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 26th 2020

SYLLABUS OF THE DISCIPLINE

Discipline **Epidemiology**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI / 12**
Form of the interim assessment **Credit**
Department **of Hygiene and Medical Ecology**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No.
June 22th 2020
Head of the department
A.B. Gudkov

Author and compiler:
Smolina Victoria Sergeevna, Associate Professor of the Department of Hygiene and Medical Ecology, Candidate of Medical Sciences

Arkhangelsk, 2020

1. Goal and tasks of the mastering of the course

Goal of the discipline	The goal of the discipline is to provide basic theoretical and practical training in epidemiology of a physician which allows to apply general questions of epidemiology, patterns of development of the epidemic process, particular epidemiology, deciphering group of diseases, outbreaks and forecast epidemic situation of infectious diseases.
Tasks of the discipline	- to master scientific bases of epidemiology; - to master methods of epidemiological research of both infectious and non-infectious diseases; - to organize anti-epidemic and preventive measures.

2. 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: 31.05.01 General Medicine
Block 1. Basic part.
List of courses for which mastering of the course is a necessary prerequisite: microbiology, hygiene, infectious diseases.

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

Codes of the formed competences	**Competences**		
	a student has knowledge of	**a student is able to**	**a student masters**
PC- No.	**Professional competences**		
PC-3	- normative methodical documents on prevention of infectious diseases; - requirements of sanitary-anti-epidemic regime in accordance with normative legal and methodical documents; - preventive and anti-epidemic measures aimed at preventing the emergence of infectious diseases.	- carry out preventive and anti-epidemic measures aimed at the prevention of infectious diseases	

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

Total workload of the course is **3 credits.**

	Type of the academic work	**Total hours**	**Term**
Discipline workload (in academic hours)	Lectures (L)	14	12
	Seminars (Sem.)		
	Practical classes (PC)	40	12
	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)	54	12
	Examination control (EC)		
	Total course workload	**108**	12

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	**Issues of general epidemiology. Epidemic process.** *Epidemiology as a science. The doctrine of the epidemic process.*	The concept of epidemiology as a science. Its aims, objectives and methods. Communication with the basic epidemiology, hygiene and other disciplines. The main directions of modern epidemiology. Epidemic process. The concept of an epidemic process, regularities of epidemic process. The role of social and environmental factors of the epidemic process. Source of agent of infection. Factors transduction pathways, mechanisms of transmission of the pathogen. The mechanism of transmission is the main feature of the epidemiological classification of infectious diseases. The basic law of Epidemiology. Susceptibility. The concept of natural foci. The theory of self-regulation.
2.	**Immunoprophylaxis of infectious diseases. Calendar of preventive vaccinations.** *Organization of immunization of the infectious diseases.*	Immunization in the system of prevention and anti-epidemic measures. The main normative and methodical documents, governing immunization carrying out. National calendar of preventive vaccinations: mandatory routine immunizations and

		vaccinations by epidemiological indications. Difference from the other countries Calendar. Vaccination effectiveness evaluation. Immunity intensity of vaccinated organization and assessment. Postvaccinal complications: postvaccinal reactions and complications difference, complications causes, complications accounting; social guarantees. The concept of the MIP (medical immunobiological preparations). Vaccine preparations types and characteristics.
3.	**Epidemiology of anthroponoses with fecal-oral mechanism of transmission.** *Anthroponoses with fecal-oral transmission mechanism, epidemiology and prevention.*	General characteristics of infections with fecal-oral mechanism of transmission. Disease surveillance. Prevalence, epidemiological, social and economic importance. Bacterial diseases. The biological properties of causatives and interaction with human body qualities. Susceptibility. Epidemic process regularities. Meaning of sanitary and hygienic measures. Hepatitis A virus (HAV) epidemiology and prevention. Organization of anti-epidemic measures in the centers of dysentery, typhoid, salmonella, enteric viral hepatitis. Improving intestinal anthroponoses epidemiological surveillance. Preventive measures. Organization of anti-epidemic measures in the centers of leptospirosis, improving epidemiological surveillance of enteric zoonoses with natural foci, on example of leptospirosis. Leptospirosis specific and non-specific preventive measures. Organizational basis of resistance flare diseases. Types of epidemic process: water, food, household items, as factors of infection transmission. The epidemiological indications of food, water, domestic nature outbreaks.
4.	**Epidemiology of anthroponoses with aerosol mechanism of transmission.** *Anthroponoses with aerosol transmission mechanism, epidemiology and prevention.*	General group characteristics; supervision. Diphtheria epidemiology and prevention, elements of epidemiological surveillance, qualities of epidemiological, microbiological, serological monitoring; epidemiological diagnosis qualities; harbingers of diphtheria trouble. Preventive measures. Measles, rubella epidemiology and prevention. Measles infection elimination program. Measles elimination stages. Supervision additional elements in a measles elimination circs. Differential diagnosis with exanthematous diseases. Preventive measures. Diphtheria epidemiological qualities. Epidemiological surveillance organization. Diphtheria trouble harbingers. Differential

		diagnostics. Preventive measures. Measles infection elimination program. Measles elimination stages. Antiepidemic measures (TEM) in the outbreaks. Epidemiological surveillance organization. MKI, purulent meningitis epidemiological qualities. Laboratory diagnostics status in current circs. Role in the supervision system (reference base). Preventive measures: specific, non-specific. Organization of anti-epidemic measures. Influenza epidemiology and prevention. The social importance (economic damage). Epidemiological surveillance. Legal and regulatory framework. Laboratory diagnostics status in current circs. Role in the supervision system (reference base). Preventive measures: specific, non-specific. Anti-epidemic measures organization. Aerosol anthroponoses surveillance (chickenpox variola, haemophilus infection, type B, pneumococcal infection). Epidemiology and prevention; documents regulating measures in the outbreaks. Anti-epidemic measures organization. Preventive measures. Characteristics of vaccines.
5.	**Epidemiology of infections with blood-borne transmission mechanism** *Epidemiology and prevention of infection with blood-borne transmission mechanism* *HIV infection epidemiological surveillance organization*.	Legal and regulatory framework governing the preventive and anti-epidemic, epizootic measures conduct. Parenteral hepatitis epidemiology and prevention. Epidemiological surveillance. Parenteral viral hepatitis social and economic importance. Regulatory and methodological documents, regulating the prevention of parenteral viral hepatitis. Epidemic process characteristics (EP) for parenteral viral hepatitis, EP progress qualities. Epidemiological surveillance organization. Specific and non-specific prevention. Improving epidemiological surveillance in the current circs. HIV epidemiological surveillance organization. HIV infection preventive measures. Anti-epidemic measures organization.

6.	**Descriptive epidemiological studies** *Semiotics in epidemiological diagnostics* *Content of descriptive epidemiological studies* *Time series analysis*	**Semiotics in epidemiological diagnostics.** Semiotics. Definition. Groups of epidemiological diagnostic measures: basic, additional, evaluative. Main measures: absolute numbers, incidence, prevalence, pathological incidence, incidence with temporary disability, mortality. Additional measures: extensive metrics, cumulative frequency, visibility ratios, standardized indicators. **Content of descriptive epidemiological studies.** Types of descriptive epidemiological studies. Ecological studies. Sources of information. Errors in ecological studies. Description of morbidity by territories, in the structure of the population and in time. Definition of territories and risk groups. **Time series analysis.** Time series analysis. Time series elements. Time series types. Groups of temporary causal factors. Indicators characterizing the rate of development of the epidemiological process over time: absolute change, growth rate, growth rate, lead rate. Graphs for displaying the dynamics of the epidemiological process

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

5.2. Sections and types of studies

No.	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
1	Issues of general epidemiology. Epidemic process.	2						2	4
2	Immunoprophylaxis of infectious diseases. Calendar of preventive vaccinations.							4	4
3	Epidemiology of anthroponoses with fecal-oral mechanism of transmission.			5				6	11
4	Epidemiology of anthroponoses with aerosol mechanism of transmission.			10				6	16
5	Epidemiology of infections with blood-borne transmission mechanism.			10				6	16
6	Descriptive epidemiological studies	6		10				2	18
7	Analytical epidemiological studies	8		10				4	22
8	Experimental epidemiological studies	6		5				6	12

6. Interactive forms of studies

No.	Name of the course section	Interactive forms of studies	Duration (hours)
1.	Epidemiology of anthroponoses with fecal-oral mechanism of transmission.	Case-study method	4
2.	Epidemiology of anthroponoses with aerosol mechanism of transmission (including influenza and SARS)	“Round table” method	4
3.	Analytical epidemiological studies	Compile a glossary of terms for measures of effect in analytical studies	4
		Total (hours)	12
		Total (% of in-class learning)	11%

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

No.	Name of the course section	Types of the unsupervised work	Forms of

			control
1.	Issues of general epidemiology. Epidemic process.	lecture notes	written
2.	Immunoprophylaxis of infectious diseases. Calendar of preventive vaccinations.	an interview, lecture notes, checking of tests	oral, written
3.	Epidemiology of anthroponoses with fecal-oral mechanism of transmission.	an interview, report, lecture notes, abstracts, situational problems solving, checking of tests	oral, written
4.	Epidemiology of anthroponoses with aerosol mechanism of transmission.	an interview, report, lecture notes, abstracts, situational problems solving	oral, written
5.	Epidemiology of infections with blood-borne transmission mechanism.	an interview, report, abstracts, lecture notes, checking of tests, situational problems solving	oral, written
6.	Descriptive epidemiological studies	an interview, report, lecture notes, checking of tests, situational problems solving	oral, written
7.	Analytical epidemiological studies	an interview, report, lecture notes, abstracts, situational problems solving	oral, written
8.	Experimental epidemiological studies	an interview, report, abstracts, lecture notes, checking of tests, situational problems solving	oral, written

8. Forms of control

8.1. Current forms of control

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

A theme list of abstracts, reports, test collections and situational problems are shown at the section ‘Evaluation tools’.

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

Stages of the interim assessment

1. Stage - answer on questions

Questions for a pass/fail test and are shown at the section ‘Set of the evaluation tools for the current control and interim assessment of students’.

9. Library and information materials of the course

9.1. Compulsory literature

1. Брико Н.И. Эпидемиология [Электронный ресурс] : учебник/ Н. И. Брико, В. И. Покровский. -Москва: ГЭОТАР-Медиа, 2017. -368 с.- URL: http://www.studentlibrary.ru/book/ISBN9785970436653.html

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

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

4. Покровский В.И. Инфекционные болезни и эпидемиология [Электронный ресурс]/ В. И. Покровский , С. Г. Пак, Н. И. Брико. -3-е изд., испр. и доп.. -Москва: ГЭОТАР-Медиа, 2016. -1008 с.: ил.- URL: http://www.studentlibrary.ru/book/ISBN9785970438220.html

9.2. Supplementary literature

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

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

3. Общая эпидемиология **с** основами доказательной медицины. Руководство к практическим занятиям [Электронный ресурс] : учебное пособие/ ред.: В. И. Покровский, Н. И. Брико. -2-е изд., испр. и доп.. -Москва: ГЭОТАР-Медиа, 2017. -496 с.- URL: http://www.studentlibrary.ru/book/ISBN9785970442555.html

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

http://webmed.irkutsk.ru Web – медицина - цифровые коллекции, цифровые библиотеки, базы данных и т.п.

http://lib.nsmu.ru/lib/ Электронный каталог и полнотекстовая электронная библотека НБ СГМУ.

http://feml.scsml.rssi.ru. Федеральная электронная медицинская библиотека.

http://www.elibrary.ru Научная электронная библиотека eLibrary.ru.

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

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа № 2403 Морской медицины административный учебный корпус, 4 этаж *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, экран *в) перечень учебно-наглядных пособий:* схемы, таблицы *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лиц. Согл. № 1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 1308 главный учебный корпус, 3 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 25 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Схемы по темам занятий, анализатор углекислого газа, барометр-анероид, шумомер портативный, высокоточечный термометр с черной сферой Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 1357 главный учебный корпус, 3 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 19 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор	163000, г. Архангельск, просп. Троицкий, д. 51

в) перечень учебно-наглядных пособий: Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины. Схемы по темам занятий, дозиметр-радиометр, измеритель вибрации *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 1307 главный учебный корпус, 3 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 12 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины Таблицы, схемы для проведения занятий *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51

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APPROVED
Dean of the International Faculty
of General Practitioner
A. K. Sherstennikova
June 26th 2020

SYLLABUS OF THE DISCIPLINE

Discipline **Medical Rehabilitation**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI / 12**
Form of the interim assessment **Credit**
Department **of Physical Culture and Medical Rehabilitation**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No.
June 21th 2020
Head of the department
N.I. Ishekova

Author and compiler:
Bondarenko Elena Georgievna, Associate Professor of the Department of Physical Culture and Medical Rehabilitation, Candidate of Medical Sciences

Arkhangelsk, 2020

1. Goal and tasks of the mastering of the course

Goal of the discipline	The goal of the discipline is to provide specific knowledge and practical skills, to apply evidence-based methods of rehabilitation for patients undergoing physical illness, injury or surgery, to use sports medicine, physical therapy, physiotherapy, alternative therapies (acupuncture, herbal medicine, chiropractic, dietetics, etc.) of people in need of rehabilitation.
Tasks of the discipline	- to teach students to conduct a medical examination of a mature-aged and elderly people for admission to their physical training and sports; - to teach students to possess methods of research of physical and functional state of healthy and sick people to select for them an adequate motor mode; - to define indications and contraindications to the appointment of agents of physiotherapy, physical therapy, acupuncture, chiropractic and other means of non-pharmacological treatment; - to apply various rehabilitation activities (health, social, and professional) for patients with the most common pathological conditions and body injuries; - to use the main resort factors in the treatment of patients in different fields and to monitor the quality of medical diagnostic and rehabilitative and preventive care on the basis of knowledge of mechanisms of recovery and compensation of disturbed functions in various diseases designation means physical therapy, physiotherapy, manual therapy on a stationary, sanatorium and outpatient rehabilitation phases.

2. 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: 31.05.01 General Medicine.

The discipline "Medical rehabilitation" refers to the Block 1. Basic part.

Discipline "Medical rehabilitation" refers to a cycle of professional disciplines.

Basic knowledge required for the study of the discipline are formed:

- in the cycle of scientific disciplines, including: normal physiology, pathological physiology, human anatomy, pathology, biochemistry;
- in the cycle of special disciplines, including: propaedeutics of internal diseases propaedeutics of surgical diseases, orthopedics.

It is the previous cycle to explore the professional disciplines.

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

Codes of the formed competences	Competences		
	a student has knowledge of	**a student is able to**	**a student masters**
GPC –No.	**General professional competences**		
readiness to keep medical documentation **(GPC-6)**	requirements for filling medical records for medical rehabilitation	maintaining a standard of accounting and reporting of medical records for medical rehabilitation (p. 042, 044, etc.)	conducting medical rehabilitation at various diseases Medical Records
PC –No.	**Professional competences**		
readiness to identify the need for natural therapeutic factors, medicinal and non-pharmacological treatment and other treatment methods in relation to patients in need of medical rehabilitation and health resort treatment **(PC-14)**	organization and carrying out rehabilitation activities among children, adolescents and adults, the mechanism of therapeutic and rehabilitative effects of physical therapy, physical therapy, acupuncture, herbal medicine, massage and other non-drug methods, indications and contraindications to their destination.	identify the main clinical signs of disease; determine Patients motor mode, its content and rehabilitation tasks in the three stages of rehabilitation. Select the means of physical rehabilitation in accordance with the disease and to justify them; develop patient rehabilitation plan taking into account the course of the disease, use of non-	non-drug treatments for patients; motor mode selection for patients with different pathologies, its content, organisation of medical rehabilitation at three stages of rehabilitation; drawing up a rehabilitation program

		drug methods of treatment, to conduct rehabilitation activities; create a set of exercises therapeutic exercises for the patient, who is at a certain stage of rehabilitation	

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

Total workload of the course is **3** credits.

	Type of the academic work	**Total hours**	**Term**
Discipline workload (in academic hours)	Lectures (L)	22	12
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	50	12
	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	12
	Examination control (EC)		
	Total course workload	**108**	**12**

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	**I. Tasks and main sections of medical rehabilitation**	Theme 1. The organization of medical care for rehabilitation. Content: Indications and contraindications to non-drug treatments (physical therapy, physical therapy, acupuncture, chiropractic, dietetics, etc.). Standards assist in medical rehabilitation. Stages, levels and aspects of rehabilitation (medical, social, professional,

		psychological). Occupational Therapy in Rehabilitation System Theme 2. Organization of physiotherapy services in Russia. Content Topics: Physiotherapy department (PIF): organization, scope, areas of activity. The role of physical factors in the rehabilitation process. Forms of primary medical documentation PIF. Features of ethics and deontology in physiotherapy. Physical and chemical bases of action of physical factors. Basic approaches to the therapeutic use of physical factors. Features of physiotherapy in pediatrics. Compatibility physiotherapy, destination sequence. Theme 3. Fundamentals of general physiotherapy. Content topics: Classification of physical therapy. The basic principles of selection and dosing. Contraindications fizioterapii.Elektrolechenie purpose. Phototherapy. Mechanical influences. Aerosol and elektroaerozolterapiya, halotherapy. Hydrotherapy. Balneotherapy. heat and cold treatment. Mud. Theme 4. The place and role of physiotherapy in the rehabilitative treatment. Content topics: Classification of funds physiotherapy. The basic principles of selection and dosage of exercise. Contraindications to the appointment of physiotherapy. The procedure for the appointment of medical gymnastics and documentation. Features of exercise therapy in adult and adolescent rehabilitation of the population. Massage Therapy: classification, mechanism of action, the basic techniques of massage. Theme 5. Spa treatment - as a rehabilitation factor. Content topics: Structure of sanatorium treatment. Characteristic of the northern resorts. Indications and contraindications for the purpose of spa treatments. Balneotherapy: admission procedure northern mineral water for various diseases. Pelloidoterapiya, indications and contraindications for its intended purpose. The algorithm of the rehabilitation program in the sanatorium.
2	**II. Medical rehabilitation in different**	Theme 1. Medical rehabilitation of patients

	clinical forms	with cardiovascular diseases. Content topics: physical rehabilitation program for patients with coronary artery disease, myocardial infarction-patient and outpatient rehabilitation phases. Levels of physical activity, and their contents. The methodology of the bicycle stress test. Features of a technique of physiotherapy for hypertension, vegetative-vascular dystonia. The use of massage in diseases of the cardiovascular system. Physical therapy and non-drug treatments for cardiovascular diseases. Theme 2. Medical reabilitatsiyapri respiratory diseases. Content topics: Clinico-physiological substantiation of application of physical therapy in the complex treatment of acute and chronic lung diseases. Features of a technique of therapeutic exercises with pneumonia, bronchial asthma, chronic bronchitis, emphysema, pnevmoskleroze, bronchiectasis. Methods for assessing the effectiveness of exercise therapy for respiratory diseases. The use of massage in pathology legkih. Fizioterapiya and non-drug treatments for respiratory pri zabolevaniyah. Theme 3. Medical reabilitatsiyapri pathology of the gastrointestinal tract, and diseases caused by metabolic disorders. Topics Content: Objectives, indications and contraindications to exercise therapy in diseases of the gastrointestinal tract. Clinical and physiological rationale for the use of funds kinesotherapy with biliary dyskinesia and colon. Private methods of medical gymnastics at visceroptosis. The use of exercise therapy for obesity and diabetes. Physiotherapy and non-drug therapies pripatologii gastrointestinal tract and diseases caused by metabolic disorders. Topic 4. Rehabilitation in diseases of the musculoskeletal system. Content topics: exercise therapy for scoliosis, flat feet. Exercise therapy in the conservative treatment of spinal osteochondrosis. Exercise therapy for arthritis and arthrosis. Evaluation effektivnosti.Fizioterapiya and non-drug therapies prizabolevaniyah musculoskeletal system.

		Topic 5. Physical rehabilitation in abdominal surgery and traumatology. Content topics: physical therapy place in a phased treatment of surgical patients. Methods Exercise therapy in operations on the abdominal and thoracic cavity organs. Principles of organization and especially physical therapy techniques for fractures of the bones of the extremities, spine and bones taza.Fizioterapiya and non-drug treatments in surgery and traumatology. Theme 6. Medical rehabilitation during pregnancy and the postpartum period. Medical rehabilitation in gynecology. Content topics: exercise therapy in various stages of pregnancy. LFK in childbirth and the postpartum period. Clinical and physiological rationale and methods of exercise therapy in inflammatory gynecological diseases and anomalies of position matki.Fizioterapiya and non-drug treatments for gynecological diseases. Theme 7. Medical rehabilitation in neurological diseases. Content topics: Features of a technique of therapeutic exercises for diseases of the peripheral nervous system (neuropathy). Physical rehabilitation in acute impairment of cerebral krovoobrascheniya.Fizioterapiya and non-drug therapies prinevrologicheskih diseases.
3	**III. Medical control for dealing with physical culture and sports.**	Theme 1. The essence of the organization, main tasks and areas of medical control. Topics Contents: Tasks and main sections of the medical control. Identification and assessment of physical development. Functional tests of the cardiovascular and respiratory systems and their importance in the evaluation of the physical condition, the selection and justification of physical training programs. Distribution of medical groups for physical training. Doping control and monitoring on sex. 2. Subject prepathological and pathological conditions arising from the wasteful physical education and sports. Rehabilitation in sports. Content topics: medical supervision in the process of physical education, sport and exercise therapy. Prepathological and pathological conditions in sports. Emergency conditions. Means of rehabilitation in sports.

		Medical support disabled sports.

5.2. Sections and types of studies

No.	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
1	**I. Tasks and main sections of medical rehabilitation**	6			15			11	32
2	**II. Medical rehabilitation in different clinical forms**	12			25			13	50
3	**III. Medical control for dealing with physical culture and sports.**	4		5	5			12	26
	Total	22		5	45			36	108

6. Interactive forms of studies

No.	Name of the course section	Interactive forms of studies	Duration (hours)
1	**Tasks and main sections of medical rehabilitation**	Work in small groups at the decision of situational problems Work using Moodle.	4
2	**Medical rehabilitation in different clinical forms**	Work in small groups at the decision of situational problems Carrying out medical exercises Write the case	4
3	**Medical control for dealing with physical culture and sports.**	Work in small groups at the decision of situational problems Write the case	4
		Total (hours)	12
		Total (% of the class activities)	16

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

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

		Moodle.	
3	**III. Medical control for dealing with physical culture and sports.**	The solution of situational problems, testing. Work using Moodle.	Checking completed jobs

8. Forms of control

8.1. Current forms of control

- oral - an interview
- written - tests, term papers, preparation of a case histories.

A subject list of abstracts, reports, essays, tests, term papers, test collections and cases are shown at the section «Assessment tools».

8.2. Forms of interim attestation - pass/fail test

Stages of pass/fail test

Stages of the interim assessment

1. Stage - computer test

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

3. Stage - the decision of situational problems

Questions for a pass/fail test are listed at the section 'Set of the evaluation tools for the current control and interim assessment of students'.

9. Library and information materials of the course

9.1. Compulsory literature

1. Dr. Vodder's Manual Lymph Drainage: A Practical Guide [Электронный ресурс]/ Hildegard Wittlinger, Dieter Wittlinger, Andreas Wittlinger, Maria Wittlinger.- Thieme, 2019- URL: https://medone-education.thieme.com/ebooks/2396276#/ebook_2396276_SL89764274
2. Gautschi R. Manual Trigger Point Therapy: Recognizing, Understanding, and Treating Myofascial Pain and Dysfunction [Электронный ресурс]/ Roland Gautschi. - Thieme, 2019- URL: https://medone-education.thieme.com/p/author/profile/0000775748
3. Mehrholz J. Physical Therapy for the Stroke Patient: Early Stage Rehabilitation [Электронный ресурс]/ J. Mehrholz: Thieme, 2012 - URL: https://medone-education.thieme.com/ebooks/2125925?fromSearch=true#/ebook_2125925_SL81383464.
4. Richter P. Trigger Points and Muscle Chains [Электронный ресурс]/ Philipp Richter, Eric Hebgen.- Thieme, 2019- URL: https://medone-education.thieme.com/ebooks/2427168#/ebook_2427168_SL90763924
5. Schiffter R. Connective Tissue Massage. Bindegewebsmassage According to Dicke [Электронный ресурс]/ R. Schiffter, E. Harms: Thieme, 2014 - URL: https://medone-education.thieme.com/ebooks/2144595?fromSearch=true#/ebook_2144595_SL81870342.
6. Епифанов А.В. Медицинская реабилитация [Электронный ресурс] : учебник/ А. В. Епифанов, Е. Е. Ачкасов , В. А. Епифанов. -Москва: ГЭОТАР-Медиа, 2015. -672 с. - URL: http://www.studentlibrary.ru/book/ISBN9785970432488.html
7. Пономаренко Г.Н. Медицинская реабилитация [Электронный ресурс] : учебник/ Г. Н. Пономаренко. -Москва: ГЭОТАР-Медиа, 2014. -360 с.: ил. - URL: http://www.studentlibrary.ru/book/ISBN9785970431344.html

9.2. Supplementary literature

1. Color Atlas of Acupuncture. Body Points, Ear Points, Trigger Pointse. [Электронный ресурс]/ H. Hecker [и др.]. -2nd ed.: Thieme, 2008 - URL: https://medone-education.thieme.com/ebooks/2122117?fromSearch=true#/ebook_2122117_SL81161686.
2. Ergil M. Pocket Atlas of Chinese Medicine [Электронный ресурс]/ M. Ergil, K. Ergil: Thieme, 2009 - URL: https://medone-education.thieme.com/ebooks/2130575?fromSearch=true#/ebook_2130575_SL81482201.
3. Епифанов В.А. Лечебная физическая культура [Электронный ресурс] : учеб. пособие/ В. А. Епифанов. -3-е изд., испр. и доп.. -Москва: ГЭОТАР-Медиа, 2017. -656 с: ил. - URL: http://www.studentlibrary.ru/book/ISBN9785970442579.html

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

1. http://www.sportmed.ru/ - regulatory framework for sports medicine, conference information

2.http://www.wada-ama.org/en/Footer-Links/Other-Languages/Russian/ - World Anti-Doping Service Information

3. http://www.rusada.ru/ - anti-doping service information in Russia

4. https://rehabrus.ru/- regulatory framework for medical rehabilitation, clinical guidelines, conference information

- Audiovisual - Training Films

9.4. List of the information technologies used in the educational process of the course

Internet resources	Explanation
1. ELS "Student Consultant" http://www.studmedlib.ru/	access on all computers of SSMU (under the IP-address of the university)
2. Scientific Electronic Library eLibrary http://www.elibrary.ru	open resource open access logs
3. Russian education. Federal portal http://www.edu	open resource
4. Electronic catalog and full-text electronic library of the Science Library of NSMU http://lib.nsmu.ru/lib/	access to the full-text electronic library with a password issued in the electronic information room (room 2317)
5. Federal Electronic Medical Library http://feml.scsml.rssi.ru	open resource clinical recommendations (treatment protocols)
6. PubMedCentral (PMC) – US National Library of Medicine's full-text archive of biomedical journals http://www.pubmedcentral.nih.gov	open resource
7. Web – medicine http://webmed.irkutsk.ru	open resource
8. Russian medical journal http://www.rmj.ru	open resource
9. egal system “Consultant Plus” http://www.consultant.ru/	access to the resource in the electronic information room (room 2317)
10. Moodle http://edu.nsmu.ru/	open resource

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)

Учебная аудитория для проведения занятий лекционного типа № 2403 Морской медицины административный учебный корпус, 4 этаж *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, экран *в) перечень учебно-наглядных пособий:* стенд, таблицы *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 36, 5-й этаж главного корпуса Договор № 606 от 26.07.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская городская клиническая больница № 7». Срок действия Договора – 5 лет. Обородование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* колонки, моноблок, проектор, экран *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163062, Архангельская область г. Архангельск, ул. Ярославская, д. 42
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 1429 главный учебный корпус, 4 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 10 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор, телевизор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины	163000, г. Архангельск, просп. Троицкий, д. 51

аппарат массажный, балансировочная подушк, бандаж на коленный суств, бандаж на плечевой сустав, весы бытовые omron, видеокамера, воротник "реклинатор", воротник ортопедический, корсет пояснично-крестц, манжета медицинская, налокотник эластичный, пикфлуометр omron, пояс корсетный, прибор для измерения ёмкости лёгких, пульсар 3 для глухих, пульсотахограф, светоскоп, фиксатор для голеностопа, фиксатор коленного сустава, осанки *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 1002 главный учебный корпус *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 10 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51

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 26th 2020

SYLLABUS OF THE DISCIPLINE

Discipline **Clinical Pharmacology**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI / 12**
Form of the interim assessment **Credit**
Department **of Clinical Pharmacology and Pharmacotherapy**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No.
June 24th 2020
Head of the department
N.A. Vorobyova

Author and compiler:
Vorobyeva Nadezhda Alexandrovna, Head of the Department of Clinical Pharmacology and Pharmacotherapy, Professor of the Department of Clinical Pharmacology and Pharmacotherapy, Doctor of Medical Sciences

Arkhangelsk, 2020

1. Goal and tasks of the mastering of the course

Goal of the discipline	The goal of the discipline is to teach students the methodology of selection of a particular drug based on the data of pharmacokinetics, pharmacodynamics, drugs, formulary system (formulary list, formulary articles, standards and national treatment guidelines), rational drug combinations and the nature of the disease.
Tasks of the discipline	- to teach students to use common principles of pharmaco-dynamics and pharmacokinetics, interactions and adverse drug reactions of drugs in the characterization of specific groups of medicines; - to know the peculiarities of pharmacokinetics, pharmacodynamics of drugs in diseases of the cardiovascular, respiratory, nervous systems, gastrointestinal tract, liver and kidneys, connective tissue, thyroid gland; - to know risk factors and clinical manifestations of major adverse reactions of drugs; - to be able to evaluate efficacy and safety of groups of drugs (to determine adequate clinical, laboratory and functional parameters of drug therapy and the most simple, accessible and informative methods of evaluating the effectiveness and safety of therapy); - to know the main clinical manifestations of common diseases and their treatment principles; - to know the methods of evaluation of quality of life; - to be able to determine the optimal dosing regimen, route of administration of medicines, appropriate therapeutic tasks.

2. 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: 31.05.01 General Medicine.

Block 1. Basic part.

Sections of the module and interdisciplinary connections, provided with(subsequent) disciplines

The Latin language and the fundamentals terminology

Physiology, pathology

Pharmacogenetics

Microbiology

General pharmacology

Internal diseases

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

Codes of the formed competences	Competences		
	a student has knowledge of	**a student is able to**	**a student masters**
GPC –No.	**General professional competences**		
readiness for medical use of drugs and other substances and their combinations in solving professional tasks (**GPC-8**);	1. main symptoms and syndromes the most common diseases of internal or-gans; 2. the main pharmacokinetic parameters of drugs in healthy individuals and in various pathologies, especially in infants and elderly persons; 3. basic principles of conducting pharmacokinetic studies and monitoring of the concentration of drugs; 4. principles of clinical and pharmacological approach to the selection of groups of medicines pharmacotherapy for major diseases of internal organs, the concept of "standard of care", "Evidence based medicine"; 5. features dispensing of medicines depending on age, the nature of the disease with consideration of chronobiology and chronopharmacology and other fac-tors; 6. the main types of drug interactions (pharmaceutical, pharmacokinetic and pharmacodynamic), medication-inducers and drugs-inhibitors of enzyme sys-tems of the liver;	1. select the group of medicines for treatment of a particular disease, based on the mechanism of action of drugs, the state of the body functions, and the pro-jected impact of planned pharmacotherapy, in the current "Standards of treat-ment" the most common diseases and based on the principles of "Evidence based medicine"; 2. to analyze the rationality of the choice according to the criteria of efficacy and safety of specific drugs in the group of analogues to treat the main symp-tom. 3. you know the optimal dosing regimens; the choice of the dosage form of the drug, dosage, frequency and duration of administration of the drug; 4. explain to patients how and when taking a drug, or combinations thereof; 5. to choose methods of monitoring the effectiveness and safety of groups of drugs and to suggest the possible risk of side effects of drugs; 6. to give recommendations for the prevention of adverse drug reactions; 7. to be able to read, understand and evaluate the protocols of clinical trials of new drugs; 8. to select a drug for the formation of the dosage form;	1. to give recommendations for the prevention of adverse drug reactions; 2. to comply with the rules of medical, pharmaceutical ethics and deontology in the relationship with medical staff, patients, their families The student of the discipline of Clinical pharmacology and pharmacotherapy should be aware of: 1. the mechanisms of action of drugs; 2. about the processes of biotransformation of drugs in the body healthy and sick person; 3. about factors that may modify the action of effective and safe drugs in spe-cific clinical case.

	7. clinical and paraclinical methods of evaluating the effectiveness and safety of the main groups of drugs; 8. the main adverse events the most common drugs, methods of their preven-tion and correction;	9. to have an idea about the impact of drugs on the parameters of quality of life; 10. be able to collect the pharmacological and allergological anamnesis; 11. to be able to use the educational, scientific, normative, reference books and computer databases for clinical pharmacology and databases evidence-based medicine;	

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

Total workload of the course is **3** credits.

	Type of the academic work	**Total hours**	**Term**
Discipline workload (in academic hours)	Lectures (L)	14	12
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	40	12
	Laboratory-based practicals (LBP)		
	Simulation-based practicals (SBP)		
	Preparation for the examination (PE)		
	Preparation for the credit (PC)		
	Exam consultations (EC)		
	Coursework (CW)		
	Unsupervised work (UW) (total)	54	12
	Examination control (EC)		
	Total course workload	**108**	**12**

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
	General issues of clinical pharmacology.	The object and tasks of clinical pharmacology. The concept of "clinical pharmacology", "pharmacology", "pharmacotherapy", the differences between them. The concept of the formulary system. Principles of clinical trials of new drugs, modern methods of clinical trials, the concept of controlled clinical trials.

