian Language Russian Language as foreign	<a href="https://edu.nsmu.ru/course/view.php?id=1137">https://edu.nsmu.ru/course/view.php?id=1137</a>	The system of classes according to the program of the module of the discipline "Russian language" 3 course
4	Портал по русскому языку как иностранному "RussNet" (на английском языке).	<a href="http://www.russnet.org">http://www.russnet.org</a>	Portal on Russian as a foreign language, making it easier to master the material of the lessons
5	Russian Studies Department, Bucknell University (на английском языке)	<a href="http://www.departments.bucknell.edu/russian">http://www.departments.bucknell.edu/russian</a>	resources for learners of Russian language and culture of Russia
6	Медицинский портал medportal.ru.	<a href="http://medportal.ru/mednovosti/">http://medportal.ru/mednovosti/</a>	
7	MedDaily – «МедДэйли»	<a href="http://www.meddaily.ru/">http://www.meddaily.ru/</a>	A site giving information about news in medicine.
8	Новости из России – дистанционный курс русского языка как иностранного для продвинутого уровня (Центр международного образования МГУ).	<a href="http://www.iec.ru">http://www.iec.ru</a>	Distance course for students who show special success in learning Russian and who want to work with additional material
9	Russian Web Tutor	<a href="http://www.auburn.edu/~mitrege/RWT">http://www.auburn.edu/~mitrege/RWT</a>	Interactive materials on Russian as a foreign language

4<sup>th</sup> year

1. Study course of Russian as a foreign language (Pushkin institute)<http://ac.pushkininstitute.ru/index.php>
2. Webportal "Образование на русском" <https://pushkininstitute.ru/>
3. Webportal "Образование на русском" B1 level.  
<https://pushkininstitute.ru/certified1>
4. Russian for free (website): texts, lexic, videos, dialogues etc.):  
<http://www.russianforfree.com/>

5. Educational portal, which presents various types of online learning resources in Russian as a foreign language for beginner, intermediate and advanced levels.  
<http://masterrussian.com/>
6. О.Э. Чубарова. Сетевая текстовая Центра международного образования МГУ имени М.В. Ломоносова. Все уровни ТРКИ.  
[https://www.irlc.msu.ru/irlc\\_projects/texts/](https://www.irlc.msu.ru/irlc_projects/texts/)
7. RussianWebTutor (Russian as a foreign language: interactive materials).  
<http://www.auburn.edu/~mitrege/RWT>
8. Materials for studying Russian as a foreign language by T. Bayer (Middlebury College). <http://community.middlebury.edu/~bayer/mapryal/>
9. The official site of the TV program "Жить здорово".  
<https://www.zdorovieinfo.ru/zhitzdorovo/home/>
10. The official site of the TV program "О самом главном".  
<http://osglavnom.ru/novosti/o-samom-glavnom-vypusk-2581-ot-24-sentyabrya-2020.html>
11. A. L. Myasnikov's official website "Доктор Мясликов". <https://drmyasnikov.ru/>

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

##### 1<sup>st</sup> year

№	Platform of EL DLT	Name of the e-course, authors, URL address	E-course implementation model
1	MOODLE (with the use of video lessons in ZOOM with the use of electronic boards MIRO)	1 course Foreign language Russian Language as foreign (Ph.D., associate professor of NSMU O.V. Alekseeva) <a href="https://edu.nsmu.ru/course/view.php?id=1394">https://edu.nsmu.ru/course/view.php?id=1394</a>	depending on the conditions of study: (1) blended learning + EC  (2) blended learning + EC

##### 2<sup>nd</sup> year

№	The EE and DLT platform	Name of the e-course, authors, URL	Implementation model of the electronic course
	Moodle Zoom	2 course Russian Language Russian language as foreign <a href="https://edu.nsmu.ru/course/view.php://edu.nsmu.ru/course/view.php?id=1391">https://edu.nsmu.ru/course/view.php://edu.nsmu.ru/course/view.php?id=1391</a>	<i>mixed training</i> +EC,

##### 3<sup>rd</sup> year

№	The EE and DLT platform	Name of the e-course, authors, URL	Implementation model of the electronic course

1	Moodle	3 course Russian Language Russian language as foreign, Полуэктова Татьяна Дмитриевна, <a href="https://edu.nsmu.ru/course/view.php?id=1137">https://edu.nsmu.ru/course/ view.php?id=1137</a>	<i>mixed training</i> +EC,
	Zoom		

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

The following software is used in the educational process by students and professors:  
**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
	classrooms for seminar-type classes № 1513 1514 1515 1515 a 1516 1516 a 1521 1521 a	NSMU Troitsky Ave., 51, building 1, 5th floor	each auditorium has 15-20 seats, double tables, a board, stands. Bookcases and / or shelves: No. 1513, 1514, 1515a, 1516, 1516a, 1521 Special equipment: No. 1513 - TV, laptop No. 1516 - TV, laptop No. 1516a - screen, projector