		The concept and basic concepts of the medicine based on evidence. Of pharmacodynamics of drugs in different periods of human life (children, pregnant and lactating women, elderly). Pharmacokinetics drug: route of administration, pharmacokinetics of drugs at different ages (children, elderly), as well as in pregnant and lactating women. Pharmacokinetics of drugs in the pathology of the respiratory system, gastrointestinal tract, blood circulation, liver and kidneys. The interaction of drugs, their nature (pharmaceutical, pharmacokinetic, pharmacodynamic). Clinical characteristics of manifestations of the interaction of drugs. The principles of choosing the rational combination of drugs. Undesirable medicinal reactions. Methods for their detection, prediction, prevention and correction. Clinical types of adverse drug reactions. The dependence of adverse drug reactions from the indications for use of drugs, routes of administration, dose, duration of use, age of patients. General principles for evaluating the efficacy and safety of use of medicines in patients, including assessment of quality of life. The value of clinical and laboratory-instrumental methods of evaluating the effectiveness and safety of drugs. Pharmacogenetics in practice Clinician doctor
	Evidence-based medicine.	Preclinical research. Drug research: phases of clinical trials, the concept of GCP, ethical and legal standards of clinical research, clinical research, clinical research Protocol. The concept of randomized controlled trials. Study on bioequivalence. Generics
	Clinical pharmacology of nonsteroidal anti-inflammatory drugs.	The principles of selection and dosing. Definition of a way of introducing the subject to the mechanism of action, biotransformation, chronopharmacology and localization and parameters of the inflammatory process. Methods of evaluation of effectiveness and safety. Diagnosis, correction and prevention of adverse reactions. Possible interactions when combined with their purpose and with drugs of other groups. Paracetamol, aspirin, diclofenac, ibuprofen, indomethacin, Ketoprofen,piroxicam. Selective cyclooxygenase-2 inhibitors: meloxicam, celecoxib, xefocam. Combination medications: including antispasmodics,

		caffeine, ascorbic acid, chlorphenesin, pseudoephedrine.
	Clinical pharmacology of antimicrobial agents	The principles of rational choice, empirical and causal (when identified the pathogen infection) antibiotic therapy, determination of dosage and route of administration of the antimicrobial drug, depending on the characteristics of the infectious process. Methods of evaluating the effectiveness and safety of antimicrobial agents. Diagnosis, correction and prevention of adverse drug reactions. The combination of antimicrobial drugs and possible interactions when combined with drugs from other groups. Antibiotics: penicillin, oxacillin, amoxicillin, ampicillin. Antisinegnoynym penicillins (carbenicillin, piperacillin). Inhibitorsdisease penicillins (amoxicillin/clavulanate). Cephalosporins: I generation – Cefazolin, cephalexin,. II generation – cefuroxime. III generation – Cefotaxime, Ceftriaxone, ceftazidime. IV th generation – cefepime. Aminoglycosides: gentamicin, amikacin, netilmicin. Carbapenems: imipenem/cilastin, Meronem. Tetracyclines: tetracycline, doxycycline. Macrolides: erythromycin, azithromycin, spiramycin. Lincosamides: clindamycin, lincomycin. Glycopeptides: vancomycin. Nitrofurans: furadonin. Sulfonamides: co-trimoxazole. Fluoroquinolones: ciprofloxacin, moxifloxacin. Antibiotics of different groups: positieve acid, chloramphenicol, rifampicin, mupirocin, metronidazole. Antifungals: nystatin, clotrimazole, fluconazole, ketoconazole. Antiviral drugs: rimantadine, acyclovir, famciclovir. valacyclovir, interferon alpha.
	Clinical pharmacology of drugs affecting hemostasis	The principles of selection and determination of the dosage depending on the coagulation, Universiada, fibrinolytic systems of the patient. Features of treatment in diseases of the liver, kidneys, gastrointestinal tract, the blood, the cardiovascular system, used in various stages of pregnancy, lactating women and the elderly. Methods of evaluation of effectiveness and safety. The main methods of laboratory control on the use of anticoagulants. Diagnosis, correction and prevention of adverse drug reactions. Possible interactions when combined with their purpose and with drugs of other groups.

		Anticoagulants: direct - heparin, low molecular weight heparin; indirect – warfarin. Fibrinolytic agents: streptokinase, alteplase. Agents that increase blood clotting: menadione, thrombotic sponge, fibrinogen. Inhibitors of fibrinolysis: -aminocaproic, p-aminobenzoic, aminomethylenemalonate acid. Disaggregate: clopidogrel, aspirin, pentoxifylline, ticlopidine, dipyridamole. Remedies to stop bleeding in patients with hemophilia (cryoprecipitate factor VIII, antihemophilic plasma).
	Clinical pharmacology of cardiovascular diseases	Clinical pharmacology of drugs for the treatment of hypertension, cardiovascular disease, asthma, osteoarthritis, osteoporosis. Clinical pharmacology of drugs affecting vascular tone and lipid-lowering drugs. Drugs that decrease vascular tone: Central agonists of α2-adrenergic and I1-imidazoline receptors (clonidine, moxonidine), α - blockers (doxazosin), ACE inhibitors (captopril, enalapril, lisinopril, fosinopril), angiotenzinovyh receptor antagonists (losartan, valsartan, Kurdistan), a direct renin inhibitor (aliskiren), beta-blockers (propranolol, atenolol, metoprolol, carvedilol, bisoprolol, sotalol), blocking slow calcium channel blockers (nifedipine, amlodipine, verapamil, diltiazem), venous dilatatory (nitroglycerin, isosorbide dinitrate, isosorbide Mononitrate, molsidomine), pentoxifylline. Lipid-lowering drugs: the statins (simvastatin, atorvastatin), fibrates (fenofibrate). Fibrinolytics (streptokinase, alteplase). Antiarrhythmic drugs
	Clinical pharmacology of drugs affecting bronchial patency	Clinical pharmacology of drugs affecting bronchial patency. Drugs affecting bronchial patency: stimulants β2-adrenergic receptor (salbutamol, formeterol), m-holinoblokatory (ipratropium bromide, Tiotropium bromide), xanthines (aminophylline). Anti-inflammatory anti-asthma remedies: inhaled corticosteroids (beclomethasone, budesonide), systemic glucocorticoids (prednisone, dexamethasone). Antihistamines (blockers H1-histamine receptors): cetirizine, loratadin. Pulmonary surfactants (poractant alpha). Principles of remedy selection, determination of routes of administration, methods of drug delivery to the respiratory tract (metered-dose inhalers, nebulizer, spacer, spinhaler, turbuhaler, diskhaler) and rational dosing of drugs based on the reversibility of airway obstruction, the severity

		of bronchial obstruction, characteristics of sputum, the cardio-vascular system, pharmacokinetics, factors that alter the sensitivity to the drug, treatment standards and the list of vital drugs. The concept of sequential therapy of bronchial asthma. Diagnosis, correction and prevention NLR. Syndrome reduce the sensitivity of the receptors (tachyphylaxis, internalization and reduction of regulation), causing the development of resistance to β-stimulators, methods for its correction and prevention. Methods of evaluation of effectiveness and safety. Assessment of quality of life. The notion of compliance (or adherence). Possible interactions when combined assignment and combined with drugs from other groups.
	Clinical pharmacology of psychotropic drugs.	Clinical classification of psychotropic drugs. Pharmacotherapy of sleep disorders. The tranquilizers. The antidepressants. Antipsychotics. Nootropics. Diagnosis, correction and prevention of adverse drug reactions

5.2. Sections and types of studies

No.	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
1	Adverse effects of drug therapy. Mechanisms of development, forecasting and accounting of the unwanted effects of medication. Classification SE	2			5				12
2	Clinical pharmacogenetics in medical practice	2							7
3	Age aspects of clinical pharmacology Features of pharmacotherapy depending on age, somatic pathology, physiological condition of the patient.	2							6
4	Planning clinical trials of drugs. Ethical aspects of clinical research	2							7
5	Rational use of drugs. Formulary system. The development of the formulary list of	2							4

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

13	Clinical pharmacology obstructive syndrome Criteria of efficacy and safety of therapy. Treatment of patients and the decision of situational tasks on the topic of the lesson.				5				7
14	Clinical pharmacology of drugs for the treatment of atherothrombosis. Lipid-lowering drugs				5				5
15	Clinical pharmacology of antihypertensive drugs. Principles of clinical and pharmacological approach to the selection of medicines for the treatment of hypertensive patients. Care of the patients. The decision of situational problems.				5				5
16	Clinical pharmacology of psychotropic drugs	2			5				5
		14		40	54				108

6. Interactive forms of studies

No.	Name of the course section	Interactive forms of studies	Duration (hours)
1	Clinical pharmacology of drugs used in ACS	Roleplay The case study method Consilium	1.0
2	Clinical pharmacology of drugs affecting hemostasis	The case study method School of wayfaringtree Discussion club	2.0
3	Formulary system of medicines	SE	2.0
		Total (hours)	108
		Total (% of the class activities)	

7. 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	Antianginal drugs		Test "Clinical pharmacology of antianginal drugs"
2	Anticoagulants		Test "Clinical Pharmacology of Medicines Affecting

			Hemostasis"
3	Clinical Pharmacology of Pain		TEST NSAID's
4	Antiarrhythmic drugs		Test "Clinical pharmacology of antiarrhythmic drugs
5	Drugs, affecting on Gastrointestinal tract		Clinical pharmacology of medicines affecting the functions of the digestive system
6	Allergic inflammation		Test "Clinical pharmacology of antiallergic and immunotropic agents. Medicinal allergy"
7	Aspects of Antibacterial therapy		Test "Clinical pharmacology of antibacterial agents
8	Drugs, affecting on Respiratory tract		"Clinical pharmacology of drugs, affecting on respiratory tract"
9	Adverse reactions of Drug Therapy		Drug Interactions

8. Forms of control

8.1. Current forms of control

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

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

Extracurricular self-studies of students

No	Name of the course section	Types of self-studies	Forms of control
	Private issues of clinical pharmacology – AM therapy	The plan of pharmacotherapy thematic patient, the formulary list	Protecting the history of the supervised patient. Interview
	Private issues of clinical pharmacology – drug treatment of socially important diseases	The thematic analysis of pharmacotherapy patient	Protecting the history of the supervised pa-tient. Interview
	General issues of clinical pharmacology. Controlled studies of drugs. Pharmacokinetics and pharmacodynamics of drugs in children, patients of elderly and senile age. Undesirable medicinal reactions. Overdose drugs. Pharmacokinetics and pharmacodynamics of drugs	Abstract message/presentation	Report/ presentation

	in pregnant and lactating women.		

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

1. Stage - work in the system
2. Stage - case history protection

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'.

9. Library and information materials of the course

9.1. Compulsory literature

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

9.2. Supplementary literature

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

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

- Design and Interpretation of Clinical Trials https://www.coursera.org/course/clintrials
- Vaccine Trials: Methods and Best Practices https://www.coursera.org/course/vacctrials
- Data Management for Clinical Research https://www.coursera.org/course/datamanagement
- Understanding Research: An Overview for Health Professionals https://www.coursera.org/course/researchforhealth
- The American Disease: Drugs and Drug Control in the USA https://www.coursera.org/course/americandisease
- The Science of Safety in Healthcare https://www.coursera.org/course/healthcaresafety
- Instructional Methods in Health Professions Education https://www.coursera.org/course/instructmethodshpe
- An Introduction to Global Health https://www.coursera.org/course/globalhealthintro
- Principles of Public Health https://www.coursera.org/course/publichealth
- Social Epidemiology https://www.coursera.org/course/socialepi
- Global Health: An Interdisciplinary Overview https://www.coursera.org/course/globalhealthoverview
- Epidemiology: The Basic Science of Public Health https://www.coursera.org/course/epidemiology
- Global Tuberculosis (TB) Clinical Management and Research https://www.coursera.org/course/tbmanagement
- Drug Discovery, Development & Commercialization https://www.coursera.org/course/drugdiscovery

- Design and Interpretation of Clinical Trials **https://www.coursera.org/course/clintrials**

- Vaccine Trials: Methods and Best Practices **https://www.coursera.org/course/vacctrials**
- Data Management for Clinical Research **https://www.coursera.org/course/datamanagement**
- Understanding Research: An Overview for Health Professionals **https://www.coursera.org/course/researchforhealth**
- The American Disease: Drugs and Drug Control in the USA **https://www.coursera.org/course/americandisease**
- The Science of Safety in Healthcare **https://www.coursera.org/course/healthcaresafety**
- Instructional Methods in Health Professions Education **https://www.coursera.org/course/instructmethodshpe**
- An Introduction to Global Health **https://www.coursera.org/course/globalhealthintro**
- Principles of Public Health **https://www.coursera.org/course/publichealth**
- Social Epidemiology **https://www.coursera.org/course/socialepi**
- Global Health: An Interdisciplinary Overview **https://www.coursera.org/course/globalhealthoverview**
- Epidemiology: The Basic Science of Public Health **https://www.coursera.org/course/epidemiology**
- Global Tuberculosis (TB) Clinical Management and Research **https://www.coursera.org/course/tbmanagement**
- Drug Discovery, Development & Commercialization **https://www.coursera.org/course/drugdiscovery**

Visual AIDS used in the training process:

- educational history;

- a set of laboratory tests on "adverse effects of drug therapy", "Bronchoob-structive syndrome", "Pathology of hemostasis" "Acute coronary syndrome", "Atherothrombosis";

- set laboratory (microbiological landscape) tests on "Rational antibiotic thera-py";

- a set of ECG on "Emergency cardiology", "Arrhythmia";

- a set of laboratory tests on the topic "Optimization of antibacterial therapy";

- didactic material in the sections "Antibacterial therapy", "NSAIDs", "Narcot-ic analgesics", "Local anesthetics", "Psychotropic drugs", "Antiarrhythmic drugs", "antianginal drugs", "Antihypertensive drugs", "Bronchoobstructive syndrome", "Atherothrombosis";

- clinical problems (case studies) on all subjects;

tests incoming control of knowledge;

tests for intermediate control of knowledge on all subjects;

tests final control of knowledge.

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

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

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа №2102 имени Н.П.Бычихина административный учебный корпус, 1 этаж *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* проектор, моноблок, экран, колонки *в) перечень учебно-наглядных пособий:*	163000, г. Архангельск, просп. Троицкий, д. 51

схемы, таблицы *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации **№ 5,** 2 этаж Договор № 710 от 26.09.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Первая городская клиническая больница им. Е.Е. Волосевич». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихсяна 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор, телевизор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, оверхед, микроскоп с системой визуализации, морозильная камера «Sanyo» *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163001, Архангельская область, г. Архангельск, ул. Суворова, д. 1, корп. 2
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации **№ 9,** 2 этаж Договор № 710 от 26.09.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Первая городская клиническая больница им. Е.Е. Волосевич». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихсяна 14 мест. *б) наборы демонстрационного оборудования* телевизор, ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, оверхед, микроскоп с системой визуализации, *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.	163001, Архангельская область г. Архангельск, ул. Суворова, д. 1, корп. 2

MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
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Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации **№ 32,** цокольный этаж Договор № 710 от 26.09.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Первая городская клиническая больница им. Е.Е. Волосевич». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, оверхед, табличный и справочный материал по темам *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163001, Архангельская область, г. Архангельск, набережная Северной Двины, д. 125

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 26th 2020

SYLLABUS OF THE DISCIPLINE

Discipline **Forensic Medicine**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI / 11**
Form of the interim assessment **Credit**
Department **of Pathological Anatomy, Forensic Medicine and Law**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No.
June 21th 2020
Head of the department
I.V. Ivshin

Author and compiler:
Ivshin Ilya Valerianovich, Head of the Department of Pathological Anatomy, Forensic Medicine and Law, Associate Professor of the Department of Pathological Anatomy, Forensic Medicine and Law, Candidate of Medical Sciences

Arkhangelsk, 2020

1. Goal and tasks of the mastering of the course

Goal of the discipline	The goal of the discipline is to provide physicians with the necessary level of theoretical knowledge and practical skills for the proper performance of the duties when performing investigative actions, in case of being involved in the commission of experts; to form lawful behavior of future specialists when performing professional activities.
Tasks of the discipline	- formation of knowledge about: • legal regulation of the organization of forensic medical examination, basic principles of work of state forensic institutions; • principles and methods of expert diagnostics and assessment of the course of pathological processes in case of mechanical injuries and other external influences; • criteria and procedure for establishing the death of a person; • signs of biological death of a person; • responsibility and professional misconduct of a doctor; - formation of skills in: • examining a corpse at the scene of an incident; • identifying signs of biological death of a person; • drawing up a protocol for establishing a person's death and other documentation in connection with a person's death; • evaluating the results of the examination of the corpse, presence, nature, severity of early and late cadaveric changes; • using knowledge of forensic medicine to assist law enforcement agencies in the investigation and judicial review of criminal, civil, administrative cases as a medical expert; - formation of skills in forensic medical research (examination), interpretation of the results of forensic laboratory research, construction of the final (forensic) diagnosis, execution of the necessary documents.

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

Program constricted according to state standard of high education, Direction of training 31.05.01 medicine (specialist level)

Block 1. Basic part.

This subject is part of professional block. The discipline is studied in the final stage of training in medical university.

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

Codes of the formed competences	Competences		
	a student has knowledge of	**a student is able to**	**a student masters**
GPC –No.	**General professional competences**		
GPC-3 ability to use basic knowledge of economics and law in professional activity	- the main provisions of the legislation of the Russian Federation on the protection of the health of citizens:	conduct an expert assessment of adverse outcomes in medical practice, misconduct and professional the crimes of medical workers;	-skills in assessing terminal states, orienting and reliable signs of death, dynamics of development and assessments of early and late cadaveric changes when establishing the fact and prescription of death (when examination of the corpse at the place of its discovery);
GPC-5 ability and readiness to analyze the results of one's own activities to avoid professional mistakes	the procedural basis for the appointment and production of forensic medical examination of living persons. corpses, material evidence and expertise on the materials of the case:	give an opinion on the materials of criminal and civil cases in cases	skills in assessing the causes of adverse outcomes in medical practice when conducting forensic
GPC-9 - the ability to assess morphofunctional, physiological conditions and pathological processes in the human body to solve professional problems	- the rights, duties and responsibilities of a doctor who is involved in legal proceedings as specialist or expert: principles, structure and systems) organization of forensic medical examination in the Russian Federation: methods and methods of research of objects of forensic medical examination, their diagnostic capabilities, structural divisions of forensic medicine the service where this research can be carried out;	professional and professional offenses of medical workers within their competence.	- examinations on materials of criminal and civil cases.

	- educational mechanisms and distinctive features damage caused by various types of external influences per person, extreme conditions and pathological processes: - criminal legislation on responsibility for crimes against the life and health of citizens, for professional and professional offenses medical professionals; features of the production of forensic medical examination during the investigation so called "medical cases": the main provisions of civil legislation and other legislative acts on the responsibility of medical workers for violation of the citizens health as a national priority: the current state of the examination of the volume and quality of medical care.		
PC –No.	**Professional competences**		
(PC-7); readiness to conduct an examination of temporary disability, participation in a medical and social examination, ascertaining biological death human	the main provisions of the legislation of the Russian Federation on the protection of the health of citizens; -procedural basis for the appointment and production of forensic medical examination of living persons, corpses, material evidence and examination of the case materials; the rights, duties and responsibilities of a doctor who is involved in legal proceedings as specialist or expert; principles, structure and system organization of forensic medical examination in the Russian Federation methods and methods of research of objects of forensic medical examination, their diagnostic capabilities,	to provide qualified assistance to the investigator when examination of the corpse at the scene: establish the fact the onset of death, describe the cadaveric phenomena, damage, establish the time of death, identify material evidence of biological origin and organize their direction for examination, advise law enforcement officials in the formulation of issues to be resolved through	skills in assessing terminal states, orienting and reliable signs of death, dynamics of development and assessments of early and late cadaveric changes when establishing the fact and prescription of death (when examination of the corpse at the place of its discovery); - skills of system expert analysis of circumstances incidents, medical documents and medical information contained in the case file; the skills of describing

	structural divisions of forensic medicine the services where this research can be carried out; -mechanisms of formation and distinctive features of damage with various types of external influences on human, extreme conditions and pathological processes; modern scientific data on general and specific issues of forensic medical thanatology; legal and medical aspects of establishing a person's death, establishing its cause and connection with previous events; - the order and methods of examining the corpse at the place of its discovery, its features depending on the category, genus and kind of death; methods and techniques for identifying material evidence of biological origin, their rules seizure, packaging and referral for subsequent expert research; the rules of forensic medical examination (examination) of corpses; principles of interpretation of the results of laboratory studies of objects of forensic medical examination; requirements for documentary registration of production of forensic medical examination; -the procedure and methods of forensic medical examination of living persons in order to fix the presence of injuries and to establish the severity of the harm caused to human health, as well as in connection with the commission of crimes against sexual inviolability and	the production of forensic medical expertise; - describe damage from various types of external impacts in accordance with the schemes adopted in forensic medicine; carry out a forensic autopsy of a corpse, remove organs or parts thereof for laboratory research (forensic chemical, histological, etc.), fill in directions for these studies and draw up the research part of the expert's conclusion (the act of the forensic medical examination of the corpse); fill out the medical death certificate; - to conduct a forensic medical examination of victims, suspects and other persons; to interpret the results of laboratory studies of objects of forensic medical examination; -conduct an expert assessment of adverse outcomes in medical practice,	pathological changes and injuries, an approximate solution to the issue of their lifetime (posthumous) formation, prescription, sequence and mechanisms of formation, ability a person after injury or the development of a pathological condition to make active, purposeful actions; - skills of diagnosis and expert assessment of diseases and pathological conditions associated with exposure factors (physical, chemical, etc.) of the external environment techniques and methods for determining forensic medical criteria for the severity of harm caused to health, determination of age, etc. during forensic medical examination (examination) of victims, suspects and other persons; - the skills of formulating a forensic medical diagnosis and drawing up conclusions (conclusions) of an expert;

	sexual freedom of the individual; organizational and methodological requirements for conducting medical examination to establish the fact of the use of alcohol, narcotic and psychotropic substances, the state of intoxication caused by them; -criminal legislation on responsibility for crimes against the life and health of citizens, for professional and professional offenses medical professionals; features of the production of forensic medical examination during the investigation so called "medical cases"; the main provisions of civil legislation and other legislative acts on the responsibility of medical workers for violation of the rights of citizens in the field health as a national priority; the current state of the examination of the volume and quality of medical care.	misconduct and professional the crimes of medical workers; give an opinion on the materials of criminal and civil cases in cases professional and professional offenses of medical workers within their competence.	- the skills of assessing the causes of adverse outcomes in medical practice when conducting forensic medical examinations on materials of criminal and civil cases

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

Total workload of the course is 3 credits.

	Type of the academic work	**Total hours**	**Term**
Discipline workload (in academic hours)	Lectures (L)	14	11
	Seminars (Sem.)		
	Practical classes (PC)	40	11
	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)	54	11
	Examination control (EC)		
	Total course workload	**108**	**11**

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	The subject of forensic science. Remedial and organizational bases of forensic examination in Russia	• The subject and content of forensic medicine, a brief history of its development. The concept of forensic medicine. The subject of forensic science, a subject system. Methodology of Forensic Medicine. Contact forensic medicine with other medical, natural and legal sciences. A Brief History of Forensic Medicine. The main directions of development of forensic medicine at the present time. • Procedural basics of forensics in the Russian Federation. The concept of forensics. Sources of the rules on the organization and manufacture of judicial examination in the Russian Federation. Expertise in criminal, civil, administrative process in Russia. Forensic medical examination, its subject. Objects forensics. Types of examinations. Bases manufacturing forensics. The procedure for the appointment of forensic materials and directions for its production. Mandatory appointment of judicial examination. Expert concept. The procedural expert status: rights, duties and responsibility of the expert. Other forms of the use of special medical knowledge in the criminal, civil and administrative proceedings. The limits of competence of the medical examiner. • Organization of Forensic Medicine in the Russian Federation. The organization and structure of the forensic medical service in the Russian Federation at the federal level and at the level of the Russian Federation. Structure and function of the Bureau of Forensic Medicine of the Russian Federation. The main legal acts regulating the activities of institutions of forensic medical examination. Documentation forensics. Expert opinion as a source of evidence in the case. The role and importance of Forensic Medical Service of Russia in solving the problems of the healthcare system to improve the quality of treatment and diagnostic work.
2	Forensic thanatology	• General forensic Thanatology. The doctrine of death. Terminal states. Types (growth) of dying. Classification death. The statement of the fact of death, its symptoms; establishment. Morphological signs of acute under-the ensuing death. Legal and ethical aspects of resuscitation and removal of organs and tissues for transplantation purposes. Compulsory forensic examination of corpses. Forensic characterization and

		importance of early and late cadaveric changes. Terms of cadaveric changes depending on the conditions in which was the corpse. Methods of study early changes cadaver used in forensic medicine. Tentative establishment of limitations on the severity of the death of cadaveric changes, the possibility of solving other expert issues. Artificial preservation of corpses. The destruction of the carcasses of animals, insects, plants. • Inspection of the scene and the corpse at the place of its discovery. Regulation and the procedure for examination of the corpse to the place of its discovery in accordance with the Code of Criminal Procedure. The concept of the scene. inspection tasks scene (the corpse at the site of its discovery). Organization of crime scene investigation. Normative regulation of the inspection of the corpse at the scene. The participants of the inspection, their responsibilities. The tasks of a specialist in forensic examination of the corpse at the place of his obna-expeirmen-. The order, method, step corpse examination. Search, detection, removal, casing-ka biological material evidence. Features examination of the corpse at some kinds of death: road traffic injuries, gunshot injuries, mechanical asphyxia, the action of extreme temperatures, electrical accident, poisoning. Documentation autopsy on the site of its discovery. Questions that may be decided by a specialist in forensic medicine on the basis of autopsy data on the spot. • Forensic medical examination (investigation) of a corpse. Identification of the person and the border with her questions. Reasons for Forensic Medicine (Research) of the corpse. Tasks forensic examination of the corpse with a violent death, and her suspicious. Basic requirements "Order of the organization and production of forensic examinations in state forensic institutions of the Russian Federation" in the expert study of the corpse. Technology research bodies. Study damage soft tissues, bones and organs. Features studies newborn corpses of unidentified corpses, dismembered, skeletonized corpses and skeletal remains. The concept of the exhumation of corpses. Removal of organs and tissues from cadavers for laboratory research. Documentation of Forensic Medicine (Research) of the corpse. Principles of forensic medical diagnosis and conclusions. General information about the identification. Methods of establishing a person's identity. Features of identification of unknown persons. Signs describing the physical features of the person. Comparative methods of identification of external status. Features of Forensic Medicine at the large-scale disasters.
3	Forensic Traumatology	• General forensic traumatology. The basic concepts of forensic traumatology. Environmental factors that lead to the formation of

		lesions. Injuries, its types, forensic significance, causes, prevention. Lifetime and posthumous (intentional and accidental) injuries, the sequence of their infliction. Theoretical wasps nova differential diagnosis of lifetime and postmortem injuries. Mechanical damage to their classification. Causes of death in mechanical damage. Methods of describing damage. • Damage blunt objects. Classification of blunt solid objects. Mechanisms of damage from blunt solid objects. Morphological characteristics of abrasions, bruises, wounds from the action of blunt solid objects forensic value. Features soft tissue injuries. Property damage caused by the teeth of humans and animals. Morphological characteristics depending on the fracture mechanism and the kinds of deformation. Sprains and fractures. The possibilities of establishing gun injury morphology damage. General presentation of the research on the identification of tools and diagnostics on the characteristics and properties of the injury. • Damage to sharp objects. Definition and classification of sharps. The mechanisms of the damaging effect of cutting, stabbing, stabbing, cutting, chopping, stabbing, chopping, sawing and other items. Morphological characteristics arising from this damage. Features of damage of different tissues
4	Forensic Traumatology	• General forensic traumatology. The basic concepts of forensic traumatology. Environmental factors that lead to the formation of lesions. Injuries, its types, forensic significance, causes, prevention. Lifetime and posthumous (intentional and accidental) injuries, the sequence of their infliction. Theoretical wasps nova differential diagnosis of lifetime and postmortem injuries. Mechanical damage to their classification. Causes of death in mechanical damage. Methods of describing damage. • Damage blunt objects. Classification of blunt solid objects. Mechanisms of damage from blunt solid objects. Morphological characteristics of abrasions, bruises, wounds from the action of blunt solid objects forensic value. Features soft tissue injuries. Property damage caused by the teeth of humans and animals. Morphological characteristics depending on the fracture mechanism and the kinds of deformation. Sprains and fractures. The possibilities of establishing gun injury morphology damage. General presentation of the research on the identification of tools and diagnostics on the characteristics and properties of the injury. • Damage to sharp objects. Definition and classification of sharps. The mechanisms of the damaging effect of cutting, stabbing, stabbing, cutting, chopping, stabbing, chopping, sawing and other

		items. Morphological characteristics arising from this damage. Features of damage of different tissues
5	Forensic medical examination (examination) of victims, suspects, accused and other persons	• General questions of forensic medical examination (examination) of living persons. The legal role of medical documentation. Reasons and organization of forensic examination of victims, suspects, accused and other persons. Cases of compulsory examination. The legal regulation of forensic examination of living persons. Examination and certification (forensic examination). General Provisions of the forensic medical examination (examination) of living persons. Forensic medical examination (examination) of living persons for medical instruments. Medical records as a source of evidence. Legal aspects of medical documentation. • Forensic determination of the severity of damage caused to human health. The legal qualification of the severity of injury. The legal regulation of forensic medical examination the severity of harm to human health. The rules for determining the severity of the harm caused to human health. Qualifying symptoms and medical criteria to determine the severity of damage caused to human health. The course, outcomes and evaluation of the severity of injury. Expert assessment of injury. • Forensic medical examination of sexual conditions and sexual offenses. The general idea of the forensic examination of sexual conditions: the concept of the establishment of a true floor of puberty, deflowering, the ability to have sexual intercourse and fertilization in men, the ability to have sexual intercourse, conception, pregnancy and childbirth in women; the concept of the establishment of the former (ancient and recent), abortion (including criminal) and labor. General concepts of forensic science at the crimes against sexual inviolability and sexual freedom of the individual - the rape, indecent assault and other sexual activities. • Forensic examination of the state of health and disability. General concepts of forensic health and disability, reasons for examination purposes. The general idea of the expertise of sham and artificial diseases. Simulation injury. General understanding of the disability expertise. Types of disability. General and occupational disability.
6	Forensic examination of physical evidence	• Forensic examination of physical evidence of biological origin. The concept of physical evidence. The competence of the forensic medical service on research evidence. Search, Seizure and packaging traces of biological origin, subject to forensic examination. On-ing ideas about the types of techniques and possibilities of a cart-laboratory tests and examination of physical evidence in forensic practice.

7	The responsibility of health professionals for professional and vocational officials offenses	• Responsibility for the professional health care workers and professional officers of the offense. Forensic medical examination for "medical cases". The notion of law and morality. The concept of medical ethics and bioethics. The rights, duties and responsibilities of medical workers. The concept of the offense, crime, guilt (intentional and reckless) case. Actions in extreme necessity and reasonable risk. Responsible for professional and vocational officials offenses of medical workers by the Criminal Code. Medical errors. The cases (accidents) in medical practice. Circumstances excluding criminal acts in the field of professional medical practice. Reasons for poor outcomes in the dental practice. The volume and quality of medical-preventive and diagnostic services (services). Forensic medical examination in cases concerning the imposition of legal liability of health care providers and health care organizations. Expert panels, their composition, typical questions resolved during this category expertise, limits the competence of forensic experts.

5.2. Sections and types of studies

No.	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
1	The subject of forensic science. Remedial and organizational bases of forensic examination in Russia	2	-	-	-	-	5	5	12
2	Forensic thanatolog	4	-	-	-	-	10	5	19
3	Forensic Traumatology	4	-	-	-	-	5	5	14
4	Injuries and death from a variety of external forces	6	-	-	-	-	20	6	32
5	Forensic medical examination (examination) of victims, suspects, accused and other persons	2	-	-	-	-	5	5	12
6	Forensic examination of physical evidence	2	-	-	-	-	-	5	7
7	The responsibility of health professionals for professional and vocational officials offenses	2	-	-	-	-	5	5	7

6. Interactive forms of studies

No.	Name of the course section	Interactive forms of studies	Duration (hours)
1	Forensic thanatology. Inspection of the scene and the corpse at the place of discovery	Solving situational tasks. Analysis of specific situations. Registration of the protocol for establishing the death of a person	4
2	Forensic Traumatology	The decision situational tasks.	2
3	Injuries and death from a variety of external forces	The decision situational tasks. Execution a forensic medical diagnosis and conclusions. Execution a medical certificate of death	6
4	Forensic medical examination (examination) of victims, suspects, accused and other persons	The decision situational tasks. Execution a forensic medical report. Establishing the degree of severity of the harm caused to human health.	2
5	The responsibility of health professionals for professional and vocational officials offenses	The decision situational tasks.	1
		Total (hours)	15
		Total (% of the class activities)	19.9%

7. 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	The subject of forensic science. Remedial and organizational bases of forensic examination in Russia	Essays on the themes (approximate list): 1. Stages of development of domestic and foreign forensic medicine. 2. The role of Russian scientists in the development of forensic medicine. etc.	Interview. protection essays (MOODLE)
2	Forensic thanatology	Essays on the themes (approximate list): 1. supravital reaction cadaver tissues. 2. Personal identification. The methods used for identification purposes. etc.	Interview. protection essays
3	Forensic Traumatology	Essays on the themes (approximate list): 1. Forensic importance of bone fractures: types of strain, leading to the formation of fractures, mechanisms and conditions affecting the formation of	Interview. protection essays (MOODLE)

		fractures. Local and structural fractures. 2. Features of fractures in children: sudebnomeditsinskie aspects. etc.	
4	Injuries and death from a variety of external forces	Essays on the themes (approximate list): 1. Damage and death from exposure to extreme temperatures. 2. Damage and death from the effects of atmospheric electricity. etc.	Interview. protection essays (MOODLE)
5	Forensic medical examination (examination) of victims, suspects, accused and other persons	Essays on the themes (approximate list): 1. Comparative methods of identification of external status. 2. Features of Forensic Medicine at the large-scale disasters. etc.	Interview. protection essays
6	Forensic examination of physical evidence	Essays on the themes (approximate list): 1. Concept, a general characteristic of the physical evidence. 2. Identification of tools, diagnostics on their characteristics and properties of the injury. etc.	Interview. protection essays (MOODLE)
7	The responsibility of health professionals for professional and vocational officials offenses	Essays on the themes (approximate list): 1. Forensic medical examination in civil proceedings. 2. Forensic examination of the administrative process. 3. The role and participation of forensic services in solving problems of the health system to improve the quality of treatment and diagnostic work. etc.	Interview. protection essays (MOODLE)

8. Forms of control

8.1. 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 section 'Evaluation tools'.

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

Stages of the interim assessment

1. Stage - _ intermediate test control

_____

(name of the stage)

2. Stage - solving a situational problem

(name of the stage)

3. Stage- interview _____

Questions for a fail test and an examination, a theme list of test collections and situational problems are shown at the section "Set of assessment tools". For students who have successfully completed training, current control of knowledge, who do not have debt, intermediate certification is carried out in the form of an intermediate test control.

9. Library and information materials of the course

9.1. Compulsory literature

1. Судебная медицина [Электронный ресурс]: учебник/ ред. Ю.И. Пиголкин. -3-е изд., перераб. и доп.. -Москва: ГЭОТАР-Медиа, 2015. -496 с.: ил. - Режим доступа: http://www.studmedlib.ru/book/.

2. Пашинян, Г.А. Судебная медицина в схемах и рисунках [Электронный ресурс]: учебное пособие/ Г.А. Пашинян, П.О. Ромодановский. - Москва: ГЭОТАР-Медиа, 2015. -336 с. - Режим доступа: http://www.studmedlib.ru/book/.

3. Судебная медицина. Лекции [Электронный ресурс]: учебное пособие / Ю.И. Пиголкин, И.А. Дубровин, И.А. Дубровина, Е.Н. Леонова. - М.: ГЭОТАР-Медиа, 2015. - Режим доступа: http://www.studentlibrary.ru/book/ISBN9785970438206.html. - ISBN 5970402524

4. Krukemeyer M. Introductory Guide to Medical Training. From Basic Sciences to Medical Specialties [Электронный ресурс]/ M. Krukemeyer. -1st ed.: Thieme, 2015- URL: https://medone-education.thieme.com/ebooks/2093828?fromSearch=true#/ebook_2093828_SL80527499

5. Pigolkin Yu.I. Forensic Medicine [Электронный ресурс] : textbook/ Yu. I. Pigolkin, I. A. Dubrovin. -Москва: ГЭОТАР-Медиа, 2019. -464 с.- URL: https://www.studentlibrary.ru/ru/book/ISBN9785970451380.html

9.2. Supplementary literature

1. Ившин И.В. Основные принципы назначения, организации и производства судебно-медицинских экспертиз. По материалам дел о преступлениях вследствие нарушения медицинскими работниками профессионльных обязанностей: методические рекомендации / И.В. Ившин, А.М. Чертов. – Архангельск: Поморский университет, 2009. – 80 с.

2. Пашинян Г.А. Судебная медицина в схемах и рисунках [Электронный ресурс] : учебное пособие / Г. А. Пашинян, П. О. Ромодановский. -Москва: ГЭОТАР-Медиа, 2010. - 336 с. - Режим доступа: http://www.studmedlib.ru/.

3. Пашинян Г.А. Профессиональные преступления медицинских работников против жизни и здоровья / Г.А. Пашинян, И.В. Ившин. – М.: Медицинская книга, 2006. – 196 с.

4. Пиголкин Ю.И. Задачи и тестовые задания по судебной медицине: Учебное пособие / Ю.И. Пиголкин, Е.Х. Баринов, А.В. Маслов и др. – М.: ГОЭТАР-Медиа, 2006. – 624 с.

5. Сидоров П.И. Правовая ответственность медицинских работников: Учеб.пособие для мед. вузов / П.И. Сидоров, А.Г. Соловьев, Г.Б. Дерягин. - М.: МЕДпресс-информ, 2004. - 431 с.
6. Судебная медицина [Текст] : учеб. пособие для студентов мед. вузов/ под ред. Ю. И. Пиголкина. -2-е изд., перераб. и доп.. -Москва: ГЭОТАР-Медиа, 2007. -448 с.: [14] л. цв. ил.
7. Судебная медицина. Задачи и тестовые задания [Электронный ресурс] : учеб. пособие/ под ред. Ю. И. Пиголкина. -2-е изд., испр. и доп.. -Москва: ГЭОТАР-Медиа, 2011. - 600 с. - Режим доступа: http://www.studmedlib.ru/.
8. Судебная медицина: Руководство к практическим занятиям [Электронный ресурс]/ ред. Ю. И. Пиголкин. -2-е изд., испр. и доп.. -Москва: ГЭОТАР-Медиа, 2009. -160 с. - Режим доступа: http://www.studmedlib.ru/.
9. Оформление заключительного клинического, патологоанатомического и судебно-медицинского диагнозов в случаях смерти послеоперационных больных: метод. рекомендации/ Департамент здравоохранения Арханг. обл., Арханг. гос. мед. акад.; [подгот.: Л.С. Ходасевич, И.В. Ившин] . - Архангельск: Б.и., 1997. - 31 с.
10. Ситуационные задачи и тестовые задания по судебной медицине [Электронный ресурс] : учебное пособие / ред.: П. О. Ромодановский, Е. Х. Баринов. -Москва: ГЭОТАР-Медиа, 2016. -128 с.- URL: http://www.studentlibrary.ru/book/ISBN9785970435885.html

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

Resource name	**URL адрес**	annotation
Electronic library of SSMU	http://nsmu.ru/lib/	resource
EBS "Student advisor" VPO, SPO. Kits: Medicine. Healthcare. Humanities and social sciences. Natural Sciences	http://www.studentlibrary.ru/ http://www.studmedlib.ru/ http://www.medcollegelib.ru/	Access by password provided by the library
EBS "Doctor's Consultant"	http://www.rosmedlib.ru	Access is activated through registration on any computer of the university.
NEL - National Electronic Library	http://нэб.рф	Access by password provided by the library.
Scientific electronic library eLIBRARY.RU	http://www.elibrary.ru	There are open access resources
Ministry of Health of the Russian Federation. Document bank	https://www.rosminzdrav.ru/	Open resource
Official website of the Ministry of Labor and Social Development of the Russian Federation:	http://www.rosmintrud.ru/	
World health organization	https://www.who.int/ru	Open resource
Garant.ru Information and legal portal	http://www.garant.ru/	Limited access
Legal system "ConsultantPlus"	http://www.consultant.ru/	Access is provided in the electronic information room of the library (room 2317)
Official Internet portal of legal information	http://www.pravo.gov.ru	Legal Internet Information
Database "Web of Science"	https://www.webofscience.com	Access from university computers. Remote access - through

		personal registration under the IP-address of the university
Elsevier Publishing	https://www.sciencedirect.com/	Open Access Journals
Springer Nature Publishing	https://link.springer.com/	Access from university computers
Educational legal portal "Legal Russia"	http://www.law.edu.ru	Legal Internet Information
The site of the "Russian newspaper"	http://www.rg.ru	Legal Internet Information
Website of the President of the Russian Federation	www.kremlin.ru	Legal Internet Information
Site of the State Duma of the Federal Assembly of the Russian Federation	www.duma.gov.ru	Legal Internet Information
Site of the Federation Council of the Federal Assembly of the Russian Federation	http://www.council.gov.ru	Legal Internet Information
Website of the Government of the Russian Federation	http://www.government.ru	Legal Internet Information
Site of the Constitutional Court of the Russian Federation	http://www.ksrf.ru	Legal Internet Information
Website of the Supreme Court of the Russian Federation	http://www.vsrf.ru	Legal Internet Information
Federal Compulsory Health Insurance Fund website	http://www.ffoms.ru	Legal Internet Information

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

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

Electronic Library System "Consultant Student" (http://www.studmedlib.ru)
Electronic Library System "Consultant Physician" (http://www.rosmedlib.ru)
Legal base “Garant”: http:// www.garant.ru.
Legal Base “ConsultantPlus” http:// www.consultant.ru.

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)

Учебная аудитория для проведения занятий лекционного типа № 232а имени С.И.Елизаровского, морфологический корпус, 2 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 200 мест. *б) наборы демонстрационного оборудования* экран, проектор, ноутбук *в) перечень учебно-наглядных пособий:* стенды *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163045, г. Архангельск, проезд Сибиряковцев, д. 2, корп. 3
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 351 морфологический корпус, 3 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихсяна 30 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, стенды с наглядными пособиями, таблицы по темам занятий, макропрепараты, образцы препаратов по судебной медицине, фильмы. *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163045, г. Архангельск, проезд Сибиряковцев, д. 2, корп. 3
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 10, 1 этаж Договор № 710 от 26.09.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Первая городская клиническая больница им. Е.Е. Волосевич». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 14 места.	163001, Архангельская область, г. Архангельск, ул. Комсомольская, д. 4

б) наборы демонстрационного оборудования ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, таблицы по темам занятий, макропрепараты, образцы препаратов по судбной медицине, фильмы *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
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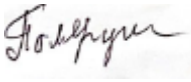
MINISTRY OF HEALTHCARE OF THE RUSSIAN FEDERATION
Federal State Budgetary Educational Institution of Higher Education
"NORTHERN STATE MEDICAL UNIVERSITY"
of the Ministry of Healthcare of the Russian Federation

APPROVED
Dean of the International Faculty
of General Practitioner

A. K. Sherstennikova
June 26th2020

SYLLABUS OF THE DISCIPLINE

Discipline **Hospital Internal Medicine**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **V-VI / 10-12**
Form of the interim assessment **Examination**
Department **of Hospital Internal Medicine and Endocrinology**
Discipline workload **432** (academic hours)/**12** (credits)

Approved at the department meeting
Minutes No.
June 16th2020
Head of the department

N.A. Polyarush

Author and compiler:
Krivonkin Konstantin Yurievich, Associate Professor of the Department of Hospital Internal Medicine and Endocrinology, Candidate of Medical Sciences

Arkhangelsk, 2020

1. Goal and tasks of the mastering of the course

Goal of the discipline	The goal of the discipline is to teach specialists to provide medical care for patients with diseases of internal organs.
Tasks of the discipline	-formation of knowledge on the diagnosis, treatment and prevention of diseases of internal organs for the provision of medical care; -formation of the skills necessary for the diagnosis, treatment and prevention of diseases of internal organs.

2. Position of the coursewithin the structure of the educational program

The program has been developed following the requirements of FederalState Education Standard for higher education (FSES) in the training field of 31.05.01 'General medicine'. The training cycle is the basic professional one.

Block 1. Basic part.

The discipline takes the final undergraduate place, after all training cycles, together with Hospital Surgery and OutpatientInternal Medicine. The program relates to most academic and all clinical disciplines including Introduction to Internal Medicine, Endocrinology, and Faculty Internal Medicine.

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

General overview

The student should be able to:

- communicate in a respectful, effective, efficient, and educational manner with patients and their families.
- elicit a record of an appropriately complete, cogent and organized medical history.
- conduct and record an appropriately complete and accurate physical examination.
- use knowledge of the pathophysiology of signs and symptoms to establish clinical correlation with disease processes.
- formulate a reasoned differential diagnosis for each problem.
- formulate an appropriate plan for confirming the diagnosis.
- formulate an appropriate initial and ongoing treatment program taking into account the urgency of the patient's problems.
- use information from texts, syllabi, and journals to study general topics related to patient's problems.

- record patient progress in the medical record; and make a verbal report to the health care team in a clear and succinct manner.

Technical and interpretation skills

Students are expected to acquire certain technical skills and interpretation that are commonly employed in medical care. Wherever possible, students are encouraged to participate in procedures under adequate supervision. The student should be able to:

- perform and interpret an ECG.
- perform venipuncture for blood specimens or intravenous therapy.
- interpret a complete blood count.
- interpret common chemistry measurements (e.g. enzymes, electrolytes).
- interpret arterial blood gas measurements.
- interpret results of a urinalysis.
- interpret chest x-ray findings.
- do basic interpretation of pulmonary function tests.

General professional competences (GPC)

GPC-6 (readiness to keep medical documentation)

Keeping medical documentation

Specific learning objectives:

A. Knowledge: Students should be able to define, describe, and discuss:

1. The structure of the medical record.

B. Skills: Students should be able to demonstrate specific skills, including:

1. Eliciting a record of an appropriately complete, cogent and organized medical history.
2. Recording patient progress in the medical record.
3. Writing prescriptions and inpatient orders safely and accurately.

C. Attitudes and professional behaviors: Students should be able to:

1. Recognize the essential contribution of the medical record to patient care.

Professional competencies (PC)

PC-3 (ability and readiness to undertake anti-epidemic activities, organize protection of populations in areas of particularly dangerous infections, in situations of deterioration of the radiation situation, natural disasters and other emergencies)

Specific learning objectives:

A. Knowledge: Students should be able to define, describe, and discuss:

1. The physiologic mechanisms that explain key findings in the history and physical exam.

B. Skills: Students should be able to demonstrate specific skills, including:

1. Performing a physical examination in a logical, organized, respectful, and thorough manner, giving attention to the patient's general appearance, vital signs, and pertinent body regions.

C. Attitudes and professional behaviors: Students should be able to:

1. Demonstrate consideration for the patient's feelings, limitations, and cultural

and social background at all times, more so whenever taking a history and performing a physical exam.

PC-5 (readiness to collect and analyze patient's complaints and medical history, examination results, laboratory, instrumental, forensic and other data to understand the patient's condition or recognize the presence or absence of disease)

(1) History-taking and physical examination

Rationale: The ability to obtain an accurate medical history and carefully perform a physical examination is fundamental to providing care to adult patients. In particular, an internal medicine provider must be thorough and efficient in obtaining a history and performing a physical examination in a wide variety of adult patients. This includes healthy adults, adults with acute and chronic medical problems, adults with complex life-threatening diseases, and adults from diverse socioeconomic and cultural backgrounds.

Specific learning objectives:

A. Knowledge: Students should be able to define, describe, and discuss:

2. The significant attributes of a symptom, including: location and radiation, intensity, quality, temporal sequence (onset, duration, frequency), alleviating, precipitating and aggravating factors, setting, associated symptoms, functional impairment, and patient's interpretation of symptom.
3. The four methods of physical examination (inspection, auscultation, palpation, and percussion), including where and when to use them, their purposes, and the findings each can elicit.

B. Skills: Students should be able to demonstrate specific skills, including:

2. Eliciting the patient's chief complaint as well as a complete list of the patient's concerns.
3. Obtaining a patient's history in a logical, organized, and thorough manner, covering the history of present illness; past medical history; preventive health measures; social, family, and occupational history; and review of systems.
4. Demonstrating proper hygienic practices whenever examining a patient.

C. Attitudes and professional behaviors: Students should be able to:

2. Recognize the essential contribution of a pertinent history and physical examination to patient care.
3. Establish a habit of updating historical information and reevaluating pertinent important parts of the physical examination during follow-up visits.

(2) Interpretation of clinical information

Rationale: In the routine course of clinical practice, most physicians are required to order and interpret a wide variety of diagnostic tests and procedures. Determining how these test results will influence clinical decision making and communicating this information to patients in a timely and effective manner are core clinical skills that the last-year medical students should possess.

Specific learning objectives:

A. Knowledge: Students should be able to:

1. Interpret specific diagnostic tests and procedures that are ordered to evaluate patients who present with common symptoms and diagnoses encountered in

the practice of internal medicine.
2. Take into account the important differential diagnostic considerations, including potential diagnostic emergencies.
3. Define and describe for the tests and procedures listed:
    a. Indications for testing.
    b. Critical values that require immediate attention.
4. Independently interpret the results of the following laboratory tests:
    a. CBC with diff and blood smear, UA, electrolytes, BUN/Cr, glucose, liver enzymes, viral hepatitis serologies, cardiac biomarkers (e.g. CK-MB, troponin), PT/INR, PTT, thyroid function tests, arterial blood gases, pulmonary function tests.

B. Skills: Students should be able to demonstrate specific skills, including:
1. Interpreting a blood smear, Gram stain, and chest X-ray
2. Approaching ECG interpretation in a systematic and logical fashion analyzing the following: rate, rhythm, P wave morphology, PR interval, QRS width, axis, voltage, QT interval, ST segment morphology, and T wave morphology.
3. Recording the results of laboratory tests in an organized manner, using flow sheets when appropriate.

C. Attitudes and professional behaviors: Students should be able to:
1. Appreciate the importance of follow-up on all diagnostic tests and procedures and timely communication of information to patients and appropriate team members.
2. Personally review medical imaging studies, ECGs, Gram stains, blood smears, etc. to assess the accuracy and significance of the results.

(3) <u>Case presentation skills</u>

Rationale: Communicating patient care information to colleagues and other health care professionals is an essential skill regardless of specialty. Students should develop facility with different types of case presentations: written and oral, new patient and follow-up, inpatient and outpatient.

<u>Specific learning objectives:</u>

A. Knowledge: Students should be able to define, describe, and discuss components of comprehensive and abbreviated case presentations (oral and written) and settings appropriate for each.

B. Skills: Students should be able to demonstrate specific skills, including:
1. Prepare legible, comprehensive, and focused new or follow-up patient reports that include the following features as clinically appropriate:
    a. Concise history of the present illness organized chronologically with minimal repetition, omission, or extraneous information, and including pertinent positives and negatives.
    b. A comprehensive physical examination with detail pertinent to the patient's problem.
    c. A succinct, prioritized, and, where appropriate, complete list of all problems identified by the history and physical examination.
    d. A differential diagnosis for each problem (appropriate for the student's level of training).
    e. A diagnostic and treatment plan for each problem (appropriate for the

student's level of training).

2. Orally present a new or follow-up inpatient's or outpatient's case in a logical manner, chronologically developing the present illness, summarizing the pertinent positive and negative findings as well as the differential diagnosis and plans for further testing and treatment.

C. Attitudes and professional behaviors: Students should be able to:

1. Demonstrate ongoing commitment to improving case presentation skills by regularly seeking feedback on presentations.
2. Accurately and objectively record and present all data.

PC-6 (ability to recognize patient's major pathological conditions, symptoms, syndromes, nosological forms in accordance with the International Statistical Classification of Diseases and Related Health Problems, 10th revision)

Diagnostic decision-making

Rationale: Physicians are responsible for directing and conducting the diagnostic evaluation of a broad range of patients, including patients seeking advice on prevention of and screening for disease and patients with acute and chronic illnesses. In a time of rapidly proliferating tests, medical students must learn how to design safe, expeditious, and cost-effective diagnostic evaluations. This requires diagnostic decision-making skills that incorporate probability-based thinking.

Specific learning objectives:

A. Knowledge: Students should be able to define, describe, and discuss:

1. Key history and physical examination findings pertinent to the differential diagnosis.
2. Information resources for determining diagnostic options for patients with common and uncommon medical problems.
3. How critical pathways or practice guidelines can be used to guide diagnostic test ordering.

B. Skills: Students should demonstrate specific skills, including:

1. Identifying problems with which a patient presents, appropriately synthesizing these into logical clinical syndromes.
2. Identifying which problems are of highest priority.
3. Formulating a differential diagnosis based on the findings from the history and physical examination.
4. Using the differential diagnosis to help guide diagnostic test ordering and sequencing.

C. Attitudes and professional behaviors: Students should be able to:

1. Seek feedback regularly regarding diagnostic decision-making and respond appropriately.
2. Recognize the importance of and demonstrate a commitment to the utilization of other health care professionals in diagnostic decision making.

PC-8 (ability to decide on management of patients with various nosological forms)

Therapeutic decision-making

Rationale: Internists are responsible for directing and coordinating the therapeutic management of patients with a wide variety of problems, including critically ill

patients with complex medical problems and the chronically ill. To manage patients effectively, physicians need basic therapeutic decision-making skills that incorporate both pathophysiologic reasoning and evidence-based knowledge.

Specific learning objectives:

A. Knowledge: Students should be able to define, describe, and discuss:

1. Information resources for determining medical and surgical treatment options for patients with common and uncommon medical problems.
2. How to use critical pathways and clinical practice guidelines to help guide therapeutic decision making.
3. Factors that frequently alter the effects of medications, including drug interactions and compliance problems.
4. Factors to consider in selecting a medication from within a class of medications.
5. Factors to consider in monitoring a patient's response to treatment, including potential adverse effects.
6. Methods of monitoring therapy and how to communicate them in both written and oral form.

B. Skills: Students should be able to demonstrate specific skills, including:

1. Formulating an initial therapeutic plan.
2. Accessing and utilizing, when appropriate, information resources to help develop an appropriate and timely therapeutic plan.
3. Writing prescriptions and inpatient orders safely and accurately.
4. Counseling patients about how to take their medications and what to expect when doing so, including beneficial outcomes and potential adverse effects.
5. Monitoring response to therapy.

C. Attitudes and professional behaviors: Students should be able to:

1. Involve the patient in the decision-making process, explaining the risks and benefits of treatment.
2. Respect patient's informed choices, including the right to refuse treatment.
3. Recognize the importance of and demonstrate a commitment to the utilization of other healthcare professionals in therapeutic decision making.

PC-9 (readiness to manage and treat patients with various nosological forms in out-patient and day-care organizations)

Therapeutic decision-making in the out-patient setting

Rationale: Internists are responsible for directing and coordinating the therapeutic management of out-patients with a wide variety of problems. To manage out-patients effectively, physicians need basic therapeutic decision-making skills that incorporate both pathophysiologic reasoning and evidence-based knowledge.

Specific learning objectives:

A. Knowledge: Students should be able to define, describe, and discuss:

1. Information resources for determining medical treatment options forout-patients with common medical problems.
2. How to use critical pathways and clinical practice guidelines to help guide therapeutic decision making.
3. Factors that frequently alter the effects of medications, including drug

interactions and compliance problems.
4. Factors to consider in selecting a medication from within a class of medications.
5. Factors to consider in monitoring a patient's response to treatment, including potential adverse effects.
6. Methods of monitoring therapy and how to communicate them in both written and oral form.

B. Skills: Students should be able to demonstrate specific skills, including:
1. Formulating an initial therapeutic plan.
2. Accessing and utilizing, when appropriate, information resources to help develop an appropriate and timely therapeutic plan.
3. Writing prescriptions safely and accurately.
4. Counseling out-patients about how to take their medications and what to expect when doing so, including beneficial outcomes and potential adverse effects.
5. Monitoring response to therapy.

C. Attitudes and professional behaviors: Students should be able to:
1. Involve the out-patient in the decision-making process, explaining the risks and benefits of treatment.
2. Respect out-patient's informed choices, including the right to refuse treatment.
3. Recognize the importance of and demonstrate a commitment to the utilization of other healthcare professionals in therapeutic decision making.

PC-10 (readiness to provide medical care for sudden acute diseases and conditions, exacerbation of chronic diseases that do *not* involve a threat to patient's life and do *not*require emergency medical care)

Therapeutic decision-makingfor sudden acute diseases

Rationale: Internists are responsible for directing and coordinating the therapeutic management of patients with a wide variety of problems, including the patients with acute diseases. To manage such patients effectively, physicians need basic therapeutic decision-making skills that incorporate both pathophysiologic reasoning and evidence-based knowledge.

Specific learning objectives:

A. Knowledge: Students should be able to define, describe, and discuss:
1. Information resources for determining medical and surgical treatment options for patients with common and uncommon medical problems.
2. How to use critical pathways and clinical practice guidelines to help guide therapeutic decision making.
3. Factors that frequently alter the effects of medications, including drug interactions and compliance problems.
4. Factors to consider in selecting a medication from within a class of medications.
5. Factors to consider in monitoring a patient's response to treatment, including potential adverse effects.
6. Methods of monitoring therapy and how to communicate them in both written

and oral form.

B. Skills: Students should be able to demonstrate specific skills, including:
1. Formulating an initial therapeutic plan.
2. Accessing and utilizing, when appropriate, information resources to help develop an appropriate and timely therapeutic plan.
3. Writing prescriptions and inpatient orders safely and accurately.
4. Counseling patients about how to take their medications and what to expect when doing so, including beneficial outcomes and potential adverse effects.
5. Monitoring response to therapy.

C. Attitudes and professional behaviors: Students should be able to:
1. Involve the patient in the decision-making process, explaining the risks and benefits of treatment.
2. Respect patient's informed choices, including the right to refuse treatment.
3. Recognize the importance of and demonstrate a commitment to the utilization of other healthcare professionals in therapeutic decision making.

PC-11 (readiness to participate in providing *emergency medical care* for conditions requiring immediate medical intervention)

Proficiency in the assessment and initial management of acutely ill patients who are less critically ill or injured but present as emergencies.

Specific learning objectives:

A. Knowledge: Students should be able to define, describe, and discuss:
1. Initial care of the critically ill and injured patient.
2. Assessment and management of all common medical emergencies, including:
    a. Collapse including cardiac failure, hypovolemia, hemorrhage, anaphylaxis, metabolic crises, overwhelming sepsis, hypothermia, electrolyte disturbances.
    b. Acute dyspnea, respiratory failure, pneumothorax.
    c. Psychiatric presentations to the Emergency department: Management of poisoning and self-harm, alcohol related problems, substance misuse, delirium, disturbed or violent behaviour, interaction with acute psychiatric services.
    d. Acute cardiac emergencies: acute coronary syndrome, arrtythmias, assessment of chest pains.
    e. Acute neurological emergencies, including acute stroke, TIA, seizure disorders, meningitis, traumatic brain injury.
    f. Acute rheumatological conditions.
    g. Assessment of elderly patients with complex presentations and multiple pathology. Appropriate discharge planning.
3. Knowledge of how to obtain more detailed information about common emergencies and how to obtain help in the case of more unusual presentations.
4. The special problems encountered at the scene of an incident and during transfer should be appreciated and the general principles of pre-hospital care understood.
5. Knowledge of a hospital process during a major incident.

B. Skills: Students should be able to demonstrate specific skills, including:

1. Recognise emergency.
2. Determine rapidly the clinical context and sequence of events leading to the emergency.
3. Conduct focussed clinical examination.
4. Establishe a provisional diagnosis, plans and arrange appropriate initial investigations, determine severity of organ dysfunctions.
5. Initiate appropriate emergency management, including summoning help, and urgent referral to other services.
6. Monitor patient's condition appropriately and recognise and act on complications.

C. Attitudes and professional behaviors: Students should be able to:

1. Exhibit calm and methodical approach to assessing critically ill patient.
2. Adopt leadership role where appropriate
3. Involve senior and specialist (e.g. critical care outreach) services promptly

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

Total workload of the course is **12** credits.

	Type of the academic work	**Total hours**	**Term**
Discipline workload (in academic hours)	Lectures (L)	68	10-12
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	130	10-12
	Laboratory-based practicals (LBP)		
	Simulation-based practicals (SBP)		
	Preparation for the examination (PE)	33,7	12
	Preparation for the credit (PC)		
	Exam consultations (EC)	2	12
	Coursework (CW)		
	Unsupervised work (UW) (total)	198	10-12
	Examination control (EC)	0,3	12
	Total course workload	**432**	10-12

5. Contents of the course:

5.1. Contents of the course modules

No	Name of course module	Contents of course module
1	2	3
1	Cardiology	Acute circulatory failure (cardiogenic shock): pathophysiology, clinical features, investigations, management. Heart failure: etiology, pathophysiology, types, clinical assessment, complications, investigations; management of acute pulmonary edema; management of chronic heart failure, general measures, drug

		therapy, implantable cardiac defibrillators and resynchronisation therapy (CRT), coronary revascularization, heart transplantation, ventricular assist devices; prognosis. Cardiac arrest and sudden cardiac death: causes of sudden death, etiology of cardiac arrest, management of cardiac arrest, adult basic life support. Disorders of heart rate, rhythm and conduction: main mechanisms, sinus tachycardia, causes, diagnosis, management; atrial tachyarrhythmias, atrial ectopic beats (extrasystoles, premature beats), atrial tachycardia, atrial flutter, diagnosis, management; atrial fibrillation (AF), classification, causes, clinical assessment, diagnosis, management, options for treating persistent AF, prevention of thromboembolism; 'supraventricular' tachycardias, Wolff-Parkinson-White syndrome and atrioventricular re-entrant tachycardia, atrioventricular nodal re-entrant tachycardia (AVNRT), diagnosis, management; ventricular tachyarrhythmias, ventricular ectopic beats (extrasystoles, premature beats), ventricular ectopic beats in otherwise healthy subjects, ventricular ectopic beats associated with heart, ventricular tachycardia (VT), torsades de pointes, causes of long QT interval and torsades de pointes, diagnosis, management; sinoatrial disease (sick sinus syndrome), classification, diagnosis, management; atrioventricular and bundle branch block, AV block, Stokes-Adams attacks, diagnosis, management; anti-arrhythmic drug therapy, the classification of anti-arrhythmic drugs; therapeutic procedures, external defibrillation and cardioversion, catheter ablation; pacemakers, classification; implantable cardiac defibrillators (ICDs), indications, usage. Atherosclerosis: pathophysiology, risk factors, prevention and its classification. Coronary heart disease: etiology, pathophysiology, pathology, main clinical manifestations (presentations); stable angina, pathophysiology, classification, clinical features, investigations, management, drug treatment, invasive treatment, prognosis; acute coronary syndrome, pathophysiology, classification, clinical features, diagnosis

		and risk stratification, investigations, management, analgesia, antithrombotic therapy, anti-anginal therapy, reperfusion therapy, universal definition of myocardial infarction; prognosis. Aortic dissection: pathophysiology, classification, clinical features, investigations, management, prognosis. Rheumatic heart disease: acute rheumatic fever, pathogenesis, clinical features, investigations, jones criteria, management, prognosis; chronic rheumatic heart disease, pathology, pathophysiology, main clinical manifestations (presentations), investigations, prognosis. Mitral valve disease: mitral stenosis, etiology, pathophysiology, classification, clinical features, investigations, management, valve replacement surgery, prognosis; mitral regurgitation, etiology, pathophysiology, classification, clinical features, investigations, management, valve replacement surgery, prognosis. Aortic valve disease: aortic stenosis, etiology, pathophysiology, classification, clinical features, investigations, management, valve replacement surgery, prognosis; aortic regurgitation, etiology, pathophysiology, classification, clinical features, investigations, management, valve replacement surgery, prognosis. Tricuspid valve disease: tricuspid stenosis, tricuspid regurgitation, etiology, pathophysiology, classification, clinical features, investigations, management, valve replacement surgery, prognosis. Pulmonary valve disease: pulmonary stenosis, pulmonary regurgitation, etiology, pathophysiology, classification, clinical features, investigations, management, valve replacement surgery, prognosis. Infective endocarditis: pathophysiology, classification, clinical features, investigations, major criteria, management, prevention, valve replacement surgery, prognosis. Hypertension: etiology, classification, definition, grades, secondary hypertension, causes of secondary hypertension, target organ damage, clinical examination, investigations, management, non-drug therapy, antihypertensive drugs. Secondary hypertension: definition, causes of secondary hypertension, renal disease,

		classification, investigations, management; pheochromocytoma, clinical examination, investigations, management; Cushing's syndrome, clinical examination, investigations, management; primary hyperaldosteronism (Conn's syndrome), clinical examination, investigations, management; coarctation of the aorta, clinical examination, investigations. Congenital heart disease in the adult: etiology, incidence, classification, intracardiac hemodynamics, clinical features; persistent ductus arteriosus, etiology, intracardiac hemodynamics, clinical features, investigations, management; coarctation of the aorta, etiology, intracardiac hemodynamics, clinical features, investigations, management; atrial septal defect, etiology, intracardiac hemodynamics, clinical features, investigations, management; ventricular septal defect, etiology, intracardiac hemodynamics, clinical features, investigations, management; pulmonary hypertension and Eisenmenger's syndrome. Myocarditis: etiology, pathogenesis, clinical features, investigations, management. Cardiomyopathy: definition, functional classification, dilated cardiomyopathy, hypertrophic cardiomyopathy, obliterative cardiomyopathy and restrictive cardiomyopathy, hemodynamics, clinical features, investigations, management. Specific diseases of heart muscle: definition, etiological classification, clinical features, investigations, management. Venous thromboembolism: etiology, clinical features, investigations, management, prognosis. Pulmonary hypertension: classification, clinical features, investigations, management, prognosis. Pericardial disease: acute pericarditis, etiology, types, clinical features, investigations, management; pericardial effusion, etiology, hemodynamics, clinical features, investigations, management, cardiac tamponade, pericardial aspiration; chronic constrictive pericarditis, etiology, hemodynamics, clinical features, investigations, management.
2	Pulmonology	Respiratory failure: types, pathophysiology, causes, management of acute respiratory

		failure, oxygen therapy, respiratory support (mechanical ventilation); chronic and 'acute on chronic' type II respiratory failure: pathophysiology, causes, assessment, management, respiratory support (invasive mechanical ventilation, non-invasive mechanical ventilation [NIV]), home ventilation for chronic respiratory failure. Asthma: epidemiology, pathophysiology, clinical features, diagnosis, management, a stepwise approach to the management, prognosis; exacerbations, pathophysiology, clinical features, diagnosis, management of mild-moderate exacerbations, management of acute severe asthma, prognosis. Chronic obstructive pulmonary disease (COPD): epidemiology, etiology, pathophysiology, clinical features, investigations, management, long-term domiciliary oxygen therapy (LTOT), surgical intervention, prognosis, BODE index; acute exacerbations, management of acute exacerbations, respiratory support (non-invasive ventilation [NIV]) in exacerbations, discharge, prognosis. Bronchiectasis: etiology, pathogenesis, pathology, clinical features, investigations, management, prognosis. Pneumonia: classifications, community-acquired pneumonia (CAP), clinical features, investigations, assessment of disease severity, the CURB-65 scoring system, management, prognosis, discharge, follow-up, prevention; complications, prevention; hospital-acquired pneumonia (HAP), etiology, clinical features, investigations, management, prevention. Suppurative pneumonia and pulmonary abscess: etiology, pathogenesis, clinical features, investigations, management. Idiopathic pulmonary fibrosis: etiology, pathology, clinical features, investigations, management. Sarcoidosis: etiology, pathology, clinical features, investigations, stages, managment. Hypersensitivity pneumonitis (extrinsic allergic alveolitis): pathogenesis and pathology, clinical features, investigations, management. Pleural effusion and empyema: etiology, clinical features, investigations, management.

3	Rheumatology	Osteoarthritis: pathogenesis, clinical features, investigations, management. Rheumatoid arthritis: classification, pathophysiology, clinical features, investigations, management. Management of musculoskeletal disorders: pharmacological options for direct symptom control, analgesia, disease-modifying antirheumatic drugs (DMARDs), biologic disease-modifying antirheumatic drugs, corticosteroids. Seronegative spondyloarthritis: pathogenesis, ankylosing spondylitis, Reiter's syndrome, psoriatic arthritis, clinical features, investigations, management. Systemic lupus erythematosus : pathophysiology, clinical features, investigations, management. Systemic sclerosis: pathophysiology, clinical features, investigations, management. Polymyositis and dermatomyositis: pathophysiology, clinical features, investigations, management. Systemic vasculitis: classification, pathophysiology, Takayasu's arteritis, polyarteritis nodosa (PAN), Wegener's granulomatosis (WG), Churg-Strauss syndrome (CSS), Henoch-Schonlein purpura (HSP), clinical features, investigations, management. Antiphospholipid syndrome, pathogenesis, clinical features, investigations, management. Gout: etiology, classification, clinical features, classification, investigations, management.
4	Gastroenterology	Gastroesophageal reflux disease: pathophysiology, clinical features, complications, investigations, management. Gastritis: common causes, acute gastritis, chronic gastritis due to *Helicobacter Pylori* infection, autoimmune chronic gastritis, Menetrier's disease, pathogenesis, clinical features, investigations, management. Peptic ulcer disease: gastric ulcer, duodenal ulcer, pathophysiology, clinical features, investigations, management, surgical treatment; complications, clinical features, investigations, management. Functional disorders of the stomach and duodenum: non-ulcer dyspepsia, functional causes of vomiting, gastroparesis, clinical features, investigations, management. Diseases of the small intestine: celiac

		disease, tropical sprue, Whipple's disease, pathophysiology, clinical features, investigations, management. Inflammatory bowel disease: ulcerative colitis, Crohn's disease, pathophysiology, clinical features, complications, investigations, comparison of ulcerative colitis and Crohn's disease, management, surgical treatment. Irritable bowel syndrome: pathophysiology, clinical features, investigations, management. Chronic pancreatitis: causes, pathophysiology, clinical features, investigations, management. Cholecystitis: acute cholecystitis, chronic cholecystitis, pathophysiology, clinical features, investigations, management. Gallstones: pathophysiology, clinical features, investigations, management. Hepatic cirrhosis: causes, pathophysiology, clinical features, investigations, management. Portal hypertension: pathophysiology, classification, clinical features, investigations, management. Fatty liver disease: pathophysiology, classification, clinical features, investigations, management. Inherited liver disease: hemochromatosis, Wilson's disease, pathophysiology, classification, clinical features, investigations, management. Autoimmune hepatitis: pathophysiology, clinical features, investigations, management. Biliary cirrhosis: classification, pathophysiology, clinical features, investigations, management. Chronic viral hepatitis: causes, classification, clinical features, investigations, management.
5	Nephrology	Acute renal failure (acute kidney injury): causes, pathogenesis, clinical assessment, investigations, management, renal replacement therapy, prognosis. Chronic kidney disease (chronic renal failure): common causes, pathogenesis, staging, clinical assessment, renal replacement in end-stage renal disease (ESRD) (CKD stage 5), prognosis; renal transplantation; the adverse effects of CKD, investigations, management, prognosis. Glomerulonephritis: pathogenesis,

		classifications, minimal change nephropathy, focal segmental glomerulosclerosis, membranous nephropathy, IgA nephropathy, rapidly progressive (crescentic) glomerulonephritis, glomerulonephritis associated with infection, acute post-infectious glomerulonephritis, clinical assessment, investigations, management, prognosis. Interstitial nephritis: acute interstitial nephritis, causes, acute bacterial pyelonephritis, chronic interstitial nephritis, causes, clinical and biochemical features, diagnosis, management.
6	Hematology	Iron deficiency anemia: causes, clinical features, investigations, management. Megaloblastic anemia: classification, causes, pernicious anemia, clinical features, investigations, management. Hemolytic anemia: hemolysis, types, diagnosis of hemolysis, causes of hemolytic anemia, classification; hereditary spherocytosis, glucose-6-phosphate dehydrogenase (G6PD) deficiency, sickle-cell disease, thalassemias, pathogenesis, clinical features, investigations, management. Autoimmune hemolytic anemia: classification, pathogenesis, clinical features, investigations, management. Non-immune hemolytic anemia: causes, pathogenesis, clinical features, investigations, management. Acute leukemia: epidemiology, etiology, risk factors for leukemia, classification, acute lymphoblastic leukemia, acute myeloid leukemia, pathogenesis, clinical features, investigations, management, prognosis. Chronic myeloid leukemia: pathogenesis, natural history (three phases), clinical features, investigations, management, prognosis. Chronic lymphocytic leukemia: pathogenesis, clinical features, investigations, staging, management, prognosis. Paraproteinemias: multiple myeloma, classification, pathogenesis, clinical features, investigations, management, prognosis. Aplastic anemia: classification, pathogenesis, clinical features, investigations, management, prognosis.

		Myeloproliferative disorders: polycythemia rubra vera, pathogenesis, clinical features, investigations, management, prognosis. Thrombocytopenia: idiopathic thrombocytopenic purpura (ITP), pathogenesis, clinical features, investigations, management, prognosis. Hemophilia: genetics, pathogenesis, clinical features, investigations, severity of hemophilia, management, prognosis.
7	Endocrinology	Presenting problems in thyroid disease: thyrotoxicosis, hypothyroidism, asymptomatic abnormal thyroid function tests, thyroid enlargement, autoimmune thyroid disease, transient thyroiditis, iodine-associated thyroid disease, simple and multinodular goiter. Presenting problems in diabetes mellitus: newly discovered hyperglycemia, long-term supervision of diabetes, diabetic ketoacidosis, non-ketotic hyperosmolar diabetic coma, lactic acidosis, hypoglycemia, diabetes in pregnancy; complications of diabetes; management of diabetes, diet and lifestyle; anti-diabetic drugs, insulin therapy; long-term complications of diabetes: diabetic retinopathy, diabetic nephropathy, diabetic neuropathy, the diabetic foot.

5.2. Course modules and types of studies

No	Name of course module	L	P	S	SBP	CP	UW	Total hrs
1	Cardiology	20			5	45	44	114
2	Pulmonology	12				25	21	58
3	Rheumatology	10				25	21	55
4	Gastroenterology	12				25	21	57
5	Nephrology	4				20	23	47
6	Hematology	8				15	20	43
7	Endocrinology	10				25	21	59

6. Interactive forms of studies

No	Name of the course section	Interactive forms of studies	Duration (hours)
1	Cardiology	case study	4
2	Pulmonology	case study	6
3	Rheumatology	case study	2
4	Gastroenterology	case study	2
5	Nephrology	case study	2
6	Hematology	case study	2

7	Endocrinology	case study	2
		Total (hours)	20
		Total (% of in-class learning)	7.6%

7. List of teaching materials for the course unsupervised work of students

No	Name of course module	Types of unsupervised work	Forms of control
1	Cardiology	note-taking of primary data sources and other academic literature; elaboration of educational materials (using lecture notes on the educational and scientific literature) and preparation of reports for presentation on seminars and practical classes; search and review of scientific publications, electronic sources of information, preparation of conclusions on the review; execution of practical tasks, creative project-type assignments, individual and group course projects; problem solving and exercises; writing of abstracts and essays; work with tests and questions for the self-assessment.	a report / a colloquium / defense of a project / essay/ abstract/ checking a workbook / solving of practical tasks / preparation of a case history
2	Pulmonology	note-taking of primary data sources and other academic literature; elaboration of educational materials (using lecture notes on the educational and scientific literature) and preparation of reports for presentation on seminars and practical classes; search and review of scientific publications, electronic sources of information, preparation of conclusions on the review; execution of practical tasks, creative project-type assignments, individual and group course projects; problem solving and exercises; writing of abstracts and essays; work with tests and questions for the self-assessment.	a report / a colloquium / defense of a project / essay / abstract / checking a workbook / solving of practical tasks / preparation of a case history
3	Rheumatology	note-taking of primary data sources and other academic literature; elaboration of educational materials (using lecture notes on the educational and scientific literature) and preparation of reports for presentation on seminars and practical classes;	a report / a colloquium / defense of a project / essay / abstract / checking a workbook / solving of

		search and review of scientific publications, electronic sources of information, preparation of conclusions on the review; execution of practical tasks, creative project-type assignments, individual and group course projects; problem solving and exercises; writing of abstracts and essays; work with tests and questions for the self-assessment.	practical tasks / preparation of a case history
4	Gastroenterology	note-taking of primary data sources and other academic literature; elaboration of educational materials (using lecture notes on the educational and scientific literature) and preparation of reports for presentation on seminars and practical classes; search and review of scientific publications, electronic sources of information, preparation of conclusions on the review; execution of practical tasks, creative project-type assignments, individual and group course projects; problem solving and exercises; writing of abstracts and essays; work with tests and questions for the self-assessment.	a report / a colloquium / defense of a project / essay / abstract / checking a workbook / solving of practical tasks / preparation of a case history
5	Nephrology	note-taking of primary data sources and other academic literature; elaboration of educational materials (using lecture notes on the educational and scientific literature) and preparation of reports for presentation on seminars and practical classes; search and review of scientific publications, electronic sources of information, preparation of conclusions on the review; execution of practical tasks, creative project-type assignments, individual and group course projects; problem solving and exercises; writing of abstracts and essays; work with tests and questions for the self-assessment.	a report / a colloquium / defense of a project / essay / abstract / checking a workbook / solving of practical tasks / preparation of a case history
6	Hematology	note-taking of primary data sources and other academic literature; elaboration of educational materials (using lecture notes on the educational and scientific literature) and preparation of reports for presentation on seminars and practical classes;	a report / a colloquium / defense of a project / essay / abstract / checking a workbook /

		search and review of scientific publications, electronic sources of information, preparation of conclusions on the review; execution of practical tasks, creative project-type assignments, individual and group course projects; problem solving and exercises; writing of abstracts and essays; work with tests and questions for the self-assessment.	solving of practical tasks / preparation of a case history
7	Endocrinology.	note-taking of primary data sources and other academic literature; elaboration of educational materials (using lecture notes on the educational and scientific literature) and preparation of reports for presentation on seminars and practical classes; search and review of scientific publications, electronic sources of information, preparation of conclusions on the review; execution of practical tasks, creative project-type assignments, individual and group course projects; problem solving and exercises; writing of abstracts and essays; work with tests and questions for the self-assessment.	a report / a colloquium / defense of a project / essay / abstract / checking a workbook / solving of practical tasks / preparation of a case history

8. Forms of control

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

A subject list of reports, essays, tests, term papers, test collections and cases are shown at the section 'Evaluation tools'.

8.2. Forms of interim assessment (examination)
2 stages of examination:
1st Stage –case(name of the stage)
2nd Stage –oral interview(name of the stage)

Questions for the examination are shown at the section ‘Set of the evaluation tools for the current control and interim assessment of students’.

9. Library and information materials of the course

9.1. Compulsory course literature

1. Davidson`s principles and practice of medicine / ed. S. Ralston [et al.]. – 23rd ed. – Edinburgh: ELSEVIER, 2018. – 1417 p.
2. Ivashkin V.T. Internal diseases propedeutics [Электронныйресурс]/ V. T. Ivashkin , A. V. Okhlobystin. -M.: ГЭОТАР-Медиа, 2020. -176 p.- URL: https://www.studentlibrary.ru/ru/book/ISBN9785970455555.html
3. Oslopov V. N. Case history of therapeutic patient: manual [Электронныйресурс]/ V. N. Oslopov, O. V. Bogoyavlenskaya, Yu. V. Oslopova. -M.: GEOTAR-Media, 2014. -176 p.- URL: http://www.studentlibrary.ru/book/ISBN9785970433836.html
4. Oslopov V. N. General Care of a Patient [Электронныйресурс] : tutorial/ V. N. Oslopov, O. V. Bogoyavlenskaya. -Москва: ГЭОТАР-Медиа, 2019. -208 c.- URL: https://www.studentlibrary.ru/ru/book/ISBN9785970452349.html
5. Steffers G. General Pathology and Internal Medicine for Physical Therapists [Электронныйресурс] : учебник/ G. Steffers, S. Credner. -1st ed.: Thieme, 2012- URL: https://medone-education.thieme.com/ebooks/2093236?fromSearch=true#/ebook_2093236_SL80475533
6. Внутренние болезни [Электронный ресурс] : учебник в 2 т./ ред.: В. С. Моисеев, А. И. Мартынов, Н. А. Мухин Т.1.. -Москва: ГЭОТАР-Медиа, 2019. -960 с.: ил.- URL: http://www.studentlibrary.ru/book/ISBN9785970453148.html
7. Внутренние болезни [Электронный ресурс] : учебник в 2 т./ ред.: В. С. Моисеев, А. И. Мартынов, Н. А. Мухин Т.2.. -Москва: ГЭОТАР-Медиа, 2019. -896 с.: ил.- URL: http://www.studentlibrary.ru/book/ISBN9785970453155.html

9.2. Supplementary course literature

1. Harrison's Principles of internal medicine [Text] Vol. I: учебное пособие/ ed. D. L. Kasper. – 19th ed. – New York: McGraw Hill : Medical, 2015. – 1796 p. – ISBN 978-0-07-180215-4. – 978-0-07-180213-0, Б.ц.
2. Harrison's Principles of internal medicine [Text] Vol. II: учебное пособие/ ed. D. L. Kasper. – 19th ed. – New York: McGraw Hill : Medical, 2015. – 3610 p. –ISBN 978-0-07-180215-4. – 978-0-07-180214-7, Б.ц.
3. Siegenthaler W. Differential Diagnosis in Internal Medicine: From Symptom to Diagnosis [Электронныйресурс]/ W. Siegenthaler: Thieme, 2007- URL: https://medone-education.thieme.com/ebooks/2193980?fromSearch=true#/ebook_2193980_SL83144759
4. Внутренние болезни. Тесты и ситуационные задачи [Электронный ресурс] : учебное пособие для студентов учреждений высш. проф. образования/ В. И. Маколкин [и др.]. -Москва: ГЭОТАР-Медиа, 2012. -304 с.: ил.- URL: http://www.studmedlib.ru/book/ISBN9785970423912.html
5. Маколкин В. И. Внутренние болезни [Электронный ресурс] : учебник/ В. И. Маколкин, С. И. Овчаренко. -6-е изд., испр. и доп.. -Москва:

ГЭОТАР-Медиа, 2017. -768 с.: ил.- URL: http://www.studentlibrary.ru/book/ISBN9785970441572.html

9.3. List of Internet resources required for mastering of the course

1. www.studentconsult.com (a copy of Davidson`s Principles and practice of medicine has a special code for access);
2. www.medicalstudent.com/
3. www.merckmanuals.com/
4. WWW.MEDSCAPE.COM/MEDICALSTUDENTS
5. www.mednet.ucla.edu/
6. HARDINMD.LIB.UIOWA.EDU/INDEX.HTML
7. www.healthline.com/
8. www.youtube.com/user/ClevelandClinic
9. www.youtube.com/user/emedtv
10. www.escardio.org/
11. my.americanheart.org/professional/StatementsGuidelines/ByTopic/TopicsA-C/ACCAHA-Joint-Guidelines_UCM_321694_Article.jsp
12. www.linksmedicus.com
13. http://www.rmj.ru
14. http://www.consilium-medicum.com
15. http://www.pulmonology.ru
16. http://www.cardiosite.ru
17. http://www.rheumatolog.ru
18. http://www.m-vesti.ru/rggk/rggk-rules.shtml
19. http://medpulse.h1.ru
20. http://www.medlinks.ru
21. http://www.OSSN.ru
22. http://www.therapy.narod.ru
23. http://mzdravrt.kazan.ru/rmbic/update/uws.htm
24. http://sci-lib.com
25. http://www.jrheum.com
26. http://scholar.google.com
27. http://www.medscape.com
28. http://www.nlm.nih.gov
29. http://www.guideline.gov
30. http://www.rmj.ru

9.4. List of information technologies used in the educational process within the discipline, including software and referral systems

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа № 2403 Морской медицины, административный учебный корпус, 4 этаж *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, экран *в) перечень учебно-наглядных пособий:* схемы, таблицв *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номерлицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Trafficinspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 452 этаж главного корпуса терапевтическое отделение № 1 Договор № 550 от 05.07.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская областная клиническая больница». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, учебные наборы электрокардиограмм, рентгенограмм с патологией сердечно-сосудистой системы, набор бланков с указанием лабораторных показателей острофазового воспаления и наличия стрептококковой инфекции, кардиоспецифических ферментов, набор рентгенограмм и спирограмм с патологией органов дыхания, набор анализов желудочного сока, желчи, рентгенограмм с патологией органов пищеварения, бланков с указанием лабораторных показателей, характерных для заболеваний органов пищеварения, набор анализов крови и исследований костного мозга с	163045, Архангельская область, г. Архангельск, пр. Ломоносова, д. 292,

патологией системы кроветворения, набор анализов мочи с патологией мочевыделительной системы, муляжи, наглядные пособия, таблицы. *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Trafficinspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
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Учебная аудитория для занятий семинарного типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации№ 209, учебный корпус, 2 этаж *а) перечень основного оборудования:*	163001, г. Архангельск, просп. Троицкий, д. 180

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

APPROVED
Dean of the International Faculty
of General Practitioner
A. K. Sherstennikova
June 26th2020

SYLLABUSOF THE DISCIPLINE

Discipline**Outpatient Internal Medicine**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **V-VI/9-12**
Form of the interim assessment**Examination**
Department**ofOutpatient Internal Medicine and Nursing**
Discipline workload **432** (academic hours)/**12**(credits)

Approved at the department meeting
Minutes No.
June 24th 2020
Head of the department
E.V. Serdechnaya

Authors and compilers:
Serdechnaya Elena Valerievna, Head of the Department of Outpatient Internal Medicine and Nursing, Professor of the Department of Outpatient Internal Medicine and Nursing, Doctor of Medical Sciences; Yurieva Svetlana Vladimirovna, Associate Professor of the Department of Outpatient Internal Medicine and Nursing, Candidate of Medical Sciences

Arkhangelsk, 2020

1. Goal and tasks of the mastering of the course

Goal of the discipline	The goal of the discipline is to teach students to develop skills of providing qualified medical care at the outpatient stage and the skills of providing emergency medical care at the pre-hospital stage.
Tasks of the discipline	- to master basic principles of organizing medical and preventive care for the most part of the population in a polyclinic; - to teach the peculiarities of the organization and principles of work of a physician; - to acquaint students with modern diagnostic capabilities of the polyclinic service and to teach students to use them in a rational way; - to develop skills of clinical thinking of the early diagnosis of the most common diseases in the polyclinic taking into account the peculiarities of their course, treatment, primary and secondary prevention, clinical examination, examination of working capacity; - to train skills in working with standards and protocols for the treatment of internal diseases, with formularies of medicines, conducting an examination of temporary disability; - to teach students to work with orders, special methodological instructions for the provision of emergency assistance to the population; - to teach the issues of examination of temporary and permanent disabilities.

2. Positionofthecourse (module) within the structure of the educational program

The program is developed following the requirements of Federal State Education Standard (FSES) for higher education in the field of 31.05.01«General medicine».Block 1. Basic part.

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

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

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

Codes of competence	Competences		
	Knowledges	**Skills**	**Abilities**
GPC - №	**General professional competencies**		
GPC – 6 To be ready to fill medical records	- to know the specifics of standard accounting and reporting medical documentation in outpatient clinics and ambulance.	- to be able to fill the medical documentation of district therapist (a medical file for an outpatient, a sick leave, an outpatient patients card, a sanatorium card, a health checkup card, etc.) and of ambulance doctor (ambulance call card, ambulance support card)	- have the skills of right registration and management of medical records in the outpatient clinic and in the ambulance.
GPC - 8 Readiness for the medical use of drugs and other substances and their combinations for professional purposes	- to know the classification and basic characteristics of most often used drugs in outpatient practice and ambulance. -to know pharmacodynamics and pharmacokinetics, indications, contraindications to the prescription of drugs - to know the possible complications of pharmacotherapy	-to be able to choose an individual type of care for the patient, be able to develop a plan of therapeutic actions taking into account the course of the disease and its treatment; - be able to apply proven practical recommendations when you choose therapeutic and prophylactic measures for the treatment of specific patients in outpatient clinic and ambulance. To be able to write prescriptions (standart prescription; subsidaze prescription; narcotic and equated to them drugs prescriptions) - evaluate the effectiveness and safety of the treatment.	- to possess the skills of using medicines in the treatment, rehabilitation and prevention of various diseases and pathological conditions - Possession of the skills of prescription forms registration to different categories of patients (preferential, free of charge, 20% payment, prescription for a drug containing narcotic and strong substances, prescription for receiving medicines with payment of 50% for participants of the Second World War, etc.).
PC - №	**Professional competencies**		
PC-1 – Be ready to implement a set of measures that are	- to know the role of environmental and medico-social factors of the environment in	- to identify the natural and medico-social factors of the environment in the	- to have the skills to form positive medical behavior among the population and their

aimed at preserving and strengthening people's health. These activities include formation of a healthy lifestyle, prevention the appearance of illness or the spread of diseases, early diagnosis of diseases, identifying the causes and conditions for their occurrence and development. Be ready to implement activities that are aimed at eliminating the harmful effects of the environment on human health	the development of diseases in the adult population, to assess and correct them - to know preventive measures for infectious and noncommunicable diseases - to conduct educational work on hygiene issues and to form a healthy lifestyle among the population - to know the methods of early diagnosis of diseases	development of diseases in the adult population, carry out their correction - to implement preventive measures to prevent noncommunicable diseases - to conduct health education work about hygiene and healthy lifestylr issues - to make screening for the early detection and diagnosis of the most common and socially significant diseasesbasis (in "Health Centers")	families, which is aimed at preserving and improving the level of public health - to possess the skills of introducing elements of a healthy lifestyle, including the elimination of bad habits (explanatory conversations, newsletters, visual agitation: sanlets, memos) - to possess the skills of screening the most common and socially significant diseases(on the basis of "Health Centers")
PC-2 To have the ability and readiness to conduct preventive medical examinations, medical regular check-ups and dispensary observation	- to know the basics of preventive medicine, organize preventive measures aimed at improving the health of the population. - to know the principles of the medical regular check-ups of the population, the methods of preventive medical examinations; - to carry out general health measures for the formation of a healthy lifestyle, taking into account age-sex groups and health status, - to know the recommendations on healthy nutrition, on motor activity and exercises, to evaluate the effectiveness of dispensary observation of healthy and chronic patients	- to conduct medical examinations, to fill the primary and current documentation, - to carry out preventive medical examinations, also to conduct preventive measures with the population attached to prevent the most common diseases; - to carry out general health measures for the formation of a healthy lifestyle, taking into account age-sex groups and health status, - to give recommendations on healthy nutrition, on motor activity and exercises, to evaluate the effectiveness of dispensary monitoring of healthy and chronic patients	- to possess the skills of carrying out activities for primary and secondary prevention of the most common diseases requiring therapeutic treatment with the population - to carry out general health measures for the formation healthy lifestyle, taking into account age-sex groups and health status, to give recommendations on healthy nutrition, on motor activity and exercises; - to possess the skills of conducting medical regular check-ups, know the timing, duration of follow-up, the characteristics of the measures, be able to evaluate the effectiveness of clinical examination according to the developed criteria, to

			fill control cards for dispensary observation of patients; - make programs for classes in schools for healthy and sick people (diabetes, hypertension, ischemic heart disease, etc.) and in prevention departments and conduct them
PC – 5 Be ready to collect and analyze patient complaints, his history, examination results, laboratory, instrumental, autopsy and other studies in order to recognize the condition or establish the fact of the presence or absence of disease	- to know the clinical aspects of general therapeutic diseases: epidemiology, etiology, pathogenesis, clinic, diagnostics. - to know the types of anamnesis. - To know the principles of collecting and analyzing the patient's complaints, data of his anamnesis. - to know the basic methods of laboratory, instrumental,pathoanatomical and other studies.	- to determine the status of the patient: collect anamnesis, interview the patient and / or his relatives, conduct a physical examination of the patient (examination, palpation, auscultation, blood pressure measurement, determination of the arterial pulse properties, etc.); - to determine the minimum required for diagnosis of laboratory and instrumental studies, informative for establishing a diagnosis; - to interpret the results of the most common methods of functional diagnostics used to detect the pathology of blood, heart and blood vessels, lungs, kidneys, liver and other organs and systems; - to determine and evaluate the results of electrocardiography; spirography; thermometry; hematological	- to know methods of general clinical examination (interwiev, examination, palpation, percussion, auscultation, determination of the properties of the arterial pulse, measurement of blood pressure) and to interpret the results - to know interpretation of the results of laboratory, instrumental diagnostic methods;

		parameters; - to distinguish in the blood serum normal values of the levels of metabolites (glucose, urea, bilirubin, uric acid, lactic and pyruvic acids, etc.) from pathologically changed, read the proteinogram and explain the reasons for the differences - work with primary medical documentation	
PC – 7 Be ready for the examination of temporary disability, participation in medical and social expertise. Be ready to fix the biological death of a person	- to know the questions of the examination ability to work (main points, to fill medical documentation, to know approximate dateslist of incapacity for work, to know indications for direction to the commission for incapacity for work, etc.) - to know the order of fixing the death of a person	- to use the legislative acts for the examination of work capacity; - to determine the cause of temporary incapacity for work, the criteria for recovery and rehabilitation of work capacity, formalize the relevant documentation, timely identify signs of disability, to predict the group, to issue documents for referral to the Bureau of Medical Social Expertise, to conduct disability prevention among adult population - to establish the fact of death	- to have the skills to conduct examination of temporary incapacity for work, to refer the needness of patient medical social expertise, to fill medical documentation (references and disability cards, referrals to the medical bureau, medical patients cards)
PC – 8 To have the ability to determine the tactics of managing patients with various nosological forms	- to know the basic medical measures at the most frequent in outpatient practice diseases and conditions in the adult population,which can cause severe complications and (or) lethal case; - to know the possibilities to timely	- to assess the patient's condition for making a decision of the necessity to provide him with medical care, - to determine the amount of additional studies in accordance with the disease forecast to clarify the diagnosis and obtain a reliable result,	- to possess the algorithm for setting a preliminary diagnosis with the subsequent referral of the patient to the appropriate doctor - to possess the algorithm of the expanded clinical diagnosis, the skills of organization care for heavy and

	detection of life-threatening conditions, to know the methods of their immediate elimination, to know the anti-shock measures	- to provide health care at the out-patient clinic stage (organize care for heavy and untransportable patients, check-ups and care, examination and treatment), - to determine the indications for routine, emergency and emergency hospitalization of patients.	untransportable patients, - to own tactics of check-ups and assistance,examination and treatment, tactics of patients management (treatment, primary and secondary prevention measures, restorative treatment) in the outpatient department
PC - 9 To be ready for management and treatment of patients with various nosological forms in outpatient and day hospital	- to know the scheme of treatment in accordance with the diagnosis in outpatient and day hospital, - to know the algorithm for choosing medicamentous and non-drug therapy for patients with infectious and non-infectious diseases, various age and social groups, co-and polymorbid pathology	- to give to patients adequate therapeutic treatment of outpatient and day hospital in accordance with the exposed diagnosis, - to carry out an algorithm for choosing medicamentous and non-drug therapy for patients with infectious and non-infectious diseases, various age and social groups with co-and polymorbid pathology	- to possess the skill of conducting treatment at the outpatient department to patients with various most common therapeutic and related pathologies, - to possess the skill of using the possibility of stationary substitution technologies while providing assistance to patients with therapeutic profile (indications and contra-indications for referral to the day-time hospital of a polyclinic, assistance in a "hospital at home")
PC - 10 Be ready to provide medical care for sudden acute illnesses, conditions, exacerbation of chronic diseases that are not accompanied by a life threatening patient and do not require emergency medical care	- To know the basic ways of rendering the first medical population to the adult population in the event of emergency and life-threatening conditions, in extreme conditions of epidemics, to hospitalize patients in a planned and emergency order	- to perform basic medical measures for the most common diseases and conditions that can cause serious complications and / or death (ischemic and hemorrhagic stroke, hypertension, IHD, asthma, COPD, diabetes, peptic ulcer, acute diffuse glomerulonephritis,	- to own the methods and skills of providing medical and emergency care for the most common diseases and conditions in the adult population at the prehospital stage, - to hospitalize patients in planned and urgent order

		anemia, acute allergosis) - to identify life-threatening health problems: hemoptysis, pulmonary and gastrointestinal bleeding, spontaneous pneumothorax, acute respiratory failure, cardiac arrest, coma, shock timely - to conduct measures to stop pulmonary and gastrointestinal bleeding, acute respiratory and cardiovascular insufficiency; cardiopulmonary resuscitation (airway patency, ventilation by mouth-to-mouth ventilation, Ambu bag with mask, airway, indirect cardiac massage). - to determine the indications for the hospitalization of patients with a therapeutic profile and to realize hospitalization in an emergency and planned manner; - to ensure continuity in the provision of treatment and examination at the out-inpatient stage.	
PC – 11 Be ready to participate in emergency care to patients requiring urgent medical intervention	- to know the methods of carrying out emergency measures in conditions requiring urgent medical intervention - to know the algorithm of basic cardiopulmonary resuscitation,	- to provide emergency assistance to the adult population in conditions requiring urgent medical intervention at the prehospital stage, - to conduct emergency hospitalization of	- to master the basic medical diagnostic and medical measures to provide emergency medical care for conditions requiring urgent medical intervention at the prehospital stage - to possess the

	methods of artificial ventilation, the technique of indirect cardiac massage, electrical defibrillation; - to know the basics of providing various types of medical care to the affected population in an emergency situation	patients	methods of conducting complex cardiopulmonary and cerebral resuscitation, - to possess the technique of immediate elimination of life-threatening disorders in trauma (acute blood loss, respiratory failure, cardiac arrest);
PC-15 Be ready to train patients and their relatives in the main hygiene measures of a recreational nature, the skills of self-monitoring of basic physiological indicators, contributing to the preservation and promotion of health and disease prevention	- to know the basic hygienic measures of a recreational nature, promoting health promotion and preventing the occurrence of diseases, - to know the ways of forming healthy lifestyle habits that help maintain their motor activity at the proper level, eliminate harmful habits	- to teach adult population and their relatives basic hygienic measures of a recreational nature that promote health promotion and disease prevention, form skills healthy lifestyle, maintain proper motor activity, eliminate bad habits	- to possess the skills of teaching patients and their relatives the basic hygienic measures of a recreational nature, - to possess the skills of self-monitoring of basic physiological indicators,contributing to the preservation and promotion of health, disease prevention
PC-16 Be prepared for educational activities to eliminate risk factors and develop healthy lifestyle skills	- to know modern methods of sanitary educationwork in a outpatient department, to know the methods to combat bad habits, alcoholism, drug addiction,to promote a healthy lifestyle.	- to conduct a short and in-depth preventive counseling of patients and their relatives, promotion of a healthy lifestyle.	- to possess the skills of carrying out preventive measures among patients of the therapeutic profile (familiarity of patients with the basics of rational nutrition in various pathologies, with risk factors, rational and supportive therapy, the possibilities of drug and non-drug therapy); - to have the skills to implement activities for the formation of adult health (participation in schools for healthy and sick people, to prepare conversations on a healthy lifestyle with the use of

			innovations: radio lectures, multimedia presentations, disk-information)
PC- 18 Be ready to participate in the assessment of the quality of medical care using the basic medical and statistical indicators	- to know the indicators of assessing the quality of medical care using the basic medical and statistical indicators	- use the normative documentation adopted in health care (laws of the Russian Federation, international and national standards, orders, recommendations, terminology, effective international classifications), as well as documentation for assessing the quality and effectiveness of medical organizations	
PC – 20 To be prepared for analysis and public presentation of medical information on the basis of evidence-based medicine	- to know the principles of evidence-based medicine	- to evaluate the medical information about the patient; use A, B and C levels of evidence-based medicine; apply preventive, diagnostic and therapeutic measures based on the available evidence of their effectiveness and safety for use in the interests of the patient.	- to have the skills to study and analyze scientific literature and official statistical reviews, to write abstracts on contemporary problems of internal diseases and polyclinict herapy, to perform in the framework of research work

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

Total workload of the course is _12_ credits.

	Type of the academic work	**Total hours**	**Term**
Discipline workload (in academic hours)	Lectures (L)	66	9-12
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	135	9-12
	Laboratory-based practicals (LBP)		
	Simulation-based practicals (SBP)		
	Preparation for the examination (PE)	33,7	12
	Preparation for the credit (PC)		
	Exam consultations (EC)	2	12

	Coursework (CW)		
	Unsupervised work (UW) (total)	195	9-12
	Examination control (EC)	0,3	12
	Total course workload	**432**	**9-12**

5. Contents of the course:

5.1. Contents of the sections of the course
5.1. Content of the discipline sections
The content of the discipline consists of the following sections:
1. Basics of organization of outpatient care and medical prevention:
* Fundamentals of organization of outpatient care for the population.
• Medical prevention.
* Assessment of the quality of medical care at the outpatient stage.
2. Emergency care at the pre-hospital stage:
* Emergency conditions at the pre-hospital stage.
* Emergency conditions in cardiology at the pre-hospital stage.
* Emergency care in pulmonology at the pre-hospital stage.
* Assistance in emergency conditions in gastroenterology at the pre-hospital stage.
* Emergency care in urology and Nephrology at the pre-hospital stage.
* Hyperthermic syndrome at the prehospital stage.
* Emergency care for allergic reactions at the pre-hospital stage.
• Emergency treatment of coma in the prehospital setting.
* Emergency care in neurology at the pre-hospital stage.
3. Internal diseases:
* Diseases of the cardiovascular system in outpatient practice.
* Diseases of the digestive system in outpatient practice.
* Diseases of the urinary system in outpatient practice.
* Blood diseases in outpatient practice.
• Disease of the respiratory system in ambulatory practice.
* Joint diseases in outpatient practice.
* Diseases of the endocrine system in outpatient practice.
* Somatic diseases in outpatient practice in certain groups of the population.
The system of classes is cyclical. Cycl7-11 days (last day-undifferentiated test, at the end of 12 semester – exam).

No	Name of the course section	Content of the section
1	2	3
Fundamentals of outpatient care and medical prevention.		
1	Fundamentals of outpatient care to the population.	**Topic 1: Organization of outpatient medical care.** The structure of the outpatient clinic. Organization of work its departments. The main directions of the GP`s work. Organization of hospital substitute types of assistance. Medical and technological standards. **Topic 2: The functional responsibilities of the doctor of**

		primary health care. The qualifying characteristic specialty. Tasks, duties, performance criteria of the GP **Topic 3: The main legislative instruments used in the medical work of primary health care.** Documents regulating the provision of medical and preventive care at the outpatient stage. **Topic 4: The primary district documentation** Working with primary therapeutic district documents: outpatient records, stat. ticket, referral notes for examination and treatment **Topic 5: The basic principles of providing medical outpatients. Preferential provision of medicines.** The main legislative documents. Principles of the medical settings work in supplying the population with pharmaceuticals. Groups and categories of diseases giving right to preferential support. The role of pharmaceutical institutions in providing the population with medicines. Legal documents regulating the work to issue preferential recipes. **Topic 6: Features of care for older people, medical and social problems of the elderly contingent with the program adaptation.** The main legislative documents governing the provision of medical care for the elderly contingent according to the territorial program of compulsory health insurance (OMS). Principles of the organization of additional preferential support (DLO) in hospitals. The main legislative documents regulating the work of gerontological service in Russia. The organization of medical and social assistance to the elderly contingent. Targeted medical-social assistance to

		the patient geriatric age. Making someone integrated program of medical and social adaptation of an old man. **Topic 7: Assessment of quality of medical care at the outpatient stage.** Working with the acts and outpatients records to assess the quality of care at the outpatient stage. Analysis of typical doctor/s mistakes to assist outpatients and paperwork.
2.	Medical prevention	**Topic 1: The organization of preventive work in the outpatient clinic** The concept of medical prevention. Implementation of preventive principles in hospitals. Types of prevention activities. UN Political Declaration on the Prevention and Control of NCDs (non-communicable diseases). The complex-valued global system for monitoring of non-communicable diseases in the Russian Federation (RF). **Topic 2: Clinical examination of the population - the main method of disease prevention.** Clinical examination of the working population. Examinaation of chronic patients on territorial basis Clinical examination of invalids and participants of the World War II (WWII) and the other decreed contingents Gent patients. Schemes of medical examination. **Topic 3: Organization of the "Center for Healthy Lifestyles" and prevention department.** The main risk factors of NCDs and their correction. healthy life style, the basics of good nutrition. Individual consultations. **Topic 4: Primary prevention of NCDs.** Effective prevention consultations of patients with chronic non-

		communicable diseases. Algorithm for individual counseling. **Topic 5: Epidemiology of socially significant diseases, risk factors and their correction. Immunization for adult population of Russia** Definition of social diseases. Diagnosis of tuberculosis. Categories of persons for mandatory testing for HIV, hepatitis B Early diagnosis of malignant tumors, diabetes mellitus. Immunization, vaccination schedule, contraindications for vaccination. **Topic 6: The role of health workers in the secondary prevention of disease.** Secondary prevention of cardiovascular diseases. Organization of school work for patients with hypertension and atrial fibrillation (school attendance, functional-functional responsibilities of nursing instructors, acquaintance with primary documents outpatient). Secondary prevention of diabetes. Organization of school work for people with diabetes (drawing up individual training programs). Secondary prevention of asthma. school Organization of work for patients with bronchial asthma (goals, objectives) Secondary prevention School organization works for patients undergoing cerebrovascular accident.
3.	Fundamentals of disabilityexpertise	**Topic 1: Organisation of temporary disability examination.** The organizational structure and procedure of the examination of temporary disability, structure, steps, documentation, average duration of temporary disability in mass therapeutic pathology. The average period of temporary disability **Topic 2: Examination permanent disability.** The concept of legislative documents

		and medical and social expertise. MSE structure. Examination of permanent disability, the provisions of MSEK, the criteria of disability, rehabilitation prognosis, disabled rehabilitation program.
4.	Assessment of outpatient care quality	**Topic 1: Quality control of health care provision.** Working with outpatients medical records , acts of expertise.
Emergency care at the prehospital stage		
1.	**Emergency care atthe prehospital stage**	**Topic 1. Emergency care atthe prehospital stage** The concept of "state of emergency", the classification of emergency conditions. Organization of emergency care in the prehospital phase. Normative-legal acts regulating the activities of health workers in providing assistance in the prehospital phase. **Topic 2. Legal regulation and the principles of emergency care at prehospital stage.** he basic principles and the amount of medical care in the prehospital phase. Interaction with the operational department (control room) medical aid station (SMP). Indications to call specialized teams. Infectious safety. Rules of transportation of patients and survivors.**Тема Topic 3.Terminal states.** The concept of "terminal condition." Physiological parameters of vital body functions. The types and clinical manifestations of terminal states. **Topic 4. Sessation of the circulation and respiration.** Sessation of circulation: definition, risk factors, causes, symptoms, diagnosis. Respiratory arrest: definition, risk factors, causes, symptoms, diagnosis. Criteria for evaluation of the severity of the patient. Signs of clinical, biological death.

		Topic 5. Universal algorithm providing specialized resuscitation in case of emergency he essence of the algorithm cardiopulmonary resuscitation (CPR). Recognition and treatment of defibrillation (pulseless ventricular tachycardia, ventricular fibrillation) and nedefibrillyatsionnyh (asystole, pulseless electrical activity) rhythms. Indications and methods of administering medication during sudden cardiac arrest. Restoration of the airway, mechanical ventilation (ALV), conducting supplemental oxygen, chest compressions, defibrillation, intubation. Criteria to stop resuscitation.
2.	Emergency conditions in cardiology in the prehospital phase.	**Topic 1. Acute coronary syndrome in prehospital phase.** Current concepts of acute coronary Mr. syndrome (ACS): definition, etiology, complications, differential diagnosis. Features Survey prehospital: physical, instrumental, biochemical-cal (Express-study in acute in-infarction (troponin, myoglobin)). Tactics doctor in ACS without ST-segment elevation and ST-segment elevation. Medications for emergency care in the prehospital phase: methods of application, selection of doses and complications of therapy. Specifics of transportation and monitoring of the patient's condition. **Topic 2. Acute heart failure before hospitalization.** cute heart failure: definition, etiology, options differential diagno-stick. Cardiogenic shock, cardiogenic pulmonary edema, pulmonary embolism. Features of physical and instrumental examination of prehospital. The choice of tactics and algorithm of emergency assistance do6gospitalnom stage in acute heart

		failure. Medications for emergency care in the prehospital phase. Specifics of transportation and monitoring of the patient's condition. **Theme 3. Hypertensive crisis, algorithm of prehospital managing** Hypertensive crisis: causes, forms with modern amenities mennaya-classification, clinical manifestations and complications. Medications for emergency care in the prehospital phase: methods of application, selection of doses and complications of therapy. Algorithm for emergency care in the prehospital patients with complicated and uncomplicated hypertensive crisis. Indications for hospitalization. Specifics of transportation and monitoring of the patient's condition. **Topic 4. Acute vascular insufficiency Syncope. Collapse. State of shock.** Definitions: faint, collapse, shock. The pathogenesis of syncope, collapse, shock states. The clinical picture. Differential diagnosis. The choice of tactics and algorithm of emergency care in the prehospital phase. Indications for mechanical ventilation. **Topic 5. Cardiac arrhythmias. Tachycardia with wide and narrow complexes QRS.** Cardiac arrhythmias: identification of risk factors, classification, clinical manifestations. Differential diagnosis of cardiac arrhythmias. Tachycardia with wide and narrow complexes QRS: etiology, clinical features, diagnostic methods. Algorithm for emergency care in the prehospital phase. Cardioversion. Indications. performance technique. Equipment. Safety. Medications for emergency care in the prehospital phase: methods of application, selection of doses.

		Topic 6. Ventricular fibrillation, ventricular tachycardia without a pulse. Asystole. Ventricular fibrillation, ventricular tachycardia without pulse: diagnosis, emergency treatment algorithm prehospital. Defibrillation, readings, technics and equipment. Safety precautions during defibrillation. Asystole. The electrical activity of the heart without a heart. Causes, diagnosis, algorithm of emergency care in the prehospital phase. **Topic 7. Bradycardia.** Bradycardia: etiology, clinical features, diagnostic methods. Algorithm for emergency care in the prehospital phase. Pacing (ECS). Description. Equipment. Indications and contraindications for ECS (temporary and permanent). performance technique. Safety regulations. Application of ECS.
3.	Assistance in urgent situations in pulmonology in the prehospital phase.	**Theme 1. Acute respiratory failure (ARF). Bronchial asthma.** ARF: definition, causes, clinical symptoms, severity, hypoxemic coma, differential diagnosis. Features of physical and instrumental examination at prehospital stage. Indications for mechanical ventilation. Medications for emergency care in the prehospital phase: methods of application, selection of doses and complications of therapy. The diagnostic criteria for asthma, the clinical picture. Differential diagnosis of conditions involving acute dyspnea occurred. Features of physical examination at an attack of asthma. Criteria for assessing the severity, symptoms of life-threatening asthma attack. Status asthmaticus. The choice of tactics and algorithm of emergency treatment of bronchial asthma in the prehospital phase. Indications for hospitalization.

		Specifics of transportation and monitoring of the patient's condition. **Topic 2: PE, emergency prehospital algorithm.** Modern understanding of pulmonary embolism (PE). Determining cause clinical symptoms. Differential diagnosis. Methods of diagnosis. Features of an electrocardiogram (ECG) and echocardiography (echocardiography) for pulmonary embolism. Algorithm for emergency assistance in PE. Medications for emergency care in the prehospital phase: methods of application, selection of doses and complications of therapy. Features of transport and monitoring the patient's condition.
4.	Help in case of emergency in gastroenterology in the prehospital phase.	**Topic 1. Acute poisoning.** Poisoning by drugs, medicaments and biological substances. Ethanol poisoning. Mushrooms poisoning. Definition. Epidemiology. Clinic. Diagnostics. Urgent care. **Topic 2: Diseases of the gastrointestinal tract (GIT), accompanied by severe pain.** Etiology. Pathogenesis. Clinic. Differentials-tion diagnosis. Methods of emergency diagnostics. Hepatic colic. Bleeding from the gastrointestinal tract. Principles of diagnosis. Emergency care.
5.	Help with urgent conditions in urology and nephrology in the prehospital phase.	**opic 1: Acute kidney injury. Renal colic. Acute urinary retention.** Criteria for diagnosis, classification and clinical picture of acute kidney damage Causes of ureteral colic. The clinical picture of renal colic. Diagnosis of renal colic in the prehospital phase. Differential diagnosis. Clinic of acute urinary retention. Differential diagnosis of acute urinary retention. First aid on pre-hospital stage. Tactics for the physician in the prehospital phase.

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

		patient. Directions therapy. The choice of tactics and algorithm of emergency care in the prehospital phase. Indications for hospitalization. Specifics of transportation and monitoring of the patient's condition
Internal diseases.		
1.	Diseases of the cardiovascular system in outpatient practice.	**Topic 1. Atherosclerosis at prehospital stage.** The urgency of the problem. Epidemiology of cardiovascular diseases. Exchange of endogenous lipoprotein, atherogenesis. Physico-chemical characterization of cholesterol, triglycerides, lipoprotein, fatty acids, phospholipids, the main classes of lipoproteins. Classification of hyperlipidemia.Clinical and laboratory examination of patients with dyslipidemia. The algorithm of examination of patients with dyslipidemia. Treatment of dyslipidemia. Features of treatment of disorders of lipid metabolism in certain population groups. **Topic 2: Diagnosis of cardiovascular disease at the outpatient stage.** Diagnosis of coronary heart disease (CHD) - ECG stress test, the pharmacological tests, the stress magnetic resonance imaging (MRI) techniques rentgenoangiograficheskie - coronary angiography, ventriculography), isotopic methods. **Topic 3. Hypertensive heart disease in the practice of the district general practitioner.** Hypertensive heart disease: definition, risk factors, classification, clinical characteristics. Complications of hypertension, indications for hospitalization. Tactics of general practitioner clinics in newly diagnosed hypertension. Mandatory laboratory and instrumental methods. Possibilities of inspection in the clinic to identify the

		causes of hypertension, the role of modern non-invasive examination methods. Treatment on an outpatient basis depending on the risk. Principles of choice of drug therapy. disability examination. Spa treatment. clinical examination. Prevention. Criteria and refractory severe hypertension, treatment **Topic 4. The syndrome of pain in the left side of the chest in ambulatory practice** Differential diagnosis of chest pain and coronary noncoronary genesis. The main distinguishing criteria coronary pain. Noncardiac causes of chest pain: cervical-thoracic osteochondrosis, pleural disease, hiatal hernia, diseases of the abdominal cavity. **Topic 5. Coronary heart disease in the practice of general practitioner.** Determining risk factors classification. Indications for hospitalization of patients with coronary artery disease. Treatment of coronary heart disease in the outpatient setting. Indications for surgical treatment of coronary artery disease. disability examination. Spa treatment. Primary and secondary prevention. Clinical examination. **Topic 6. Rehabilitation of patients after myocardial infarction at the outpatient stage.** anagement of patients with myocardial infarction after discharge from hospital. The objectives of rehabilitation of patients with myocardial infarction at a polyclinic stage. Types of rehabilitation Psychological, social and occupational rehabilitation. Features of the rehabilitation of patients after surgery coronary artery bypass grafting (CABG). disability examination. Clinical examination. Secondary prevention. Spa treatment in rehabilitation of patients.

		Topic 7. Vegetative-vascular dystonia in the practice of the district general practitioner. Definition, etiology and predisposing factors, pathogenesis. Diagnostic criteria. Volume survey. Classification, formulation of diagnosis. Indications for hospitalization. Treatment in outpatient settings. Examination of temporary disability and its duration. An employment forecast. Spa treatment. **Theme 8. Myocarditis and cardiomyopathy, management of patients in the outpatient setting.** Determining risk factors, classification, clinical manifestations, examination methods for diagnosis. Indications hospitalization, management of patients in outpatient conditions. disability examination. Clinical examination. Secondary prevention. Spa treatment of these diseases. **Topic 9. Chronic heart failure (CHF) - management of patients in an outpatient setting** Determining risk factors, classification, cus-nical picture. Diagnosis, clinical at-signs. Echocardiography in the diagnosis of heart failure. CHF treatment at the outpatient stage. Indications gospitilizatsii, the role of day hospital at home treatment of this pathology. Supportive therapy, the tactics of its implementation. disability examination. Rehabilitation measures. Clinical examination. **Topic 11. Antithrombotic therapy in outpatient practice in patients with stable manifestation of atherothrombosis.** What is atherothrombosis and its clinical manifestations. Antithrombotic therapy as a

		component of pathogenetic treatment of atherothrombosis. Drugs that inhibit the function of platelets and the coagulation cascade. Antithrombotic therapy in patients with coronary artery disease and stable angina. Antithrombotic therapy in patients after acute coronary syndromes. Antithrombotic therapy in patients undergoing percutaneous coronary intervention (PCI). Antithrombotic therapy in patients undergoing coronary artery bypass surgery and coronary artery bypass grafting mamma. Antithrombotic therapy in patients with CHF. Antithrombotic therapy in patients with essential hypertension (EH). Antithrombotic therapy in patients with atrial fibrillation (AF). **Topic 12. Management of patients with heart valve defects in the outpatient.** Determining risk factors, classification, clinical picture. Methods of diagnosis. Management of patients on outpatient. Indications for hospitalization. Indications for referral to surgical treatment of malformations. disability examination.
2	Diseases of the digestive system in outpatient practice.	**Topic 1. Methods for diagnosing diseases of the gastrointestinal tract at the outpatient stage.** Fibrogastroduodenoscopy (EGD), rentgenolo-ronmental, endoscopy, ultrasound, methods of diagnosing Helicobacter pylori. **Topic 2. The syndrome of abdominal pain and dyspeptic syndrome.** he causes of abdominal pain: inflammatory, functional, obstructive, hemodynamic instability, and their main features. The content of the concepts of gastric, pancreatic and

		intestinal dyspepsia. The role of the violations of the secretory and motor function of the stomach, intestines and pancreas in the occurrence of dyspeptic disorders. Diseases manifested by diarrhea or constipation. The differential diagnosis of the main diseases associated with abdominal pain, and dyspepsia. Management of patients at the outpatient stage. **Topic 3. Helicobacter related diseases.** Gastroesophageal reflux disease (GERD), chronic gastritis, gastric ulcer and duodenal ulcer. Determining risk factors, prevalence, clinical picture, Methods of Helicobacter diagnostics in an outpatient setting. The volume of laboratory and instrumental examination. Formulation of a diagnosis in accordance with the modern classification. Treatment of the patients in the outpatient setting. Differentiated treatment of various types of gastritis (diet, medication and non-pharmacological therapy in the exacerbation of the disease). Tactics of outpatient physician in the event of complications during gastric ulcer and duodenal ulcer (bleeding, pyloric stenosis, penetration, perforation). Indications for hospitalization. Anti-relapse treatment, including spa. disability examination. Clinical examination. Primary and secondary prevention **Topic 4. Biliary dyskinesia and chronic calculous cholecystitis in outpatient practice.** Determining risk factors classification. Clinic hyper hypokinetic and biliary dyskinesia, their diagnosis and differential treatment. disability examination. Symptoms of chronic calculous cholecystitis not varying degrees of

		severity; diagnosis and treatment of this pathology. disability examination. Prevention, health examinations and health resort treatment for diseases of data. **Topic 5. Chronic hepatitis and cirrhosis of the liver in the practice of physician** Definition. Risk factors. Classification hepatitis.. Diagnostic criteria for hepatitis. Hepatitis treatment on an outpatient basis. The clinic, diagnosis, classification of liver cirrhosis (LC), the wording of the diagnosis. CPU treatment on an outpatient basis. Treatment of exacerbations of the CPU, the indications for hospitalization. Examination of temporary and permanent disability Medical e[amination patients with CKD. Sanatorium stage of rehabilitation of patients with liver cirrhosis. **Topic 6. Functional colonic disease in ambulatory practice** Irritable bowel syndrome, etiology, differential diagnosis with chronic colitis. Treatment of these patients at the outpatient stage. Prevention. disability examination. Clinical examination. Spa treatment.
3	Diseases of the urinary system in outpatient practice.	**Topic 1. Diagnosis of urinary pathology at outpatient settings.** The definition of "urinary syndrome." Types of disorders of the urinary sediment. Differential diagnosis mo-chevogo syndrome in outpatient therapist. Methods of study of urinary sediment. **Theme 2. Acute and chronic glomerulonephritis - treating patients on an outpatient basis** Determining risk factors, classification. Clinical forms and variants of acute glomerulonephritis. Clinical and laboratory criteria.

		Management of patients on outpatient (diet, medical therapy after discharge from the hospital). disability examination. Clinical examination. The role of spa treatment and chronic disease prevention measures. Clinical classification of chronic glomerulonephritis. Options for the course and their clinical and laboratory characteristics, methods of instrumental examination. Indications for hospitalization. Principles of treatment in an outpatient setting. disability examination. Preventing exacerbations (diet, drug therapy, spa treatment). clinical examination . **Topic 3. Chronic pyelonephritis in the practice of the district general practitioner.** Clinical manifestations of chronic pyelonephritis. The volume of laboratory and instrumental examination, allowing to diagnose this pathology. Treatment during an exacerbation and remission (diet, medication and non-drug therapy). Indications for hospitalization. disability examination. Place spa treatment in the management of patients. Clinical examination. **Topic 4: Management of patients with chronic kidney disease (CKD) in the outpatient setting.** Determining risk factors, classification. Clinic of chronic kidney disease: complaints of the patient, medical history data, functional, and laboratory and instrumental studies. CKD progression factors. Complications of CKD. Treatment. The wording of the diagnosis. Indications for hospitalization in a specialized hospital hospital. Indications for hemodialysis and peritoneal dialysis. Clinical examination. disability examination.

4	Blood disorders in outpatient practice.	**Topic 1. Anemia in practice of the therapist.** Definition. Clinical characteristics of anemia. Modern classification of anemias. Laboratory diagnosis of this syndrome. Plan obsledo-tion of the patient with anemia. Iron-deficiency anemia. Risk factors. The diagnostic criteria of iron deficiency anemia. Clinical signs giposideroza. Causes of iron deficiency in the body. Laboratory findings. Treatment and control of the effectiveness of iron therapy on an outpatient basis. disability examination. Primary and secondary prevention. Clinical examination. B12 deficiency anemia. Causes of vitamin B12 deficiency. Clinical manifestations of lesions of the digestive and nervous system, changes in hematological parameters. Diagnostic criteria. Current pathology, treatment of community-acquired on stage. disability examination. Clinical examination.
5	Respiratory disease in outpatient practice	**Topic 1: Diagnostic pathology of bronchopulmonary system in the outpatient practice** Methods of diagnosing pathology of bronchopulmonary system in the practice of general practitioner. Indications, contraindications, results Interpretation (spirography, bronchoscopy, computed tomography, sputum examination) **Topic 2. Acute respiratory infections in outpatient practice** Determining risk factors, classification. Clinical features of influenza and other respiratory infections (rhinovirus, adenovirus, respiratory syncytial in-infection, parainfluenza). Possibilities of differential-tsirovaniya on an outpatient basis. Treatment indications

		for hospitalization, examination of temporary disability and its duration. Criteria for recovery and vocational rehabilitation. Primary prevention. Patients subject to dispensary observation. **Topic 3. Tonsillitis** etermining risk factors, classification. The clinical course. Methods of diagnosis. Examination of the patient with angina. Leche-of medication and non-drug, general and local. The tactics of the local therapist in suspected diphtheria and positive culture from the throat. Complications of tonsillitis - early and late. Temporary disability in angina and its timing. Clinical examination. **Topic 4: Community-acquired pneumonia - keeping patients on an outpatient basis** Determining risk factors, classification. Early symptoms of pneumonia. Physical findings, the volume of laboratory and instrumental examination. Indications for treatment at home, in day care and hospitalization. Organization of hospital at home. The choice of antibiotic therapy and assessment of its effectiveness. Anti-inflammatory therapy and non-drug therapies. Examination of disability, the criteria for recovery and rehabilitation. Clinical examination - the volume of activities, depending on the outcome of treatment. Prevention. **Topic 5. Chronic diseases of the respiratory system - keeping patients on an outpatient basis** Determining risk factors, classification. Chronic obstructive pulmonary disease (COPD), bronchial asthma (BA) examination as an outpatient procedure for diagnosis and forms of the disease. Treatment of

		asthma in the interictal period and cupping in the outpatient setting. Treatment of COPD in an outpatient setting. Indications for hospitalization. disability examination. The tactics of the local therapist in cases of suspected professional nature of the disease. Clinical examination of the patient. Primary and secondary prevention. Spa treatment. Early manifestations of respiratory failure and pulmonary hypertension, the methods of detecting them ..
6	Diseases of the joints in the outpatient practice.	**Topic1. The joint syndrome in outpatient practice** Inflammatory and non-inflammatory joint lesions. Acute, subacute and chronic arthritis, laboratory and instrumental data confirming the diagnosis of arthritis. Rheumatoid arthritis. Its most typical clinical manifestations. Diagnostic criteria for pathology and the degree of activity of the process. Indications for hospitalization. Management of patients at the out-of-hospital stage, the place and role of Spa treatment. Examination of working capacity. Prophylactic medical examination. Deforming osteoarthritis. Factors predisposing to the development of deforming primary and secondary osteoarthritis. Diagnostic criteria for pathology (clinical symptoms, laboratory and instrumental examination data). The course of pathology. Treatment on an outpatient basis. Examination of working capacity. Secondary prevention. Prophylactic medical examination. Gout. Articular lesions. Scope of examination to confirm the diagnosis. Treatment. Examination of working capacity. Prevention.
7	The most important syndromes in the clinic of internal diseases.	**Topic 1. Subfebrility and febrile syndrome in the practice of a district**

		General practitioner Possible reasons for the prolonged rise in body temperature so-: focal infection and generalizing-bathrooms, connective tissue disease, paraneo-plastic processes, systemic blood diseases, lymphoproliferative processes, Aller-ronmental reaction. The most common practice in GP infectious diseases: typhoid, paratyphoid group, brucellosis, "children's" in-infection in adults; their diagnosis. Tactics local therapist to identify them. Infective endocarditis, its diagnosis. Clinic connective tissue diseases, co-accompanied by fever and methods of diagnosis. Low-grade fever and fever with paraneoplastic processes. Scope survey for diagnosis. Tactics GP in establishing these pathologies. Lymphoproliferative disorders as a cause of fever, their diagnosis. physician tactics. Fever, lymphadenopathy, weight loss and other symptoms suggestive of HIV - infection. Survey methods for diagnosis
8	Endocrine diseases in outpatient practice	**Theme 1. Type 2 diabetes in the practice of the district therapist.** arly symptoms of diabetes. Physical findings, the volume of laboratory and instrumental examination. Drug-free treatment of diabetes. Diet therapy. Oral hypoglycemic agents: classification, mechanism of action, indications, contraindications, complications. Insulin: Insulin types of drugs, mechanism of action, indications, counter-indications, complications. Indications for hospitalization. Organization of hospital at home. Complications. disability examination. Clinical examination. Prevention.

9	Somatic illness in outpatient practice in certain groups of the population.	**Topic 1. Features of geriatric patients with medical conditions in the outpatient setting. The use of drugs in the elderly. Geriatric Rehabilitation.** Age grading. Disease, the most common of these ages. The course of systemic diseases, treatment differs from treatment at a younger age. The social aspects of disability in these age groups. Questions of ethics and deontology. The use of drugs. Risk factors for complications of medication. Geriatric Rehabilitation. Its types (medical, geriatric care, social, educational, economic, professional **Topic 2. Oncological vigilance in GP work.** Questions of diagnosis of cancer in the analysis of syndromes and clinical entities in terms of differential diagnosis, the dynamic of follow-up and implementation of preventive examinations. Possible symptoms and reliable, allowing suspected oncological causes lung, stomach, intestine, thyroid gland, mammary gland. The examination program. The role of biochemical, enzyme immunoassay, endoscopy, ultrasound, O-ray (X-ray, tomography, magnetic resonance imaging) examination methods in establishing the diagnosis. **Topic 3. Management of patients with somatic diseases during pregnancy.** Women's Health. Medical (therapeutic profile) indications for abortion. Principles of pregnant women suffering from rheumatism, acquired heart diseases, hyper-pertonicheskoy disease, kidney disease, diabetes, anemia (especially examination and treatment in various stages of pregnancy)

5.2. Sections and types of studies

№	Name of discipline		L	s	p	lbp	Ср	uw	sbp	total
1	2		3	4	5	6	7	8		9
1	. Fundamentals of outpatient care and public health prevention.	Fundamentals of outpatient medical care.	6	-	-	-	15	10		Л - 18 ПЗ – 50 СР – 33 Итого - 101
		Medical prevention.	4	-	-	-	30	10		
		Fundamentals of expertise disability	6	-	-	-	10	10		
		Evaluation of the quality of care at the outpatient stage.	2	-	-	-	-	3		
2.	Emergency care in the prehospital phase.	Urgent states in the prehospital phase.	4	-	-	-	15	-		Л – 22 ПЗ – 50 СР – 40 Итого - 112
		Emergency conditions in cardiology in the prehospital phase.	6	-	-	-	20	14		
		Assistance in urgent situations in pulmonology in the prehospital phase.	-	-	-	-	10	8		
		Help in case of emergency in gastroenterology in the prehospital phase.	4	-	-	-	-	4		
		Help with urgent conditions in urology and nephrology in the prehospital phase.	2	-	-	-	-	2		
		Hyperthermic syndrome prehospital.	2	-	-	-	-	-		
		Emergency care for acute allergoses prehospital.	-	-	-	-	5	-		
		First aid at komah prehospital.	4	-	-	-	-	2		
		The damaging effect of physical factors (burns, hypothermia, electrical accident, drowning)	-	-	-	-	-	10		

3	Internal illnesses.	Diseases of the cardiovascular system in outpatient practice.	12	-	-	-	25	6		Л – 38 ПЗ – 85 СР – 60 Итого - 183
		Diseases of the digestive system in outpatient practice.	8	-	-	-	10	10		
		Diseases of the urinary system in outpatient practice.	4	-	-	-	15	4		
		Blood disorders in outpatient practice.	2	-	-	-	5	6		
		Respiratory disease in ambulatory practice.	4	-	-	-	15	10		
		Diseases of the joints in the outpatient practice.	2	-	-	-	5	4		
		The most important syndromes in internal medicine at the outpatient stage.	2	-	-	-	-	8		
		Endocrine diseases in outpatient practice.	-	-	-	-	5	6		
		Somatic illness in outpatient practice in geriatric patients and pregnant women.	4	-	-	-	-	6		
			-	-	-	-	-	-		

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

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

№ п/п	Name of the course section	Interactive forms of studies	Duration (hours)
1	Medical prevention	The game "Custom Game" on "Immunization of adult population of Russia."	
2	Medical prevention.	Round table on the topic: "Nine healthy lifestyle drugs" "Lifestyle - seven good habits"	2
3	Medical prevention	The game "Telephone Health"	1
4	Medical prevention.	The game "FAQ" The epidemiology of NCDs, risk factors and their correction.	3
5	Diseases of the internal organs.	The game "FAQ" on "Diabetes"	3
6	Diseases of the internal organs.	"Custom Game" on "Hypertension"	3
7	Diseases of the internal organs.	Analysis of the clinical situation of the diagnosis on the topic: "CHD"	3
8	Diseases of the internal organs.	Analysis of the clinical situation with the statement relating to the diagnosis of "COPD, bronchial asthma"	3
9	Diseases of the internal organs.	The decision of situational problems on "hypertensive crisis".	2.5
10	Diseases of the internal organs.	The decision of situational problems on "Atrial fibrillation".	2.5
11	Diseases of the internal organs.	The decision of situational problems on the theme "On the outpatient clinic patients with chronic heart failure."	2.5
12	Diseases of the internal organs.	The game "calculate the dose statin"	1
13	Diseases of the internal organs.	Problem Solving "Assign an anticoagulant?"	2
14	Diseases of the internal organs.	The game "FAQ" on "community-acquired pneumonia"	2.5
15	Diseases of the internal organs.	The game "FAQ" on "Evaluation of disability CRF and CGN"	2.5
16	Неотложная помощь на догоспитальном этапе	The decision of situational problems on "Gasometer arterial blood and pulse oximetry"	2
17	Emergency care in the prehospital setting	Production of case scenarios on "defibrillation rhythms"	3.5
18	Emergency care in the prehospital setting	Production of case scenarios on "Tachycardia"	3.5
19	Emergency care in the prehospital setting	Production of case scenarios on "Bradycardia"	3.5
20	Emergency care in the prehospital setting	Production of case scenarios on the theme "Do not defibrillation rhythms"	3

21	Emergency care in the prehospital setting	Its game on "Potentially reversible causes FOC"	2
22	Emergency care in the prehospital setting	The game "question-answer" on the theme "Monitoring the cardiac ECG"	2
23	Emergency care in the prehospital setting	The game "to determine the rhythm of"	1,5
24	Emergency care in the prehospital setting	The game "question-answer" on "airway"	1,5
Total (hours)			67ч.
Total (% of in-class learning)			36%

7. Listofteaching materials forthecourse unsupervised workofstudents (including the use of e - learning opportunities, distance learning technologies (Moodle))
The list of educational and methodological support for independent work of students in the discipline, including the use of e-learning and distance learning technologies (СДО Moodle)

The educational process of the discipline \ «Outpatient therapy» provides for 133 hours of extracurricular independent work of students

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

Complies with all sections of the discipline:

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

Types of independent work:

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

Independent work control methods:

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

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

№ п/п	Name of the module	Types of independent work	Hours	Forms of control
10 semester				

1	Basics of the organization of outpatient care for the population and medical prevention.	Students should study the legal documents of the Ministry of Health of RF Students should study the primary medical documentation of the territorial district.	22	Testing Checking the filling out of the documentation of the general practitioner (sick leave papers, referrals for hospitalization, referrals for sanatorium treatment; referrals to specialists)
		Filling out a sick-leave form, prescription forms, referrals for hospitalization, referrals for sanatorium treatment; referrals to specialists.	5	
		Total	27	
11 – 12 semester				
2	Internal diseases	Work along with GP at the outpatient setting	30	Checking an individual diary (work with GP) Task evaluation Testing Review of the interpreted ECG Related topic reports
		Filling out an individual diary	20	
		ECG reading	2	
		Independent solution of situational tasks (internal medicine)	9	
		Preparation for test control of internal diseases	5	
		Self-study of medical literature followed by writing an abstract on the topic of your choice (topics are given below)	25	

		Total	91	
12 semester				
3	Emergency care at the prehospital stage	ECG reading	5	Проверка расшифрован-ных ЭКГ Test control
		Preparation for test control of emergency care at the prehospital stage	10	
		Total	15	

8. Forms of control

8.1. Current forms of control

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

A subject list of abstracts, reports, essays, tests, term papers, test collections and cases are shown at the section «Assessment tools».

8.2. 8.2. Forms intermediate certification (comprehensive exam)
Stages of the exam

1. Stage - final testing

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

Questions for a pass/fail test and examination are listed at the section «Assessment tools».

9.Library and information materials of the course

9.1. Compulsoryliterature

	Siegenthaler W. Differential Diagnosis in Internal Medicine: From Symptom to Diagnosis [Электронныйресурс]/ W. Siegenthaler: Thieme, 2007- URL: https://medone-education.thieme.com/ebooks/2193980?fromSearch=true#/ebook_2193980_SL83144759	**Эл.изд.**	Ссылку скопировать и вставить в строку поиска в браузере
	Steffers G. General Pathology and Internal Medicine for Physical Therapists [Электронныйресурс] : учебник/ G. Steffers, S. Credner. -1st ed.: Thieme, 2012- URL: https://medone-education.thieme.com/ebooks/2093236?fromSearch=true#/ebook_2093236_SL80475533	**Эл.изд.**	Ссылку скопировать и вставить в строку поиска в браузере

	Поликлиническая терапия [Электронный ресурс] : учебник/ ред.: И. Л. Давыдкин, Ю. В. Щукин. -Москва: ГЭОТАР-Медиа, 2016. -688 с.- URL: http://www.studentlibrary.ru/book/ISBN9785970438213.html	**Эл.изд.**	
	Сторожаков Г.И. Поликлиническая терапия [Электронный ресурс] : учебник/ Г. И. Сторожаков, И. И. Чукаева, А. А. Александров. -2-е изд., испр. и доп.. - Москва: ГЭОТАР-Медиа, 2013. -640 с: граф., табл.- URL: http://www.studmedlib.ru/book/ISBN9785970425015.html	**Эл.изд.**	

9.2. Supplementaryliterature

	Арутюнов Г.П. Диагностика и лечение заболеваний сердца и сосудов [Электронный ресурс] : учебник/ Г. П. Арутюнов. -Москва: ГЭОТАР-Медиа, 2013. -504 с.- URL: http://www.studentlibrary.ru/book/ISBN9785970423011.html	**Эл.изд.**	
	Сердечная Е. В. Диспансеризация взрослого населения [Электронный ресурс] : методические рекомендации/ Е. В. Сердечная, С. В. Юрьева, Т. Б. Романова. -Архангельск: Изд-во Северного государственного медицинского университета, 2016. -48 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/C%2032-012287	**Эл.изд.**	
	Сердечная Е. В. Поликлиническая терапия: экспертиза временной нетрудоспособности [Электронный ресурс] : метод. рекомендации для студентов V и VI курсов лечеб. факультета/ Е. В. Сердечная, С. В. Юрьева, А. С. Фомина. -Архангельск: СГМУ, 2014. -44 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/C%2032-948032	**Эл.изд.**	

9.3. Listofthe Internet resourcesrequired for mastering of the course (module)*

- specific sites and web portals;
- digital collections, digital libraries, data bases and etc.;
- specialized programs, video films, audio recordings.

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

- software: certified, licenseprogramsofgeneralandeducationalassignment, information & reference systems – Garant, Consultant and etc.

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа № 2102 имени Н.П.Бычихина, административный учебный корпус, 1 этаж *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* проектор, моноблок, экран, колонки *в) перечень учебно-наглядных пособий:* схемы, таблицы *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номерлицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 32, 4 этаж Договор № 372 от 16.05.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская городская клиническая поликлиника №1». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихсяна 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, табличный и справочный материал по темам. *г) используемое программное обеспечение:* KasperskyendpointSecurity. № лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163061, Архангельская область, г. Архангельск, Троицкий проспект, д. 99
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных	163002, Архангельская область, г. Архангельск, ул. Северодвинская, д. 16

консультаций, текущего контроля и промежуточной аттестации № 52, 4-й этаж Договор № 179 от 01.03.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская городская клиническая поликлиника № 2». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, табличный и справочный материал по темам. *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Симуляционный класс № 430, учебный корпус 4 этаж: Кабинет здорового человека и его окружения для отработки навыков. *а) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины ростомер, весы электроннт Сивцева, Компьютерный стол, столик манипуляционный МСК-549-02-МСК", аппарат ЭКГ, робот-симулятор симптомов инсульта, фантом-симулятор чел.для отоскопии, фантом человека для отоскопии, симулятор пальпации виртуальный, тренажер для отработки навыков записи и интерпретации ЭКГ в 12 отведениях с возможностью выполнения дефибриляции и манипуляций на дыхательных путях, тренажер аускультации взрослого человека, тренажер постановки клизм и внутримышечных инъекций, фантом для обследования предстательной железы чел., фантом груди человека для обследования молочных желез, манекен-имитатор пациента электронный, экстрактор вакуумный "Вакус"7208, дефибриллятор, фантом-симулятор чел.для ретинопатии, тренажер офтальмоскопии.	163001, г. Архангельск, просп. Троицкий, д. 180
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 410 учебный корпус, 4 этаж (кабинет для дебрифинга) *а) перечень основного оборудования:*	163001, г. Архангельск, просп. Троицкий, д. 180

Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 12 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор, телевизор, колонки, маркерная доска *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	

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 26th 2020

SYLLABUS OF THE DISCIPLINE

Discipline **Anesthesiology and Intensive Care**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI / 12**
Form of the interim assessment **Examination**
Department **of Anesthesiology and Intensive Care**
Discipline workload **144** (academic hours) / **4** (credits)

Approved at the department meeting
Minutes No.
June 18th 2020
Head of the department
M.Y. Kirov

Authors and compilers:
Kirov Mikhail Yurievich, Head of the Department of Anesthesiology and Intensive Care, Professor of the Department of Anesthesiology and Intensive Care, Doctor of Medical Sciences; Hussain Ayyaz, Assistant Professor of the Department of Anesthesiology and Intensive Care, Candidate of Medical Sciences; Smetkin Alexey Anatolievich, Assistant Professor of the Department of Anesthesiology and Intensive Care, Candidate of Medical Sciences

Arkhangelsk, 2020

1. Purpose and objectives of the course

Goal of the discipline	The goal of the discipline is to obtain knowledge and skills for the prevention, diagnosis and providing first and qualified medical care to patients who are in critical condition and providing perioperative patient protection.
Tasks of the discipline	- obtainment of modern knowledge of the pathogenesis of critical conditions and lesions of homeostasis related to the surgery; - development of modern means and methods of prevention of critical conditions; - development of modern means and methods of clinical, laboratory and instrumental diagnostics of critical states; - development of modern pharmacology and hardware tools and methods for providing first and qualified medical care to patients in critical condition; - development of modern pharmacology and hardware tools and methods for the prevention and treatment of disorders of perioperative homeostasis.

2. Location of the course within the educational program (EP)
Block 1. Basic part.
Anesthesiology, resuscitation and intensive care refers to the professional disciplines of the cycle. For the study of discipline students should be formed with basic knowledge of human anatomy, normal and pathological physiology, histology and pathological anatomy, pharmacology. The knowledge and skills acquired by students in the study of anesthesiology, intensive care, will be needed in the study subjects of professional cycle such as surgery, internal medicine, infectious diseases, and others.

3. The list of planned learning outcomes on the discipline, correlated with the results of the planned development of an educational program
Competences formed as a result of the course mastering:

Professional competencies (PC)
PC-1 (Be ready to implement a set of measures that are aimed at preserving and strengthening people's health. These activities include formation of a healthy lifestyle, prevention the appearance of illness or the spread of diseases, early diagnosis of diseases, identifying the causes and conditions for their occurrence and development. Be ready to implement activities that are aimed at eliminating the harmful effects of the environment on human health)
to know pharmacodynamics and pharmacokinetics, indications, contraindications to the prescription of drugs
-to be able to choose an individual type of care for the patient, be able to develop a plan of therapeutic actions taking into account the course of the disease and its treatment;
- to possess the skills of using medicines in the treatment, rehabilitation and prevention of various diseases and pathological conditions
- to master the possible complications of pharmacotherapy

PC-5 (readiness to collect and analyze patient's complaints and medical history, examination results, laboratory, instrumental, forensic and other data to understand the patient's condition or recognize the presence or absence of disease)

(1) History-taking and physical examination

Rationale: The ability to obtain an accurate medical history and carefully perform a physical examination is fundamental to providing care to adult patients. In particular, an internal medicine provider must be thorough and efficient in obtaining a history and performing a physical examination in a wide variety of adult patients. This includes healthy adults, adults with acute and chronic medical problems, adults with complex life-threatening diseases, and adults from diverse socioeconomic and cultural backgrounds.

Specific learning objectives:

A. Knowledge: Students should be able to define, describe, and discuss:

4. The significant attributes of a symptom, including: location and radiation, intensity, quality, temporal sequence (onset, duration, frequency), alleviating, precipitating and aggravating factors, setting, associated symptoms, functional impairment, and patient's interpretation of symptom.
5. The four methods of physical examination (inspection, auscultation, palpation, and percussion), including where and when to use them, their purposes, and the findings each can elicit.
6. The physiologic mechanisms that explain key findings in the history and physical exam.

B. Skills: Students should be able to demonstrate specific skills, including:

5. Eliciting the patient's chief complaint as well as a complete list of the patient's concerns.
6. Obtaining a patient's history in a logical, organized, and thorough manner, covering the history of present illness; past medical history; preventive health measures; social, family, and occupational history; and review of systems.
7. Demonstrating proper hygienic practices whenever examining a patient.
8. Performing a physical examination in a logical, organized, respectful, and thorough manner, giving attention to the patient's general appearance, vital signs, and pertinent body regions.

C. Attitudes and professional behaviors: Students should be able to:

4. Recognize the essential contribution of a pertinent history and physical examination to patient care.
5. Establish a habit of updating historical information and reevaluating pertinent important parts of the physical examination during follow-up visits.
6. Demonstrate consideration for the patient's feelings, limitations, and cultural and social background at all times, more so whenever taking a history and performing a physical exam.

(2) Interpretation of clinical information

Rationale: In the routine course of clinical practice, most physicians are required to order and interpret a wide variety of diagnostic tests and procedures. Determining how these test results will influence clinical decision making and communicating this information to patients in a timely and effective manner are core clinical skills that the last-year medical students should possess.

Specific learning objectives:

A. Knowledge: Students should be able to:

5. Interpret specific diagnostic tests and procedures that are ordered to evaluate patients who present with common symptoms and diagnoses encountered in the practice of internal medicine.
6. Take into account the important differential diagnostic considerations, including potential diagnostic emergencies.
7. Define and describe for the tests and procedures listed:
    a. Indications for testing.
    b. Critical values that require immediate attention.

8. Independently interpret the results of the following laboratory tests:
    a. CBC with diff and blood smear, UA, electrolytes, BUN/Cr, glucose, liver enzymes, viral hepatitis serologies, cardiac biomarkers (e.g. CK-MB, troponin), PT/INR, PTT, thyroid function tests, arterial blood gases, pulmonary function tests.

B. Skills: Students should be able to demonstrate specific skills, including:

4. Interpreting a blood smear, Gram stain, and chest X-ray
5. Approaching ECG interpretation in a systematic and logical fashion analyzing the following: rate, rhythm, P wave morphology, PR interval, QRS width, axis, voltage, QT interval, ST segment morphology, and T wave morphology.
6. Recording the results of laboratory tests in an organized manner, using flow sheets when appropriate.

C. Attitudes and professional behaviors: Students should be able to:

3. Appreciate the importance of follow-up on all diagnostic tests and procedures and timely communication of information to patients and appropriate team members.
4. Personally review medical imaging studies, ECGs, Gram stains, blood smears, etc. to assess the accuracy and significance of the results.

(3) <u>Case presentation skills</u>

Rationale: Communicating patient care information to colleagues and other health care professionals is an essential skill regardless of specialty. Students should develop facility with different types of case presentations: written and oral, new patient and follow-up, inpatient and outpatient.

<u>Specific learning objectives:</u>

A. Knowledge: Students should be able to define, describe, and discuss components of comprehensive and abbreviated case presentations (oral and written) and settings appropriate for each.

B. Skills: Students should be able to demonstrate specific skills, including:

3. Prepare legible, comprehensive, and focused new or follow-up patient reports that include the following features as clinically appropriate:
    a. Concise history of the present illness organized chronologically with minimal repetition, omission, or extraneous information, and including pertinent positives and negatives.
    b. A comprehensive physical examination with detail pertinent to the patient's problem.
    c. A succinct, prioritized, and, where appropriate, complete list of all problems identified by the history and physical examination.
    d. A differential diagnosis for each problem (appropriate for the student's level of training).
    e. A diagnostic and treatment plan for each problem (appropriate for the student's level of training).
4. Orally present a new or follow-up inpatient's or outpatient's case in a logical manner, chronologically developing the present illness, summarizing the pertinent positive and negative findings as well as the differential diagnosis and plans for further testing and treatment.

C. Attitudes and professional behaviors: Students should be able to:

3. Demonstrate ongoing commitment to improving case presentation skills by regularly seeking feedback on presentations.
4. Accurately and objectively record and present all data.

<u>PC-6</u> (ability to recognize patient's major pathological conditions, symptoms, syndromes, nosological forms in accordance with the International Statistical Classification of Diseases and Related Health Problems, 10th revision)

Diagnostic decision-making

Rationale: Physicians are responsible for directing and conducting the diagnostic evaluation of a broad range of patients, including patients seeking advice on prevention of and screening for disease and patients with acute and chronic illnesses. In a time of rapidly proliferating tests, medical students must learn how to design safe, expeditious, and cost-effective diagnostic evaluations. This requires diagnostic decision-making skills that incorporate probability-based thinking.

Specific learning objectives:

A. Knowledge: Students should be able to define, describe, and discuss:

4. Key history and physical examination findings pertinent to the differential diagnosis.
5. Information resources for determining diagnostic options for patients with common and uncommon medical problems.
6. How critical pathways or practice guidelines can be used to guide diagnostic test ordering.

B. Skills: Students should demonstrate specific skills, including:

5. Identifying problems with which a patient presents, appropriately synthesizing these into logical clinical syndromes.
6. Identifying which problems are of highest priority.
7. Formulating a differential diagnosis based on the findings from the history and physical examination.
8. Using the differential diagnosis to help guide diagnostic test ordering and sequencing.

C. Attitudes and professional behaviors: Students should be able to:

3. Seek feedback regularly regarding diagnostic decision-making and respond appropriately.
4. Recognize the importance of and demonstrate a commitment to the utilization of other health care professionals in diagnostic decision making.

4. Volume of the course and types of academic work:

Total workload of the course is _ **4** _ credits.

	Type of the academic work	**Total hours**	**Term**
Discipline workload (in academic hours)	Lectures (L)	14	12
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	40	12
	Laboratory-based practicals (LBP)		
	Simulation-based practicals (SBP)		
	Preparation for the examination (PE)	33,7	12
	Preparation for the credit (PC)		
	Exam consultations (EC)	2	12
	Coursework (CW)		
	Unsupervised work (UW) (total)	54	12
	Examination control (EC)	0,3	12
	Total course workload	**144**	**12**

5. Course content:

5.1 Content of the course sections

No	Name of the course section	Content of the section
1	Anesthesiology	The protection of the patient from surgical aggression and prevention of complications related to the surgery and anesthetic. Stages of general anesthesia. Components of general anesthesia. Early postoperative period.
2	Resuscitation	The issues of prevention, diagnosis and care for sudden cardiac arrest (basic life support and advanced life support), issues post-resuscitation therapy.
3	Intensive care	The issues of prevention, diagnosis and treatment of various critical states: respiratory failure, cardiovascular insufficiency, shock states, neurological disorders, toxicology, *etc.*

5.2 Course sections and types of studies

No	Name of the course section	L	P	S	LBP	CP	Simul	Self-studies	Total hours
1	Anesthesiology	8						4	12
2	Resuscitation	2				5	5	2	14
3	Intensive care	12		10		30		30	82

6. Interactive forms of studies

No	Name of the course section	Interactive forms of studies	Duration (hours)
1	Anesthesiology		
2	Resuscitation	Simulation, role-playing games	5
3	Intensive care	Role-playing, case studies	10
Total (hours)			15
Total (% of in-class learning)			13.9

7. Extracurricular self-studies of students

No	Name of the course section	Types of self-studies	Forms of control
1	Anesthesiology	Working with the recommended literature, performing tasks with a computer	Presentation Power Point , interview
2	Resuscitation	Homework and preparation for current classroom training, work with the recommended literature, performing tasks with a computer	Presentation Power Point , interview, testing
3	Intensive care	Homework and preparation for current classroom training, work with the recommended literature, performing tasks with a computer	Presentation Power Point , interview, testing

8. Forms of control

8.1. Current forms of control

- Oral (an interview)
- Written (tests, abstracts, solving of practical tasks).

8.2. Forms of interim attestation (pass/fail test)

Stages of examination (pass/fail test)

1. Stage - ____ testing _____
(name of the stage)
2. Stage - ____ solving of situational problems
(name of the stage)
3. Stage - ____ demonstration of practical skills
(name of the stage)

9. Maintenance of the course

9.1 Compulsory course literature

1. Bruce McCormick Update in Anaesthesia: Special Edition Intensive Care Medicine / Bruce McCormick – The journal of world federation of societies of anesthesiologists, 2012.

2. Keith Killu Fundamental Critical Care Support / Keith Killu, Babak Sarani – Society of critical care medicine, 2017. Вып. 6– 417с.

3. Kirov M.Basics of intensive therapy and anesthesiology in diagrams and tables / M. Kirov – Northern state medical university, 2019. Вып. 6– 269с.

4. Paul L. Marino Marino’s The Little ICU Book / Paul L. Marino, Samuel M. Galvagno – Wolters Kluwer Health, 2017. Вып. 2– 904с.

5. Ronan H. Critical Care Medicine / H. Ronan – Foster Academics, 2019.– 199с.

6. Основы интенсивной терапии и анестезиологии в схемах и таблицах [Электронный ресурс] : учебное пособие/ М. Ю. Киров [и др.] ; [ред.: М. Ю. Киров, В. В. Кузьков]. - Архангельск: Изд-во Северного государственного медицинского университета, 2018. -256 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/%D0%9E-75-310174

9.2. Supplementary course literature

1. Actual problems of anesthesiology and resuscitation [Text]: a refreshing lectures: [trans. from English. lang.]. - Arkhangelsk: Pravda Severa. Vol. 16 / Congress of the European Society of Anesthesiologists Euroanasthesia - 2010 (12-15 June 2010, Helsinki, Finland)! ; ed. EV Nedashkovsky. - 239 p. : Ill., Tsv.il.
2. Algorithms action in critical situations in anesthesiology: rivers. Vsemir. Feder. o-in anesthesiology / World Federation of Societies o Anaesthesiologistis; [ed. Dr. B. McCormick; Ed. EV Nedashkovsky]. - Arkhangelsk, 2011. - 119, [1] s. : Col. Ill.
3. Vorobyov NA. Clinical and laboratory diagnosis of pulmonary thromboembolism [Text]: monograph / NA Vorobyov, IA Ponomareva; M of Health and Human Services. Ros development. Federation North. state. honey. Univ. - Archangel: Saratov State Medical University, 2007. – 135
4. Vorobyov NA. DIC - what's new in the old problem? [Text]: [monograph] / NA Vorobyov; M of Health and Human Services. Ros development. Federation North. state. honey. Univ. - Archangel: Saratov State Medical University, 2006. - 172 p.
5. M. Kirov MY. Acute lung injury in sepsis: pathogenesis and intensive care [text]: [monograph] / MY Kirov, VV Kuzkov, EV Nedashkovsky; M of Health and Human Services. Rus development. Federation; North. state. honey. Univ, Dept. of. Anesthesiology and Intensive Care. - Archangel: SSMU, 2004. - 96 p. : Il
6. Transpulmonary thermodilution and volumetric monitoring of the department of anesthesiology, intensive care unit [Text]: a method. recommendations / MU Kirov, VV Kuzkov et al., 2004. - 23 p.
7. Kolotilov LV. Rare syndromes and diseases in anesthesia practice: a handbook / L.V.Kolotilov, 2001. - 266 p.
8. Martov VY. Drugs in anesthesia: a handbook / VY Martov, 2003. - 304 p.
9. Sumin SA. Emergencies [Text]: studies. A manual for medical students. Universities / SA Sumin. - 6 th ed., Rev. and add. - M: Honey. Inf. Agency, 2006. - 799 p.
10. S. Carenko V. Neuroreanimatologiya. Protocols and algorithms for the treatment of brain injury / SV Carenko AV basket. - Moscow: Medicine, 2009 - 82, [2] p.
11. Алгоритмы действий при критических состояниях в анестезиологии WFSA [Электронный ресурс] : научное издание/ Под ред. Э. В. Недашковского, В. В. Кузькова. -2-е изд., перераб. и доп.. -Архангельск: Северодвинская типография, 2014. -120 с- URL: http://oa.lib.nsmu.ru/view_docs.php?id_doc=421

9.3. Software and Internet resources

http://www.critical.ru/
http://www.medmir.com/
http://www.far.org.ru/
http://www.anesth.ru/
http://rusanesth.com/

9.4. The list of information technologies used for the implementation of the educational process on discipline, including software reference list and information systems

- educational video on the manipulation of emergency and intensive care, developed by New England Journal of Medicine;
- software for simulation of various physiological and pathological conditions;
- videos presented at the YouTube information resource, demonstrating the assistance in case of emergency.

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности,	Адрес (местоположение) помещений для проведения всех видов учебной деятельности,

предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа № 2403 Морской медицины, административный учебный корпус, 4 этаж *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 *в) перечень учебно-наглядных пособий:* схемы, таблицы *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 146, 2 этаж отделение ортопедии Договор № 550 от 05.07.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская областная клиническая больница». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихсяна 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, манекен «взрослый» для отработки основных приемов базовой реанимационной помощи, маннекены для отработки навыков обеспечения свободной проходимости дыхательных путей (постановка воздуховодов, интубация трахеи), набор воздуховодов (орофарингеальных, назофарингеальных), ларингеальных масок, набор интубационных трубок с проводниками, ларингоскоп с набором клинков *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.	163045, Архангельская область, г. Архангельск, проезд Сибиряковцев, д. 15

MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 95, 1 этаж Договор № 710 от 26.09.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Первая городская клиническая больница им. Е.Е. Волосевич». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, манекен «взрослый» для отработки основных приемов базовой реанимационной помощи, набор интубационных трубок с проводниками, ларингоскоп с набором клинков *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163001, Архангельская область, г. Архангельск, пр. Троицкий, д. 143, корп. 1
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 43, 2 этаж Договор № 710 от 26.09.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Первая городская клиническая больница им. Е.Е. Волосевич». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:*	163001, Архангельская область, г. Архангельск, пр. Троицкий, д. 143, корп. 1

Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, манекен «взрослый» для отработки основных приемов базовой реанимационной помощи, набор интубационных трубок с проводниками, ларингоскоп с набором клинков *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Симуляционный класс №412, учебный корпус, 4 этаж: Кабинет основ реаниматологии для отработки навыков *а) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, кровати функциональные кфз-01-мск, кушетка медицинская, тумбочки прикроватные, столик туалетно-пеленальный разборный стпр510м-"мск", стол (1шт.), стул, робот-симулятор vi уровня реалистичности, робот-симулятор взрослого для оказания неотложной помощи, с комплектом(ноутбук и имитатор прикроватного монитора), фантом головы"лари" для интубации на подставке, фантом головы для отработки интубации, на подставке , фантом головы и плеч ребёнка для отработки навыков интубации до 6лет, набор д/интубации kawe .	163001, г. Архангельск, просп. Троицкий, д. 180
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 411, учебный корпус, 4 этаж (кабинет для дебрифинга) *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 16 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор, телевизор, доска маркерная *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163001, г. Архангельск, просп. Троицкий, д. 180

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 26th2020

SYLLABUSOF THE DISCIPLINE

Discipline **Hospital Surgery**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **V-VI / 9-11**
Form of the interim assessment **Examination**
Department **of Surgery**
Discipline workload **288** (academic hours)/**8** (credits)

Approved at the department meeting
Minutes No.
June 18th 2020
Head of the department
B.L. Duberman

Author and compiler:
Rybakova Evgenia Viktorovna, Assistant Professor of the Department of General,
Operative and Hospital Surgery

Arkhangelsk, 2020

1. Goals and tasks of the mastering of the course

Goal of the discipline	The goal of the discipline is to provide students with the necessary information on semiotics, clinic, diagnosis, differential diagnosis of injuries and non-neoplastic surgical diseases of the chest and abdomen, peripheral vessels, surgical pathology and provision of the emergency care for patients with various surgical diseases.
Tasks of the discipline	• to develop students' skills in: • examination of patients with various surgical pathologies; • diagnostics of surgical diseases, injuries of the chest and abdomen; • providing emergency care for patients; • resolving the issues of tactics of the further treatment and observation; • resolving the issues of prevention of the occurrence of surgical pathology and its complications.

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

The program is drawn up following the requirements of the Federal State Education Standard (FSES) in the training field31.05.01«General medicine»:

Block 1. Basic part.

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.

ProfessionalDisciplines, on which knowledge of Hospital Surgeryis based:

- The normalanatomy,normal physiology, pathological anatomy, pathological physiology, general surgery, operative surgeryandtopographic anatomy, pharmacology, faculty therapy, anesthesiology and resuscitation, X-ray diagnostics, public health andhealth organization, trauma and emergency surgery, faculty surgery.

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

Codes of developed competences	**Competences**		
	Know	Be able to (can)	Master (be a master in)
GPC -№	**General professional competences**		
6	how to keep medical documentation (medical cards of out-patient and in-patient	be able to correctly interpret records in medical cards	Be able to draw up a medical history of a patient with

	surgery departments)		thoracic, vascular, or surgical pathology of the endocrine system
PC -№	**Professional competences**		
5	how to collect and analyze complaints and medical history, examination results, laboratory, instrumental, forensic and other data to understand the patient's condition or recognize the presence or absence of the acute and chronic thoracic, peripheral vascular, esophageal, diaphragm surgical pathology; possibility to suppose pancreatic islet cell tumors, adrenal neoplasms, thymomas and thyroid gland surgical pathology in patient	- to take anamnesis (history) of the patient. - to perform examination of patients with acute and chronic thoracic, peripheral vascular, esophageal, diaphragm surgical pathology; possibility to suppose pancreatic islet cell tumors, adrenal neoplasms, thymomas and thyroid gland surgical pathology	- interpretation of results of general examination and analyse results of instrumental and laboratory tests of patients with acute and chronic thoracic, peripheral vascular, esophageal, diaphragm surgical pathology; possibility to suppose pancreatic islet cell tumors, adrenal neoplasms, thymomas and thyroid gland surgical pathology
6	knowledge in recognizing ofpatient's major pathological conditions, symptoms, syndromes, nosological forms in accordance with the International Statistical Classification of Diseases and Related Health Problems, 10th revision	which types of instrumental diagnostic to use depend on disease (select and succession)	interpreting results of instrumental methods and their application to diagnosis of different conditions
8	management of patients with acute and chronic thoracic, peripheral vascular, esophageal, diaphragm surgical pathology, pancreatic islet cell tumors, adrenal neoplasms, thymomas and thyroid gland surgical pathology	be able to explain in a reasoned manner what operation is needed in each specific case for the patient with acute and chronic thoracic, peripheral vascular, esophageal, diaphragm and endocrine surgical pathology	be able to determine indications for operative treatment
10	to know how to provide medical care for sudden acute diseases and conditions, exacerbation of chronic diseases that do not involve a threat to patient's life and do not require emergency medical care, for example, lung	be able to explain how risk factors affect the course of thoracic and vascular diseases, inflammatory bowel diseases; the impact of which risk factors can be eliminated	explain to the patient how to do postural drainage for lung abscess, about risk factors and prophylactics for chronic arterial or venous insufficiency

	abscess, rib fracture, achalasia		of lower extremities
11	knowledge in providing emergency medical care for conditions requiring immediate medical intervention, for example, tension pneumothorax, mediastinitis, spontaneous esophageal rupture, acute arterial ischemia of the limb	to take part in resuscitation measures: the sequence of actions during drainage of the pleural cavity, to determine the presence or absence of a pulse on the arteries of the extremities	first aid measures in case of pneumothorax, mediastinitis, spontaneous esophageal rupture, acute arterial ischemia of the limb (chest tube insertion, airway protection)

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

Total workload of the course is 8 credits.

4.1. Workload of the Module and Type of the academic work

	Type of the academic work	Total hours	Term
Discipline workload (in academic hours)	Lectures (L)	54	9-11
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	115	9-11
	Laboratory-based practicals (LBP)		
	Simulation-based practicals (SBP)		
	Preparation for the examination (PE)	33,7	11
	Preparation for the credit (PC)		
	Exam consultations (EC)	2	11
	Coursework (CW)		
	Unsupervised work (UW) (total)	83	9-11
	Examination control (EC)	0,3	11
	Total course workload	**288**	9-11

5. Contents of the course:

5.1. Contents of the sections of the course

№	Name of the course section	Contents of the section
1	2	3
1.	Curation of the patients with surgical abdominal pathology. Types of epicrisis, its structure, content. How to write epicrisis	Introduction. Differential diagnosis of surgical diseases. Diagnosis of most frequent surgical diseases and its complications, principles of treatment and prophylaxis. Diagnosis as a scientific discipline, including diagnostic equipment, semiology, especially thinking in recognizing of the disease. The diagnosis, definition, diagnosis as a basis for treatment and prevention. Total clinical diagnosis

		includes sections: main disease, its complications, comorbidity.Importance of methods of construction of the diagnosis: the direct diagnosis or by analogy, differential diagnosis, and as part of it - a diagnosis by exclusion, diagnosed with synthetic or full diagnosis by observation, the diagnosis for therapeutic effect. Types of diagnosis according to the degree of validity: preliminary diagnosis, i.e., hypothetical, final diagnosis, or well-founded, the diagnosis under the question. Abstract diagnosis (disease diagnosis) and specific diagnosis (the diagnosis of the patient). Types of epicrisis, its structure, content. When it must be prepared: before surgery, before discharging the patient from the hospital, post mortem, explain the necessity of long hospital stay or expensive treatment. Independent work with the patient: questioning, examination (general and systems), analysis of the results of laboratory and instrumental methods of investigation, the systematization of the data, compilation of clinical diagnosis and its rationale.
2.	Diseases of the abdominal organs Topic 1. Cholelithiasis, choledocholithiasis. Chronic calculus cholecystitis, Postcholecystectomy syndrome	Anatomical and physiological information about the liver, extrahepatic biliary tree, gallbladder, bilirubin metabolism. Epidemiology, factors predispose to calculi formation. Chronic calculus cholecystitis. Pathomorphology. Etiology, pathogenesis. Clinical signs and diagnostics. Mechanical (obstructive) jaundice. Methods of physical (symptoms and syndromes), laboratory tests (blood test, urinalysis, biochemical tests including direct and indirect bilirubin, liver function tests), and instrumental examinations (ultrasound, fibrogastroduodenoscopy, endoscopic retrograde cholangiopancreatography – ERCP, magnetic resonance tomography cholangiography – MRI cholangiography). “Gold standard” of surgical treatment – laparoscopic cholecystectomy, indications and contraindications., the choice of anesthesia, surgical access. Cholecystectomy through midline incision. Indications for laparotomy technique and care of the patient in the postoperative period. Preparing patients for surgery, postoperative care. Complications after cholecystectomy: bleeding, damage of extrahepatic biliary tree, postcholecystectomy syndrome. Clinic of various complications; their diagnostics (ultrasound, CT, and others), treatment

		(surgery, ultrasonic method for draining abscesses, conservative treatment).
	Topic 2. Chronic pancreatitis, pancreatic cysts and fistulas	Anatomical and physiological information about the pancreas. Classification of diseases. Chronic pancreatitis. Definition. Etiology and pathogenesis. Classification. Pathological anatomy. Clinical and time periods of course of chronic pancreatitis. Diagnostics. Treatment. Therapeutic endoscopy, indications for surgical treatment and types of operations. The outcomes of the disease. Pancreatic cysts and fistulas. Classification (postnecrotic, retention, parasite cyst, cystic form of pancreatic neoplasm, truth or pseudocyst, congenital and acquired cysts; postnecrotic, posttraumatic fistulas, fistulas appearing after surgery). Diagnosis ultrasound, ERCP, endoscopic ultrasound, fine needle aspiration – FNA), tactic, and treatment (surgical excision, distal pancreatectomy, Whipples procedure, stenting)
	Topic 3 Postgastrectomy syndromes	Anatomical and physiological information about function of the upper gastrointestinal tract after surgery. Postgastrectomy syndromes: dumping syndrome, gastroparesis, alkaline reflux gastritis, post vagotomy diarrhea, Roux syndrome, duodenal stump blow out, recurrent ulceration, gastric remnant carcinoma, small capacity syndrome, anemia/metabolic disorders, other problems (gallstones, besoars, etc). Etiology and pathogenesis. Classification. Clinic. Diagnostics (endoscopy, gastrography). Differential diagnosis. Treatment: conservative and operative. Indications for emergency and elective surgery. Different surgical tactics.
	Topic 4. Non-neoplasm bowel diseases (Crohn's disease, ulcerative colitis, diverticular disease, toxic megacolon, anomalies)	Etiological factors, pathogenesis, pathological anatomy.Epidemiology. Classification of bowel diseases. Differential diagnosis of bowel diseases. Methods of diagnosis (endoscopy, barium meal, barium enema). Complications of bowel diseases: perforation with abscess formation or peritonitis, stenosis with partial or total acute bowel obstruction, gastro-intestinal fistulas, diverticulitis, bleeding). The pathogenesis of complications.Diagnosis and differential diagnosis. Therapeutic tactics for different types of complications. Types of surgeries: resection of intestine, ileo-anal or ileo-rectum pouch anastomosis, draining abscesses. Special complications: malignisation,

	Topic 5. Gastro-intestinal fistulas (GIF). Clinical cases.	pouchitis, internal and external gastro-intestinal fistulas. Definition. Classification: external and internal, etiology (surgery, trauma, inflammatory bowel diseases, acute surgical diseases – acute appendicitis, acute cholecystitis, malignant neoplasms, radiation), daily-output. Pathogenesis. Clinical presentation, diagnosis, differential diagnosis, treatment. Factors, predisposing or not to spontaneous closure (FRIENDS mnemonic technique – foreign body, radiation, inflammation, neoplasm, distal obstruction, short track). Therapy: S – skin care, N – nutrition, A – anatomy, P – plan and psychology consultation (SNAP). Types of operations: resection of intestinal loop with fistula, anastomosis between afferent and efferent limb, plastic with muscular flap.
3.	Introduction in thoracal surgery.Principles of diagnosis and surgery of thoracal patients. Epicrisis.	Basic investigation methods of thoracal patientSubjective methods: past history, patient complaints (pulmonary, esophageal, extra-thoracal). Objective methods: examination; laboratory analysis, X-ray, spirometry, endoscopic, and morphological methods. Independent work with the patient of thoracal surgery department: questioning, examination (general and systems), analysis of the results of laboratory and instrumental methods of investigation, the systematization of the data, compilation of clinical diagnosis, differential diagnosis, and write epicrisis. Clinical cases. Case history and out-patient card of the patient.
	Topic 1. Acute pulmonary suppuration or acute infectious lung destruction (acute lung abscess and lung gangrene).	Definition, anatomy, etiology, pathogenesis, pathological anatomy. Classification of lung destractions. Prevails tracheobronchial way of infection, presented three mechanisms: inhalation (inhalatory), aspiration of pus leaking in the "healthy" bronchi from the affected parts of the lung. Clinical picture (acute and step-wise origin). Complications: acute pleural empyema, acute pleural empyema; acute abscess and pneumonia of another lung; serofibrous or purulent pericarditis; phlegmon of the chest wall; sepsis;bronchial [pulmonary] hemorrhage; acute erosions and ulcers of the digestive tract with hemorrhage; toxic hepatitis;acute toxic psychosis. Diagnostic algorithm, differential diagnosis.Conservative treatment (antibacterial therapy, immunity stimulation,

		deintoxication and correction of the volume of blood circulation with central venous pressure and hourly urine output control, sanation of the trachea and bronchi, physiotherapy). Surgeral treatment:pneumoabscessotomy, pneumoabscessoscopy,lobectomy, pneumonectomy , bilobectomy is rare.
	Topic 2. Acute and chronic pleural empyema.	Definition, etiology, pathogenesis. Pathologic anatomy of the acute and chronic pleural empyema. Empyema's classification. Clinical picture and diagnostic of the acute pleural empyema. Therapeutic and surgical treatment, outcomes of the acute pleural empyema. Clinical picture and diagnostic of the chronic pleural empyema. Therapeutic and surgical treatment, outcomes of the chronic pleural empyema
	Topic 3. Closed chest trauma.	Definition, epidemiology, clinical picture, diagnosis (chest and abdominal X-rays, ultrasound, endoscopy, computed tomography – CT, thoracocentesis, thoracoscopy). Possible complications. Rib fractures, contusion of the chest wall, flail chest, pneumothorax, hemothorax, lung contusion, heart contusion, cardiac tamponade, aortic tear, bronchial tear, esophageal rupture, diaphragm rapture, damage of abdominal organs by fractured ribs. Tactics due to general patient's condition. Surgical treatment: chest tube insertion, rib fracture fixation, suturing of the lung, resection of the part of the lung). Outcomes.
	Topic 4. Penetrating chest trauma.	Definition, epidemiology, clinical picture, diagnosis (chest and abdominal X-rays, ultrasound, endoscopy, computed tomography – CT, thoracoscopy). Possible complications: pneumothorax, persisting air leaking, hemothorax. Cardiac injury, damage of big blood vessels. Tactics due to general patient's condition. Surgical treatment: chest tube insertion, thoracoscopy approach, heart suturing, suturing of the lung. Outcomes.
	Topic 5. Mediastinitis.	Definition, epidemiology, pathophysiology, pathogens. Risk of lethal outcome. Couses including primary neck infection, foreign body, pharyngitis, tonsillitis, sinusitis, otitismedia, dentalinfections, sialadenitis, suppurative thyroiditis, endotracheal intubation, spontaneous or traumatic rupture of oesophagus, cardio-vascular surgery. Fibrosing mediastinitis. Clinical picture, diagnosis (neck, chest X-ray, CT, laboratory tests, during surgery). Surgical treatment: drainage approaches. Conservative therapy: antibacterial therapy, detoxication.

	Topic 6. Pericarditis.	Definition, pathological anatomy, prevalence, epidemiology, pathophysiology. Common causes of pericarditis and pericardial effusion:idiopathic, infectious—bacterial, viral, fungal, HIV (human immunodeficiency virus), myocardial infarction, radiation, postoperatively after open heart surgery,chest trauma—blunt, sharp, malignancy: primary—mesothelioma, angiosarcoma and metastatic—lung, breast, bone, lymphoma, melanoma, collagen vascular diseases—rheumatoid arthritis, SLE (systemic lupus erythematosus), metabolic—uremia, hypothyroidism, pharmacologic—penicillin, phenytoin, procainamide, hydralazine, minoxidil, cromolyn sodium, methysergide, doxorubicin. Signs and symptoms. Diagnosis. Physical examination findings.Electrocardiography, echocardiography, chest X-ray, magnetic resonance imaging and computed tomography, laboratory tests. Treatment: medical management, pericardiocentesis, percutaneous balloon pericardiotomy, subxyphoid pericardiostomy, pericardectomy. Outcomes. Clinical cases.
4.	Introduction to cardio-vascular surgery.Methods of examination and treatment of patients with cardio-vascular diseases. Prepare to write epicrisis for the patient with cardio-vascular or endocrinology pathology.	Classification of the cardio-vascular diseases: ischemic heart disease, transitory ischemic attack and stroke, peripheral artery disease, vein diseases, aneurisms.Risk factors, metabolic syndrome. Pulsation on different points. Symptoms of acute and chronic arterial and venous insufficiency, diagnostic algorithm (ultrasound examination with duplex scanning, rheovasography, angiography and CT angiography). Operative (classical and endovascular) and non-operative (antiplatelet agents, anticoagulants) treatment. The role of angiography as a diagnostic and therapeutic method.
	Topic 1. Surgical pathology of arteries.	Peripheral artery disease: atherosclerosis, vasculitis. Acute arterial insufficiency (thrombosis, embolism), classification. Methods of diagnostic and surgical (trombectomy, tromboembolectomy, endovascular surgery, bypass surgery) and conservative (trombolitic agents, anticoagulants) treatment. Rheserford classification (mild, moderate, severe claudication). Clinical picture due to level of occlusion.Dry and wet gangrene. Artery trauma. Ligating, suturing, bypass surgery.
	Topic 2. Surgical pathology of veins.	Deep vein thrombosis. Acute vein insufficiency. Clinical picture, diagnosis.

		Pathophysiology. Complications: pulmonary embolism, posttrombectomy syndrome. Chronic vein insufficiency, primary and secondary. Varicous veins, CEAP classification. Thrombophlebitis of superficial veins. Treatment (compression, elevation, phlebotonics, Trendelenburg procedure, phlebectomy).
	Topic 3. Surgical treatment of ischemic heart disease (IHD).	Atherosclerosis of coronary arteries. Epidemiology, risk factors, clinical picture, diagnosis. Electrocardiography, echocardiography. Acute myocardial infarction. Urgent thrombolysis, coronarography, endovascular procedures (ballon angioplasty, stenting) and their technics. Aorto-coronary bypass surgery. Outcomes and prognosis.
	Topic 4. Surgical treatment of congenital and acquired heart defects.	More common forms of congenital malformations: aortic stenosis, atrial septal defect, atrioventricular septal defect (AVSD), coarctation of the aorta, complete transposition of the great arteries (TGA),Ebstein's anomaly, hypoplastic left heart syndrome (HLHS),pulmonary atresia,pulmonary stenosis,single ventricle anomalies,tetralogy of Fallot, total anomalous pulmonary venous return (TAPVR),tricuspid atresia, truncus arteriosus, ventricular septal defect (VSD). Clinical picture, diagnosis including angiography, prognosis. Special surgical procedures: palliative surgery, balloon angioplasty, balloon dilatation, arterial switch procedure, Blalock-Taussig (BT) shunt,Norwood procedure. The acquired valvular heart disease: defects of the mitral valve, defects of the aortic valve, defects of the tricuspid valve,defects of the pulmonic valve. Etiology, clinical picture, diagnosis (physical examination, murmurs, ECG, ECHO).Operative treatment – implantation of artificial prosthesis, comissurotomy.
5.	Surgical esophageal pathology.	Esophageal motility disorders (achalasia), esophageal diverticuls: Zenker diverticulum, bifurcational diverticuls, epiphrenic diverticulum, esophageal chemical burns and strictures. Causes, classifications, clinical picture, diagnosis (physical examination, esophagoscopy, barium meal). Medical care, surgical care (myotomy, diverticulectomy, dilatation procedure, artificial esophagus).
6.	Surgical treatment of diaphragm hernias.	Hiatal hernias: sliding and paraesophageal. Epidemiology, anatomy (His angle). Connection with gastro-esophageal reflux

		disease. Different modifications of fundoplication procedure, crurorrhaphy. Traumatic diaphragmatic hernias. Causes (closed and penetrating chest trauma, thoracoabdominal injuries). Clinical picture, complications, diagnosis (physical examination, X-ray, CT, laparoscopy). Surgical treatment: suturing, mesh fixation.
7.	Surgical endocrinology. Topic 1. Thyroid gland surgery. Topic 2. Thymus surgery, suprarenal gland surgery, Topic 3. Islet pancreatic tumors. Final control of knowledge and practical skills.	Thyroid gland surgery. Nodus or diffuse goiter. Hyper-, hypothyroidism. Clinical picture, diagnosis (physical examination, laboratory tests, ultrasound, fine needle aspiration – FNA). Preparing to surgery. Total, subtotal thyroidectomy, isthmus resection. Postoperative complications. Thymus surgery. Anatomy, physiology. Benign and malignant thymoma. Clinical picture, diagnosis, surgical approaches (sternotomy, resection). Suprarenal gland surgery. Anatomy and functions of adrenal gland. Functional and non-functional neoplasms. Symptoms and syndromes. Adrenalectomy (classical and laparoscopy approach). Hormone producing pancreatic neoplasms: insulinoma, glucagonoma, gastrinoma, VIP-oma (producing vasointestinal peptide), somatostatinoma. Functional and non-functional neoplasms. Symptoms and syndromes (Verner-Morrison, Zollinger-Ellison). Diagnosis, including endoscopic ultrasound, CT, blood sampling, octreotide scuns. Surgery, indications, volume of resection: pancreaticoduodenectomy (the Whipple resection), distal pancreatectomy. Final control of knowledge in test form and practical skills.

5.2. Sections and types of studies

No	Name of the course section	L	CP	Self-studies	Total hours
1	2	3	4	5	6
1	Curation of the patients with surgical abdominal pathology. Types of epicrisis, its structure, content.		5	3	8
2	Diseases of the abdominal organs	16	25	10	51
3	Introduction in thoracal surgery.Principles of diagnosis and surgery of thoracal patients	2	5	2	9
4	Surgical diseases of lung and pleura, chest trauma	14	30	10	54

5	Introduction to cardio-vascular surgery.Methods of examination and treatment of patients with cardio-vascular diseases.	10	20	18	48
6	Surgical esophageal pathology	2	5	5	12
7	Surgical treatment of diaphragm hernias.	2	5	5	12
8	Surgical endocrinology	2	15	5	22

6. Interactive forms of studies (in Moodle)

Active and interactive forms of work used in the educational process: individualization and flexibility of elective through outside of class, independent work, surgical simulations, business and role-playing, brainstorming, discussion, case method (analysis of situations), small group work, case studies, psychological and other trainings, creative tasks, case studies with the standards of responses, multimedia training.

Methods basedon the latest achievementsof science and informationtechnology in educationare usedin the processof teaching. Theyare aimed to improvethe quality of trainingthrough the development ofstudents'creativity andself-reliance.For this purposeare used:
•interactive formsof holding seminarsand clinicaldissections
•trainingformofpractical training.

No	Name of the course section	Interactive forms of studies	Duration (hours)
1	Diseases of the abdominal organs	Analysis ofspecific clinicalsituations. Presentation and defence of epicrisis	5
2	Surgical diseases of lung and pleura, chest trauma	Analysis ofspecific clinicalsituations. Curation of patients and discussion, presentation of epicrisis	5
3	Methods of examination and treatment of patients with cardio-vascular diseases	Analysis ofspecific clinicalsituations. Curation of patients and discussion, presentation of epicrisis	2
		Total (hours)	12
		Total (% of in-class learning)	10%

7. Listofteaching materials forthecourse' unsupervised workofstudents

No	Name of the course section	Types of self-studies	Forms of control
1	Curation of the patients with surgical abdominal pathology. Types of epicrisis, its structure, content	Preparation of student’s epicrisis.	Check of epicrisis
2	Diseases of the abdominal organs	The solution of situational tasks - cases	Check of solutions
3	Introduction in thoracal surgery.Principles of	Preparation of student’s epicrisis.	Check of epicrisis

	diagnosis and surgery of thoracal patients. Epicrisis.		
4	roduction in thoracal surgery.Principles of diagnosis and surgery of thoracal patients. Epicrisis.	The solution of situational tasks	Check of solutions
5	Introduction to cardio-vascular surgery. Methods of examination and treatment of patients with cardio-vascular diseases. Prepare to write epicrisis for the patient with cardio-vascular or endocrinology pathology.	Preparation of student's epicrisis.	View presentation
6.	Surgical esophageal pathology	The solution of situational tasks	Check of solutions
7.	Surgical treatment of diaphragm hernias	The solution of situational tasks	Check of solutions
8.	Surgical endocrinology	Preparing a multimedia presentation on diagnosis and treatment of islet pancreatic tumors, adrenal neoplasms.	View presentation

8. Forms of control[1]

8.1. Forms of current control

- Oral: interview report, the defence of the medical case history, clinical examination of the patient, analysis of multimedia presentations and slideshows, assessment of the report;
- Written: test control, essays, summaries, writing abstractson the topicsof missedpractical lessons, solvingclinicalcase tasks. Check of case history.

A subject list of abstracts, reports, essays, tests, term papers, test collections and cases are shown at the section «Assessment tools».

8.2. Forms of interim assessment: examination

Stages of examination

1 Stage–knowledge control –special list of multiple-choice questions (repeat emergency care, general surgery);

2 Stage - certification of practical skills and clinical thinking - credit with participating of the patient;

3. Stage – interview onthe ticketand the solution ofsituationaltasks with description of chest, abdominal X-ray or CT, or esophagogastrography.

[1] To control knowledge in Moodle system, students must complete tasks and send response files to the teacher. InMoodle system tests for control of knowledge also are located: in the 9th semester – in abdominal surgery (chronic pancreatitis, pancreatic cysts and fistulas, cholelithiasis), in the 10th semester- in thoracic surgery, in the 11th semester-a test that includes questions devoted to vascular surgery, esophageal and diaphragm pathology, and surgical endocrinology.

Questions for a multiple-choice control and examination are listed at the section in the syllabus «Assessment tools».

9.Maintenance of the course

9.1.Compulsoryliterature

1.Surgery. A Case Based Clinical Review/ ed.: Christian de Virgilio, Areg Grigorian. – Springer, 2015. – 723 p.: il.

2. Bailey and Love's Short Practice of Surgery/ ed.: N.S. Williams, P.R. O'Connell, A.W. McCaskie. - 27th ed.:CRC Press, 2018. – 1536p.: ill.

3. Manipal Manual of Surgery. 4th edition. K. Rajgopal Shenoy, Anitha Shenoy (Nileshwar). CBCPublishers&Distributors, 2014. – 1224 p., ill.

4. A manual on Clinical Surgery. S. Das. 10th edition, Calcutta, 2008. – 650 p., ill.

5. Manipal Manual of Surgery/ ed.: K.R Shenoy, A. Nileshwar. -3d ed.: CBS Publishers & Distributors, 2010. -969 p.: il.

6. Care for Surgical Patients [Электронныйресурс] : study guide/ A. V. Kruchkova, Yu. V. Kondusova, I. A. Poletayeva. -Moscow: GEOTAR-Media, 2020. -144 c.- URL: https://www.studentlibrary.ru/ru/book/ISBN9785970456644.html

7. Gostishchev V.K. General surgery: The manual [Электронныйресурс]/ V. K. Gostishchev . -Москва: GEOTAR-Media, 2020. -220 p.- URL: https://www.studentlibrary.ru/ru/book/ISBN9785970454398.html

8. Surgical diseases: in 2 vol. Vol. 1. : textbook [Электронныйресурс]/ N. V. Merzlikin [идр.]. -Москва: ГЭОТАР-Медиа, 2021. -360 с.- URL: https://www.studentlibrary.ru/ru/book/ISBN9785970458525.html

9. Essentials of Clinical Examination Handbook. [Электронный ресурс]/ Y. Shi [и др.]. -8th ed.: Thieme, 2018- URL: https://medone-education.thieme.com/ebooks/2251929#/ebook_2251929_SL84831974

10. Госпитальная хирургия. Синдромология [Электронный ресурс] : учебное пособие/ А. Г. Абдулаев [и др.] ; ред.: Н. О. Миланов, Ю. В. Бирюков, Г. В. Синявин. -Москва: ГЭОТАР-Медиа, 2013. -440 с.: ил.-

9.2. Supplementary literature.

1. Внутрипросветная хирургия грудной и брюшной полостей: практическое руководство. В.Н. Новиков, Н.В. Ложкина и др. – СПб.: СпецЛит, 2016. – 115с.
2. Госпитальная хирургия. Синдромология. А.Г. Абдулаев. – М.: ГЭОТАР-Медиа, 2017. – 503с.
3. Диагностический справочник хирурга. В.Н. Астафуров. - Ростов-н/Д.: Феникс, 2003. - 444 с.
4. Малоинвазивная хирургия щитовидной железы / Ю.К. Александров и др. – М.: Медицина, 2016. – 288с.

5. Неотложная хирургическая гастроэнтерология : рук. для врачей / Под ред.: А.А. Курыгина и др. - СПб.; М. ; Харьков ; Минск : Питер, 2001. - 480 с. - (Спутник врача).
6. Неотложная хирургия груди и живота: Руководство для врачей / Л.Н. Бисенков. – СПб.: СпецЛит, 2015. – 574с.
7. «Острый панкреатит»: руководство для врачей / под редакцией проф. Э.В. Недашковского. – М.: ГЭОТАР – Медиа. – 2009. – 272с.
8. Основы неотложной хирургической помощи : руководство для врачей общей практики: [В 2 т.]. Т.2 : Специальная часть / Сев. гос. мед. ун-т ; Под ред. Р.Н. Калашникова. - 2-е изд., испр. и доп. - Архангельск : СГМУ, 2002. - 279 с.
9. Воробьев А.А.Хирургическая анатомия оперированного живота и лапароскопическая хирургия спаек : [Монография] / А.А. Воробьев, А.Г. Бебуришвили. - Волгоград : Издатель, 2001. - 240 с.
10. Горшков С.З. Закрытые повреждения органов брюшной полости и забрюшинного пространства : [монография] / С.З. Горшков. - М. : Медицина, 2005. - 221 с. - (Библиотека практического врача).
11. Дыньков С.М., Поздеев В.Н., Кузнецов А.А., Тодрик А.Г. Лапароскопическая холецистэктомия при остром холецистите. Архангельск. 2000.
12. Дыньков С.М., Тодрик А.Г., Совершаев А.П., Слободянюк Е.В. Эндоскопическая ретроградная холангиопанкреатография. Архангельск. 2001.
13. Рехачев В.П. Острый живот. Архангельск. Издательский центр СГМУ. 2003. – 178 с.
14. Рехачев В.П. Послеоперационные вентральные грыжи.Диастазы прямых мышц живота / В.П. Рехачев; Арханг.мед.акад ; Арханг. гос. мед. акад. - Архангельск : Издат. центр АГМА, 1999. – 195с.
15. Седов В.М. Аппендицит. С-Петербург. Мед. Из-во ООО «ЭЛБИ-С. Пб», 2002.
16. Селезнёв С.А., Шапот Ю.Б., Багненко С.Ф., Курыгин А.А. Травматическая болезнь и её осложнения. С. Пб. Политехника, 2004.
17. Тимербулатов В.М. Хирургия абдоминальных повреждений / В. М. Тимербулатов [и др.]. - М. : МЕДпресс-информ, 2005. - 255 с.
18. Федоров И.В., Сигал Е.И., Славин Л.Е. Эндоскопическая хирургия; - М.: ГЭОТАР-МЕД, 2009. - 544 с.
19. Шерлок Ш. Заболевания печени и желчных путей: пер. с англ. / Ш. Шерлок, Дж. Дули; ред. З.Г. Апросина. - М. : Гэотар-Мед., 2002. - 859 с.
20. Шулутко А.М. Эндоскопическая торакальная хирургия: Руководство для врачей / А.М. Шулутко, А.А. Овчинников и др. – М.: Медицина, 2006. -392 с.
21. Яицкий Н. А. Седов В.М. Сопия Р.А. Острый панкреатит.. - М.: МЕДпресс-информ, 2003. - 224 с.
22. Янушко В.А. Хирургия аорты и ее ветвей / В.А. Янушко. – Витебск: Медицинская литература, 2013. -224с.

23. Ярема И.В. Хирургия язвенной болезни желудка : рук. для врачей / И.В. Ярема, Б.М. Уртаев, Л.А. Ковальчук. - М. : Медицина, 2004. – 303 с.
24. Основы ухода за пациентом в хирургической клинике = Basics of Nursing Care in Surgery [Электронный ресурс] : учебное пособие на русском и английском языках/ Н. Г. Косцова [и др.] ; ред. И. В. Курдюкова. -Москва: ГЭОТАР-Медиа, 2020. -312 с.- URL: https://www.studentlibrary.ru/ru/book/ISBN9785970453834.html
25. Хирургические болезни [Электронный ресурс] : В 2 т. : учеб. для высш. проф. образования/ Н. В. Мерзликин [и др.] Т. 1. -Москва: ГЭОТАР-Медиа, 2015. -400 с.: ил.- URL: http://www.studmedlib.ru/book/ISBN9785970434567.html
26. Хирургические болезни [Электронный ресурс] : В 2 т. : учеб. для высш. проф. образования/ Н. В. Мерзликин [и др.] Т. 2. -Москва: ГЭОТАР-Медиа, 2015. -600 с.: ил., [1 л. цв. ил.]- URL: http://www.studmedlib.ru/book/ISBN9785970434574.html
27. Manipal Manual of Surgery [Текст]/ ed.: K.R Shenoy, A. Nileshwar. -3th. ed.: CBS Publishers & Distributors, 2010. -969 p.: il.

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

International databases

1	Database «Scopus»	http://www.scopus.com/
2	Electronic archiveof magazinespublishing SAGE PUBLICATIONS	www.sagepub.com
3	Electronic archiveof magazinespublishing IOP Publishing	http://iopscience.iop.org/jornals?type=archive
4	Electronic archiveof magazinespublishing OXFORD UNIVERSITY PRESS	www.oxfordjournals.org/
5	Electronic archiveof magazineSCIENCE publishing AAAS	www.sciencemag.org.
6	Electronic archiveof magazinespublishing ROYAL SOCIETY OF CHEMISTRY	www.rsc.org/
7	Electronic archiveof magazinespublishingPubMed Central	http://www.ncbi.nlm.nih.gov/pubmed

University library

1	Electronic libraryNSMU	http://lib.nsmu.ru/lib/

9.4 List of information technologies used in the educational process within the coarse (module), including software and referral systems

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.

MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа № 2403 Морской медицины, административный учебный корпус, 4 этаж *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, экран *в) перечень учебно-наглядных пособий:* схемы, таблицы *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номерлицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Trafficinspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 40, подвал хирургического корпуса Договор № 550 от 05.07.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская областная клиническая больница». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, негатоскоп, обучающие таблицы, схемы, видеофильмы, таблицы по всем разделам дисциплины, цифровые фотоматериалы, наборы хирургических операционных инструментов (используются наборы инструментов операционных	163062, Архангельская область, г. Архангельск, пр. Ломоносова, д. 292

г) используемое программное обеспечение: KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Trafficinspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 64, 5 этаж экстренная хирургия Договор № 550 от 05.07.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская областная клиническая больница». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, негатоскоп, обучающие таблицы, схемы, видеофильмы, таблицы по всем разделам дисциплины, цифровые фотоматериалы, наборы хирургических операционных инструментов (используются наборы инструментов операционных *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Trafficinspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163045, Архангельская область, г. Архангельск, проезд Сибиряковцев, д. 15
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 71, 4 этаж отделение хирургической инфекции Договор № 550 от 05.07.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская областная клиническая больница». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор	163045, Архангельская область, г. Архангельск, проезд Сибиряковцев, д. 15

в) перечень учебно-наглядных пособий: Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, негатоскоп, обучающие таблицы, схемы, видеофильмы, таблицы по всем разделам дисциплины, цифровые фотоматериалы, наборы хирургических операционных инструментов (используются наборы инструментов операционных *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Trafficinspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 63, 5 этаж экстренная хирургия Договор № 550 от 05.07.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская областная клиническая больница». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, негатоскоп, обучающие таблицы, схемы, видеофильмы, таблицы по всем разделам дисциплины, цифровые фотоматериалы, наборы хирургических операционных инструментов (используются наборы инструментов операционных *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Trafficinspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163045, Архангельская область, г. Архангельск, проезд Сибиряковцев, д. 15
Учебная аудитория для занятий семинарного типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 324 учебный корпус, 3 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 24 места. *б) наборы демонстрационного оборудования*	163001, г. Архангельск, просп. Троицкий, д. 180

ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, табличные и справочные материалы по темам занятий, муляжи. *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Trafficinspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	

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 26th 2020

SYLLABUS OF THE DISCIPLINE

Discipline **Traumatology, Orthopedics**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **V-VI / 10, 11**
Form of the interim assessment **Examination**
Department **of Traumatology, Orthopedics and Military Field Surgery**
Discipline workload **216** (academic hours) / **6** (credits)

Approved at the department meeting
Minutes No.
June 20th 2020
Head of the department
S.V. Bragina

Author and compiler:
Bragina Svetlana Valentinovna, Associate Professor of the Department of Traumatology, Orthopedics and Military Field Surgery, Candidate of Medical Sciences

Arkhangelsk, 2020

1. Purpose and objectives of the course

Goal of the discipline	The goal of the discipline is to teach students to acquire competencies and to navigate in the issues of injuries and diseases of the musculoskeletal system, to provide first aid in case of emergency conditions in emergency cases at the stages of medical evacuation, as well as in places of mass destruction.
Tasks of the discipline	- training in the organization of trauma and orthopedic care; - assimilation of the first aid in emergency conditions at the prehospital stage; - training to provide medical care to the population in extreme conditions of epidemics, in the centers of mass destruction; - study of the prevention of injuries and orthopedic diseases, rehabilitation of patients with pathology of the musculoskeletal system; - study of the etiology, pathogenesis of damage and diseases the musculoskeletal system; - study of the methods of examination, diagnosis of injuries and diseases of the musculoskeletal system; - teaching methods of providing medical care and treatment for people with various injuries and diseases of the musculoskeletal system, first medical aid using therapeutic and surgical methods; - development of practical exercises and skills that allow to a future doctor to understand quickly an urgent situation, to outline a plan of emergency and urgent medical and diagnostic measures; - training about techniques and methods of providing assistance to the injured people giving the first aid in emergency situations; - development of practical skills in providing emergency and emergency care for various types of injuries and subcutaneous injuries of the musculoskeletal system; - conducting medical evacuation in emergency situations and providing medical assistance to the population in extreme conditions, in the centers of mass destruction;

2. Location of the course within the educational program (EP)

The program is developed following the requirements of Federal State Education Standard (FSES3+) the base portion (block 1 "Disciplines Traumatology, Orthopaedics") for higher education in the field of 31.05.01«General medicine».

Cycle (section) of the EP, to which this discipline applies - medical, professional.

Disciplines, on wich knowledge of Trumataulogy and Ortopedics is based: Human Anatomy and Morbid Anatomy, Normal and Pathological Physiology, Microbiology and Immunology, Pharmacology, Operative Surgery and Topographic Anatomy, General Surgery, Neurology, Anesthesiology and Resuscitation, X-ray Diagnostics, Public Health and Health Organization .

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

Codes of developed competences	**Competences**		
	Know	Be able to (can)	Master (be a master in)
GCC№	General cultural competence		
GP №	General professional		
PC -№	**Professional competences**		
PC -№5	the algorithm and the rules of the physical examination, clinical and laboratory examination	Analyzing the results of modern laboratory and instrumental studies, the morphological analysis of biopsy, surgical and sectional material. - Write medical records of outpatient and inpatient.	the methods of carrying out and interpreting the survey, physical examination, clinical examination, evaluation of the skills of modern laboratory and instrumental studies, the morphological analysis of biopsy and surgical material sectioned -signing card ambulatory and inpatient
PC -№6	ICD-10 structure, goals and tasks while using it	highlight the main pathological conditions, symptoms, syndromes, entities that require the use of ICD-10	the method of using the ICD-10 by filling out medical records
PC -№8	etiology, pathogenesis, clinical syndromes, principles of diagnosis, treatment and rehabilitation of patients with different clinical forms of injuries and diseases	identify and analyze clinical symptoms, syndromes; - to diagnose, prescribe treatment and rehabilitation	methods of clinical diagnosis, treatment, rehabilitation and prevention of diseases and injuries in various nosological forms, to assess prognosis.
PC -№9	the main pathological symptoms, syndromes in surgery and traumatology;	conduct a survey patient; - To evaluate the data; - Formulate and clinical	general clinical methods survey (questioning, inspection, palpation, percussion, auscultation,

	- Algorithm of diagnosis (preliminary, clinical); Survey plan the main symptoms of diseases internal organs; - clinical expression of the essential Surgical syndromes; - The provision of primary medical care in the outpatient setting and a day hospital; - Rules for filling a sample of medical records; - Rules of registration of temporary disability documents.	syndromic diagnosis, and outline a plan additional methods research and treatment of patients with different nosological forms in the outpatient setting and a day hospital; - Fill out a medical history; outpatient card, to evaluate the results patient surveys	heart rate determination of arterial properties, measurement of blood pressure); - Agoritm expanded clinical diagnosis; - An algorithm with initial diagnosis followed by referral to appropriate medical specialist. - Methods of clinical diagnosis, treatment, rehabilitation and prevention of diseases with different clinical forms, to assess prognosis.
РС №10	clinical principles survey of surgical and therapeutic patient; - Immediate diagnosis, acute conditions; - To evaluate the data of laboratory and instrumental methods of research; - The main pathological symptoms, syndromes; Algorithm of diagnosis (preliminary, clinical); - Clinical symptoms of injuries of the musculoskeletal system, thorax, abdomen, pelvis, head and the cranial cavity; -rendering of primary medical care in sudden acute diseases, conditions, exacerbation of chronic diseases, not accompanied by a threat to the patient's	determine the status of the patient: to collect anamnesis, conduct a survey of the patient and / or his family; - To carry out a physical examination of the patient (inspection, palpation, auscultation, blood pressure measurement, determination of the arterial pulse characteristics, etc.); - To assess the condition of the patient to make a decision about the necessity of medical attention; - To conduct an initial examination of organs and systems; - Identified by the presence of the X-ray fracture and dislocation, free gas in the abdominal cavity, hydro-pneumothorax; - Outline the scope of further studies in accordance with the prognosis of the	methods: an objective examination of the patient, the identification of pathological symptoms and syndromes; - Evaluate laboratory data, biochemical research methods and results of instrumental, x-ray examinations; - Algorithm deployed clinical diagnosis; - Setting algorithm preliminary diagnosis with subsequent referral to the appropriate medical specialist; - The methods of carrying out urgent measures, medical care in sudden acute disease, condition, exacerbation of chronic diseases are not accompanied by the threat of the patient's life; - Indications for planned hospitalization;

	life and do not require emergency health care;	disease, to confirm the diagnosis and obtain reliable results; - Formulate a clinical diagnosis; - Examine patients for various traumatic injuries, with septic conditions, detect violations during life-threatening disorders in bleeding; - To carry out monitoring of hemodynamics and respiration.	
РС №11	the basic principles of the provision of medical care for urgent conditions; - The provision of emergency medical care for conditions requiring urgent medical intervention; medical assistance in emergency situations, including those involved in medical evacuation; - Characteristics of the organization of medical care during mass and sporting events, emergencies and catastrophes in peacetime and in wartime; - Algorithm of basic diagnostic and therapeutic measures to provide first medical aid in emergency and life-threatening conditions.	medical equipment used in the provision of first aid, to provide emergency assistance in cases of emergency, to carry out anti-shock event; - Identify life-threatening bleeding disorders, tourniquet, transport bus, soft and triangular bandage, enter drains through medicines and microirrigators; - To assess the suitability of blood and its products to the transfusion, conduct monitoring of hemodynamics and respiration; - To develop a therapeutic plan (Surgical) action, taking into account the course of the disease and its treatment; - To provide emergency first medical aid in case of emergency.	primary physicians diagnostic and therapeutic to provide first medical aid in emergency measures and life-threatening conditions (acute hemorrhage, respiratory failure, cardiac arrest, coma, shock), own techniques for their immediate removal; - Drawing up a plan of medical actions, procedures and techniques of manipulation in case of emergency; - algorithm perform basic diagnostic and therapeutic pollen activities to medical care in emergency and life-threatening conditions; - Methods to temporarily stop external bleeding; - methodology Legend of the first medical assistance in the grass (transport immobilization, bandaging the wound, anesthesia).

4. Volume of the course and types of academic work:

Total workload of the course is **6** credits.

	Type of the academic work	Total hours	Term
Discipline workload (in academic hours)	Lectures (L)	30	10, 11
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	60	10, 11
	Laboratory-based practicals (LBP)		
	Simulation-based practicals (SBP)		
	Preparation for the examination (PE)	33,7	11
	Preparation for the credit (PC)		
	Exam consultations (EC)	2	11
	Coursework (CW)		
	Unsupervised work (UW) (total)	90	10, 11
	Examination control (EC)	0,3	11
	Total course workload	**216**	10, 11

5. Course content:

5.1. Content of the course sections

No	Name of the course section	Content of the section
1	2	3
1	General questions of traumatology and orthopedics	
		Formation, development and achievements of modern traumatology and orthopedics
		Fractures. Classification, symptoms and diagnostics .
		Bone regeneration. Complications during consolidation of bone fractures.
		Basic principles of treatment bone fractures. Rehabilitation of the patients with trauma or orthopedic disease.
		X-ray diagnosis of musculoskeletal injuries and diseases.
		Methods of examination in traumatology and orthopedics. Meeting with the clinic. Curation of patients. Bypass trauma and orthopedic department.
		The cast and overlay technique. Skeletal traction. X-ray examination in traumatology and orthopedics.
		Transport immobilization. Closed injuries of the soft tissues.
2	Fractures and damage to the limbs	

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

5.2. Course sections and types of studies

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

6. Interactive forms of studies

Active and interactive forms of work used in the educational process: individualization and flexibility of elective through outside of class, independent work, computer simulations, business and role-playing, brainstorming, discussion, case method (analysis of situations), simulation (role-playing game design - construction, development of methodological or technical solutions), small group work, case studies, psychological and other trainings, creative tasks, case studies with the standards of responses, multimedia training.

Methods based on the latest achievements of science and information technology in education are used in the process of teaching. They are aimed to improve the quality of training through the development of students' creativity and self-reliance. For this purpose are used:

• interactive forms of holding seminars and clinical dissections
• training form of practical training
• lectures on telemedicine (or on CD ROM), the country's leading experts.

No	Name of the course section	Interactive forms of studies	Duration (hours)
1	General questions of traumatology and orthopedics	Business and role-playing, case studies, psychological or other training, situational problems with the standards of answers. The method of small groups. Discussion on employment. Analysis of specific clinical situations.	2
2	Fractures and damage to the limbs	Business and role-playing, case studies, psychological or other training, situational problems with the standards of answers. The method of small groups. Discussion on employment. Analysis of specific clinical situations.	2
3	Fractures and damage to the spine and pelvis	Business and role-playing, case studies, psychological or other training, situational problems with the standards of answers. The method of small groups. Discussion on employment. Analysis of specific clinical situations.	3

4	Polytrauma	Business and role-playing, case studies, psychological or other training, situational problems with the standards of answers. The method of small groups. Discussion on employment. Analysis of specific clinical situations.	4
5	Thermal lesions. Wounds and wound infection	Business and role-playing, case studies, psychological or other training, situational problems with the standards of answers. The method of small groups. Discussion on employment. Analysis of specific clinical situations.	1
6	Orthopaedic disease	Business and role-playing, case studies, psychological or other training, situational problems with the standards of answers. The method of small groups. Discussion on employment. Analysis of specific clinical situations.	2
		Total (hours)	12
		Total (% of in-class learning)	10%

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

No	Name of the course section	Types of self-studies	Forms of control
1	General questions of traumatology and orthopedics	The study of educational material for primary and secondary literature, lecture material. Prepare a list of terminology (glossary), abstracts and reports with presentations on themes, false joint. Modern technologies of immobilizing the limb segments. Quantitative indicators of an X-ray anatomical relationships in the hip joint. Traumatic bursitis, clinic, diagnostics, treatment. Assisting victims with open lesions on the wrist tendons of the first stages of medical and pre-medical and medical care. Preventing tetanus. Prevention of rabies and tick-borne encephalitis. Students have testing on the topic: "Methodology for examining patients with diseases and injuries of the musculoskeletal system" SDL Moodle. Work with questions for self-monitoring on the topic "Clinical examination methods in traumatology and orthopedics" in the SDL Moodle.	Check essays, reports and presentations. Hearing and group discussion. Checking the results of working with tests, questions for self-monitoring in SDL Moodle.
2	Fractures and damage to the limbs	Preparation of abstracts and reports with presentations on the theme:	Check essays, reports and

		Intramedullary metalosteosynthesis blocking. Operative treatment of scapular fracture. Operative treatment of habitual dislocation of the shoulder. Bennett`s fracture-dislocations. The tunnel syndromes in lesions of the forearm in the bottom third. The medial femoral neck fractures in elderly patients. Damage to the menisci of the knee joint. Fracture of the talus. Dislocations in the joints of the foot. Students have testing on the topics: "Damage to the thigh and knee joint", "Damage to the lower leg and foot." in the SDL Moodle.	presentations. Hearing and group discussion. Checking the results of working with tests, questions for self-monitoring in SDL Moodle.
3	Fractures and damage to the spine and pelvis	Preparation of abstracts and reports with presentations on the themes: Fractures of the acetabulum of the pelvis cavity. Fracture-dislocations of cervical spine. Extrafocal osteosynthesis of pelvic fractures. Students have testing on the topic: "Damage to the spine and pelvis" in the SDL Moodle.	Check essays, reports and presentations. Hearing and group discussion. Checking the results of working with tests, questions for self-monitoring in SDL Moodle.
4	Polytrauma	Preparation of abstracts, reports, presentations on the themes: Objective assessment of the severity of injury in polytrauma. Operative treatment long compartment syndrome. Primary surgical treatment for gunshot injury of-the MSS. Osteosynthesis for gunshot fractures. Students have testing on the topic: "Traumatic shock", "Multiple combined injuries of the musculoskeletal system" in the SDL Moodle.	Check essays, reports and presentations. Hearing and group discussion. Checking the results of working with tests, questions for self-monitoring in SDL Moodle.
5	Thermal lesions. Wounds and wound infection	Preparation of reports with presentations on the theme: electrocution, clinic, diagnostics, treatment. Conservative treatment of burn wounds. Necrolytic drugs in the treatment of burn wounds. Students have testing on the topic: "Thermal damage" in the SDL Moodle.	Check essays, reports and presentations. Hearing and group discussion. Checking the results of working with tests, questions

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

8. Forms of control

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

A subject list of abstracts, reports, essays, tests, term papers, test collections and cases are shown at the section «Assessment tools».

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

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

Stages of examination
1. Stage - control of knowledge - testing;
2. Stage - demonstration of practical skills at the bedside (medical history,

physical examination, diagnosis, differential diagnosis, a plan for the screening, treatment and follow-up);

3. Stage - interview on the ticket and the decision of situational tasks.

Questions for a pass/fail test and examination are listed at the section «Assessment tools».

9. Maintenance of the course

9.1. The basic literature.

1. Buckup K. Clinical Tests for the Musculoskeletal System: Examinations—Signs—Phenomena [Электронный ресурс]/ K. Buckup. - 3rd ed.: Thieme, 2016 - URL: https://medone-education.thieme.com/ebooks/1743958#/ebook_1743958_SL68979544.
2. Matveev R. P. Clinical examination methods in traumatology and orthopedics [Электронный ресурс] : study guide/ R. P. Matveev, S. V. Bragina. -2-е изд., испр. и доп.. -Arkhangelsk: NSMU Publishing, 2020. - 135 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/M40-103592

9.2. Supplementary literature.

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

education.thieme.com/ebooks/2146146?fromSearch=true#/ebook_2146146_SL81904277.

9.3. List of Internet resources required for mastering of the discipline (module)

International databases

1	Database «Scopus»	http://www.scopus.com/
2	Electronic archive of magazines publishing SAGE PUBLICATIONS	www.sagepub.com
3	Electronic archive of magazines publishing IOP Publishing	http://iopscience.iop.org/jornals?type=archive
4	Electronic archive of magazines publishing OXFORD UNIVERSITY PRESS	www.oxfordjournals.org/
5	Electronic archive of magazine SCIENCE publishing AAAS	www.sciencemag.org.
6	Electronic archive of magazines publishing ROYAL SOCIETY OF CHEMISTRY	www.rsc.org/

University electronic library

1	Electronic library NSMU	http://lib.nsmu.ru/lib/

9.4 List of information technologies used in the educational process within the discipline (module), including software and referral systems

International databases

1	Database «Scopus»	http://www.scopus.com/
2	Electronic archive publishing magazines SAGE PUBLICATIONS	www.sagepub.com
3	Electronic archive publishing magazines IOP Publishing	http://iopscience.iop.org/jornals?type=archive
4	Electronic archive publishing magazines OXFORD UNIVERSITY PRESS	www.oxfordjournals.org/
5	Electronic archive of magazines SCIENCE publishing AAAS	www.sciencemag.org.
6	Electronic archive publishing magazines ROYAL SOCIETY OF CHEMISTRY	www.rsc.org/
7	Open University Archives in the international directory	http:/oa./lib.nsmu.ru/

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.

MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа № 2403 Морской медицины административный учебный корпус, 4 этаж *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, экран *в) перечень учебно-наглядных пособий:* схемы,таблицы *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 63, 2 этаж отделение ортопедии Договор № 550 от 05.07.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская областная клиническая больница». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, негатоскоп, скелет человека, транспортные шины *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.	163045, Архангельская область, г. Архангельск, проезд Сибиряковцев, д. 15

MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 71, 2 этаж отделение ортопедии Договор № 550 от 05.07.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская областная клиническая больница». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихсяна 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, негатоскоп, скелет человека, транспортные шины *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163045, Архангельская область, г. Архангельск, проезд Сибиряковцев, д. 15
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 50, 4 этаж Договор № 710 от 26.09.2017 года об организации практической подготовки обучающихся, заключаемый между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Первая городская клиническая больница им. Е.Е. Волосевич». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, негатоскоп, скелет человека *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.	163001, Архангельская область, г. Архангельск, пр. Троицкий, д. 143

MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Учебная аудитория для занятий семинарного типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 213 учебный корпус, 2 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, схемы по темам занятий, скелет человека *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163001, г. Архангельск, просп. Троицкий, д. 180

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 26th 2020

SYLLABUS OF THE DISCIPLINE

Discipline **Obstetrics and Gynecology**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **IV-VI/7-11**
Form of the interim assessment **Examination**
Department **of Obstetrics and Gynecology**
Discipline workload **504** (academic hours) / **14** (credits)

Approved at the department meeting
Minutes No.
June 26th 2020
Head of the department

A.N. Baranov

Authors and compilers:
Istomina Natalya Georgievna, Associate Professor of the Department of Obstetrics and Gynecology, Candidate of Medical Sciences; Usynin Maxim Vadimovich, Associate Professor of the Department of Obstetrics and Gynecology, Candidate of Medical Sciences

Arkhangelsk, 2020

1. Goal and tasks of the mastering of the course

Goal of the discipline	The goal of the discipline is to get knowledge about the processes of physiological pregnancy and childbirth, possible complications of gestational process and labor, to learn how to put a preliminary diagnosis, to provide emergency care in obstetrics; to get basic knowledge of female reproductive health physiology in different age periods and main gynecological diseases in order to be able provide diagnosis and primary emergency care for gynecological patient.
Tasks of the discipline	- to learn the obstetric and gynecological care organization principles; - to study general principles of obstetric and gynecological examination; - to get and to analyze the data of patient medical history and specific functions of the female organism; - to master clinical examination principles of pregnant women with physiological/pathological pregnancy, somatic co-morbidity; - to train students in history composition, examination of pregnant and gynecological patients on the basis of ethics and deontology, depending on the diagnosed pathology and special features of patients; - to study physiology and pathology of menstrual function; - to study physiology of pregnancy and childbirth, to get knowledge of pregnancy symptoms, characteristics of the fetus as an object of labor; - to get knowledge of the most dangerous pregnancy complications and childbirth, their risk factors, early symptoms, effects on the fetal condition, prevention methods; management, indications and methods of delivery; - to master principles and methods of primary emergency care in severe obstetric and gynecological cases; - to study methods of contraception and family planning; - to master principles of treatment and rehabilitation of a gynecological patient; - to train students in medical documentation filling-in (case history (stationary or outpatient), disability certificate, statistical chart, etc.); - to provide regular medical check-up of children of different ages in order to prevent severe diseases and their complications.

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

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

Courses for which mastering of the course is a necessary prerequisite are following:

Academic discipline "Obstetrics and Gynecology" refers to the Block 1, basic part.

For the mastering of Obstetrics and Gynecology knowledge in the following disciplines is required:

- human, social and economic cycle (the Latin language, foreign language, pedagogy and psychology, public health, health-care organization, health economics);

- Mathematics and Natural sciences cycle (Biology, Anatomy, Biochemistry, Anatomy, Normal physiology, Microbiology, Immunology, Pathological physiology, Pathological anatomy, Hygiene and ecology, Introduction to the internal diseases, General surgery and Topographical Anatomy, Radiology, Medical rehabilitation, Infectious diseases, Perinatology and Neonatology, Genetics, Intensive care, Phthisiatry, Clinical pharmacology).

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

Codes of the formed competences	**Competences**		
	a student has knowledge of	**a student is able to**	**a student masters**
	Professional competences		
PC-2	- the main methods of prophylactic medical examinations, the essentials of the preventive medicine, aimed on improvement of health in population, the problems of medical-sanitary care in people involved in occupational hazards	-to maintain prophylactic medical examinations; - to interpret the results of investigations, making the most likely diagnosis to a patient, to plan a complex of the additional investigations to make a diagnosis more detailed; - to make a clinical diagnosis; - to make a plan of treatment, taking into consideration the characteristics of the disease, to prescribe a therapy, to use the methods of the non-pharmacologic treatment, to provide rehabilitation measures in different diseases;	- toprovide prophylactic medical examination, - to estimate the condition of health of in population of different age-gender groups
PC-5	how to collect and analyze patient complaints, data of its history, examination results, laboratory, instrumental, and other studies in	analyze data	recognition the condition or fact of establishing the presence or absence

	order		of disease
PC-12	- thebasiclawsofRussia, includingregulationsregardingmothers' and children health protection; - themethodologyofthemedicalstatisticsinestimationoftheactivity of the medical organizations; - keepingreportrecordsatthe medical organizations of the women's and children health care; - the system of the women's health care (principles of the prophylactic medical examinations), pregnancy diagnostics, management of pregnancy and labor; - themodernmethodsofclinical, laboratory and instrumental investigations in patients (pregnant women, women in labor, postpartum patients); the general principles and features of diagnostics (prenatal and postnatal) of the inherent diseases and congenital malformations.	- toanalyzethequalityofthemedicalcare, the condition of health of pregnant and gynecological patients and the impact of the environmental and productionfactors on it; - tocollecta medicalhistory, to interview a patient (pregnant, in labor, in postpartum period), to make a general investigation (visual estimation of a patient, palpation, auscultation), to send a patient for the laboratory and instrumental investigations, consultation of the specialists; - to interpret the results of investigations, making the most likely diagnosis to a patient (pregnant, in labor, in postpartum period), to plan a complex of the additional investigations to make a diagnosis more detailed; - to make a clinical diagnosis; - to provide maternal health care; - to keep medical records, to fill a prescription.	- themethodsofproperkeepingthemedical records at the hospitals and out-patient clinics of the maternal health care; - themethods of general (and special) clinical investigation of pregnant women, women in labor, postpartum patients and a fetus; - interpretationoftheresultsof the laboratory and instrumental methods of diagnostics in pregnant and postpartum patients; - the algorithm of making of the most likely diagnosis with subsequent guiding a patient for additional diagnostics; - the algorithm of the detailed clinical diagnosis.

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

Total workload of the course is ___14__ credits.

	Type of academic work	Total hours	Term
Discipline workload (in academic hours)	Lectures (L)	78	7-11
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	160	7-11
	Laboratory-based practicals (LBP)		
	Simulation-based practicals (SBP)		
	Preparation for the examination (PE)	33,7	11
	Preparation for the credit (PC)		
	Exam consultations (EC)	2	11
	Coursework (CW)		
	Unsupervised work (UW) (total)	230	7-11
	Examination control (EC)	0,3	11
	Total course workload	**504**	7-11

5. Contents of the course:

5.1. Contents of the sections of the course

No	Name of the course section	Content of the section
1	2	3
Obstetrics **Section 1. Physiological Obstetrics (term 7)**		
1	The structure and organization of the maternity hospital. The structure and organization of outpatient obstetric care setting. Sanitary-epidemiological system in Maternity Hospital	The structure and organization of the maternity hospital. The structure and organization of the welfare clinic. Sanitary-Epidemiological system in Maternity Hospital. The structure of the maternity hospital. The organization of in-patient transfer. The structure of the welfare clinic, antenatal screening aim, prophylactic measures, family planning, social assistance for pregnant women, Obstetric care indices
2	Female reproductive system.Development stages and physiology. Fertilization and pregnancy development. Fetal physiology. Placental functions. Physiologic alterations during pregnancy	Stages of the female reproductive system development, malformations of the external and internal genitalia, regulation in the reproductive system. Histology of the ovum and sperm. Fertilization. Implantation. Placentation. Embryonic and fetal development periods. Physiological alterations during pregnancy.
3	Methods of obstetric examination. Diagnosis of early pregnancy. Methods to evaluate fetal well-being	Specific features of history-taking in obstetrics.Obstetric examination. Pelvimetry. Soloviev's Index. Leopold manoeuvres. Auscultation of fetal heartbeats. Vaginal examination of pregnant patient. Diagnosis of pregnancy (presumably, probable and valid symptoms, laboratory tests). Determination of gestational age and expected date of delivery. The

		concept of obstetric and perinatal risk groups. The concept of obstetric screening. Booking visit in antenatal screening programm. Obstetric records. Methods to evaluate fetal well-being. Biochemical screening, ultrasound obstetric examination, CTG, Doppler. Additional methods - amnioscopy, amniocentesis, chorionic villus sampling, cordocentesis, biopsy of the fetal tissues.
4	Fetus as the object of delivery. Female pelvis from obstetric point of view. Labor mechanism in occipital presentation.	Fetal head anatomy and sizes. Female pelvis anatomy, pelvic planes, sizes, axis. Pelvic floor muscles, blood supply and innervation of the pelvic muscles. Definition of labor mechanism. Labor mechanism moments in occiput presentation
5	Preparatory phase of the labor onset. Physiology and management of labor	The reasons for the labor onset. Clinical features of the preliminary phase. Bishop's score. Labor stages (dilatation, the expulsion of the fetus, placental). Labor management specificity in I, II and III stage of labor. The position of the fetal head with respect to the pelvic planes. Coping with pain during labor. Perineum safeguard technique. Primary care for the newborn. Apgar score. Signs of placental separation. Methods to remove the placenta. Examination of the placenta.
6.	Puerperium.	The early puerperium management. Physiology of the puerperium. Mammary glands changes in puerperium. Lactation. Late puerperiu management. Postpartum Contraception
Section 2: Pathology of pregnancy, childbirth and the puerperium (term 8)		
7.	Pregnancy complications at early stages. Preeclampsia. Eclampsia.	Nausea and vomiting in pregnancy. Salivation. Rare forms - dermatosis, tetany, osteomlyatsiya, acute yellow atrophy of the liver, asthma of pregnant. Hypertension during pregnancy - classification, etiology and pathogenesis, Preeclampsia. Eclampsia. Indication for pregnancy termination. Management of labor and the postpartum period. Postpartum therapy of severe preeclampsia.
8.	Pregnancy with somatic co-morbidity	Antenatal management of pregnant women with cardiovascular diseases (heart disease, hypertension, rheumatism), kidney disease (pyelonephritis, glomerulonephritis, kidney insufficiency), chronic anemia, diabetes mellitus, liver disease. Medical complications of pregnancy.
9	Miscarriage. Preterm delivery. Post-term delivery.	Spontaneous abortion - definition, causes, clinical features, differential diagnosis, therapy. Preterm birth (definition, obstetric care, prevention). Primary care and resuscitation of a

		premature baby. Post term delivery - definition, causes. Signs of postterm child. Labor induction indications, management specificity.
10.	Abnormal labor contractions. Placental insufficiency.	Placental function. Etiology and pathogenesis of the placental insufficiency; diagnosis, principles of therapy. Primary and secondary uterine hypotonic contractions. Precipitate delivery. Uterine dystocia. Main principles of management.
11.	Contracted pelvis. Multiple pregnancy. Fetal macrosomia	Contracted pelvis-definition, classification. Labor mechanism specificity in various forms of pelvic contraction. Clinical features of labor in case of contracted pelvis. Feto-pelvic disproportion. Fetal macrosomia. Delivery planning. Etiology of multiple pregnancy. Diagnosis, possible complications, management of multiple pregnancy.
12.	Fetal malpositions. Breech presentation. Fetal cephalic malpresentation	Classification, risk factors and diagnosis of fetal malposition. Breech presentation - definition, classification. Labor mechanism in breech presentation. Management of pregnancy and childbirth. Manoeuvres by Tsovyanov, Mauriceau–Smellie–Veit to assist natural birth. Oblique and transverse position of the fetus. Management of pregnancy and delivery. Fetal cephalic malpresentations, diagnosis, risk factors, management.
13.	Placenta previa. Placental abruption. Placental anomalies. Atonic uterine bleeding in the early and late postpartum period.	The classification of placenta previa. The etiology and pathogenesis, pregnancy and delivery management. Placental abruption etiology and pathogenesis, clinical features, diagnosis, management of pregnancy and childbirth. Placenta accreta - classification, diagnosis, obstetrical tactic. The concept of the uterine atony. Risk factors, symptoms and management. Late postpartum hemorrhage. Emergency care. Prevention of postpartum hemorrhage
14.	Puerperium infections.	Puerperium infections classification, etiology, pathogenesis. Puerperium wound infection, endometritis, thrombophlebitis. Obstetric peritonitis. Sepsis. Postpartum lactation mastitis.
Section 3: Obstetric surgery (term 8)		
15.	Obstetric trauma. Operative vaginal delivery techniques. Caesarean section.	Birth canal lacerations. Perineal tears. Vaginal and cervical ruptures. Uterine rupture. Classification, etiology, pathogenesis, treatment measures. Threatening, the beginning and the accomplished

		uterine rupture. Obstetric forceps, vacuum extraction of the fetus. Cesarean section indications and technique. Management of the postoperative period. Complications and long-term consequences. Prevention of postpartum infections.
Gynecology. **Section 1: General gynecology (term 9)**		
16	Diagnostics in Gynecology	Features of the gynecological examination: general, pelvic examination, hormonal, instrumental, x-ray, ultrasound, immunological, etc. Case history of gynecologic patient.
17.	Abnormal Uterine Bleeding. Dysfunctional Uterine Bleeding. Dysmenorrhea.	Etiology, pathogenesis, classification, symptoms. Methods of diagnosis. Treatment. Prevention. Rehabilitation of reproductive function
18.	UterineFibroid. Endometriosis. Adenomyosis.	Etiology, pathogenesis, classification. Symptoms.. Methods of diagnosis. Treatment. Prevention. Rehabilitation of reproductive function
19.	Vaginal Infections. Pelvic Inflammatory Disease (PID).	Etiology, pathogenesis, classification. Symptoms.. Methods of diagnosis. Treatment. Prevention. Rehabilitation of reproductive function
20.	Hormonal Contraception	History. Classifications. Principles of contraceptive action. Pearl index. Investigations. Contraindications. Non-contraceptive benefits.
Section 2: General gynecology (term 10)		
21.	Ovarian Cysts and Tumors. Ovarian Cancer.	Etiology, pathogenesis, classification. Symptoms.. Methods of diagnosis. Treatment. Prevention. Rehabilitation of reproductive function
22.	Amenorrhea.	The concept of family planning. Methods of contraception. Contraindications. Therapeutic effects of hormonal contraceptives. Features of contraception in different age-groups.
23.	Menopausal and Senile Period in Women.	
Section 3: Emergency gynecology (term 10)		
24.	Acute abdomen in gynecology (apoplexy of the ovary, ovarian cyst rupture, uterine fibroid's necrosis).	Etiology, pathogenesis, classification. Symptoms.. Methods of diagnosis. Treatment. Prevention. Rehabilitation of reproductive function

Section 4: Operative gynecology (term 10)		
25.	Artificial abortion.	Safe artificial abortion - indications, techniques, possible complications. Rehabilitation of the reproductive system.
25	Operative gynecology.	Gynecological surgery. Possible access, volume of transaction, technique. Postoperative management.

5.2. Course sections and types of studies

No	Name of the course section	L	P	S	LBP	CP	Self-studies	Total hours
1	2	3	4	5	6	7	8	9
Obstetrics Module								
1.	The subject of an obstetrics. Obstetric care organisation. Main indices	2						2
2.	The structure and organization of the maternity hospital. Prophylaxy of nosocomial infections					5	2	7
3	Physiology of a menstrual function	2					2	2
4	Fertilisation. Early stages of embryo development	2					2	2
5	Placental physiology	2					2	2
6	Physiology alterations during pregnancy	2					2	2
7.	Fetus as the object of delivery. Female pelvis from an obstetric point of view.					5	4	9
8.	Pregnancy diagnosis. Obstetric examination. Additional methods of obstetrical examination.					5	2	7
9.	Outpatient obstetric setting. Antenatal screening.					5	4	9
10.	Labor mechanism in occipital presentation.					5	4	9
11	Labor physiology	2					2	2
12	Labor pain relief	2					2	2
13	Labor management in 1st and 2nd stages.					5	2	7
14	Labor management specificity in 3rd stage of labor. Early postpartum period.					5	2	7
15	Puerperium. Anatomy and physiology of the newborn. Primary care for the newborn, principles of resuscitation. Breastfeeding	2				5	2	9

16	Antenatal screening. Methods to evaluate fetal well-being.	2				5	2	7
17	Abnormal uterine contractions	2				5	2	9
18	Contracted pelvis. Feto-pelvic disproportion.	2				5	2	9
20	Abnormal cephalic presentation.Fetal malposition.					5	2	7
21	Pregnancy and delivery in breech presentation. Fetal small parts presentation and prolaps.					5	2	7
22	Miscarriage.	2				5	2	9
23	Preterm birth. Prematurity. Post-term delivery.	2				5	2	9
24	Multiple pregnancy.	2				5	2	9
25	Maternal labor trauma. Delivery techniques.	4				5	4	13
26	Antenatal bleeding: placenta praevia, placenta accreta. Haemorrhagic shock	2				5	2	9
27	Postpartum bleeding. DIC-syndrome.	2				5	2	9
28	Puerperium infections.	2				5	2	9
29	Complications of early pregnancy. Hypertension during pregnancy Diagnosis. Management.	4				5	2	11
30	Isosensibilisation during pregnancy	2					2	2
31	Cardiac pathology in pregnancy (heart disease, arrhythmia, anemia and kidney pathology)	6				5	2	9
32	Endocrine pathology Gastro-intestinal pathology during pregnancy. Acute surgical diseases in pregnant women.	6				5	2	9
33	Fetal pathology (malformations, IUGR, fetal hypoxia, neonatal asphyxia).	4				5	4	9
34	Placental insufficiency.	2					2	2
35	Perinatal infections	2					2	2
36	Case history record						8	8

Gynecology Module

1.	Semiotics and methods of gynecological examination					5	2	7

2.	Abnormal uterine bleeding	2				5	6	11
3.	Pelvic inflammatory disease.	2				5	6	11
4.	Menstrual function disorders.	2				5	6	11
5.	Ovarian cysts. Ovarian pathology	2				5	6	11
6.	Leiomyomata. Endometriosis.	2				5	4	11
7.	Gynecologycal cancer					5	6	9
8.	Cervical pathology. Pathology of endometrium..	2				5	6	11
9.	Differential diagnosis with surgical pathology.	2				5	6	9
10.	Family planing. Methods of contraception.	2				5	4	11
11.	Artificial abortion. Indications for pregnancy termination, methods in 1 and 2 trimester. Possible complications.	2				5	4	11
12.	Gynecological surgery. Preparation. postoperative care..					5	4	9
13.	Genital system development. Genital malformations.	2				5	6	11
14.	Endocrinal syndromes in gynecology.Menopausal physiology and pathology.	4				5	8	13
15.	Genital prolaps. Urination disturbances	2				5	4	11
16.	Sexually transmitted infections. Genital tuberculosis.	2				5	4	11
17.	Viral infections in gynecology. Herpes simplex. Papilloma-virus infection.	2				5	2	11
18.	Endometrial hyperplasia and endometrial cancer.	2					4	6
19.	Endocrinal syndromes in gynecology	2					4	6
20.	Infertility. Assisted reproductive techniques.	2				5	4	11
21.	Organisation of gynecologycal care for children and adolescents.	2					4	6

	Gynecologycal pathology in these age groups.							
22.	Case-history record.						6	6
	Total:	78				160	230	504

6. Interactive forms of studies

No	Name of the course section	Interactive forms of studies	Duration (hours)
1.	Obstetric examination. Early pregnancy diagnosis.	Working off on models and phantoms.	2
2.	Female pelvis from an obstetric point of view. Fetus as an object of a delivery	Working off on models and phantoms. Video support.	2
3.	Labor physiology and management	Working off on models and phantoms. Discussion of clinical cases Video support.	2
4.	Puerperium physiology and management	Working off on models and phantoms. Analysis of clinical situations.	2
5.	Preeclampsia and eclampsia	Discussion of clinical cases (in Moodle)	2
6.	Pregnancy and somatic co-morbidity	Discussion of clinical cases (in Moodle)	2
7.	Miscarriage and preterm delivery	Discussion of clinical cases (in Moodle)	2
8.	Postterm pregnancy	Discussion of clinical cases (in Moodle)	2
9.	Labor contractions abnormality	Discussion of clinical cases (in Moodle)	2
10.	Vaginal birth in breech presentation	Working off on models and phantoms. Discussion of clinical cases	2
11.	Antenatal bleeding	Discussion of clinical cases (in Moodle)	2
12.	Postpartum haemorrhage	Discussion of clinical cases (in Moodle)	2
13.	Delivery techniques	Working off on models and phantoms. Discussion of clinical cases. Video support.	2
14.	Gynecologycal examination	Working off on models and phantoms. Video support.	2
15.	Main gynecological investigations	Working off on models and phantoms. Video support.	2
16.	Differential diagnosis in pevic tumors	Working off on models and phantoms.. Video support.	2
		Total (% of in-class learning)	32 (16%)

7. Extracurricular self-studies of students

No	Name of the course section	Types of self-studies	Forms of control
1	Maternity department organisation.	Self-work with manual.	1.MCQ 2.Oral survey

2	Female pelvis from an obstetric point of view. Fetus as an object of a delivery	Self-work with manual.	1.MCQ 2.Oral survey
3	Additional methods of obstetric examination	Working off on models and phantoms. Viewing educational videos.	1.MCQ 2.Oral survey
4	Management of normal labor	Working off on models and phantoms. Viewing educational videos.	1.MCQ 2.Oral survey
5	Vaginal birth in breech presentation. Fetal small part prolapse.	Working off on models and phantoms.. Viewing educational videos.	1.MCQ 2.Oral survey
6	Preeclampsia	Preparation of a report and presentation	1.Case study
7	Medical complications in pregnancy	Preparation of a report and presentation, an independent development of control questions for discussion in the group.	1.MCQ 2.Oral survey 3. Case study
8	Emergency care in postpartum bleeding	Viewing educational videos.	1.MCQ 2.Oral survey
9	Preterm delivery. Possterm delivery	Preparation of a report and presentation, an independent development of control questions for discussion in the group.	1 Case study
10	Main gynecological diagnostic manipulations	Working off on models and phantoms.. Viewing educational videos.	1.MCQ 2.Oral survey
11	Pelvic inflamatory disease	Preparation of a report and presentation, an independent development of control questions for discussion in the group.	1.MCQ 2.Oral survey 3. Case study
12	Menstrual function disorders	Preparation of a report and presentation, an independent development of control questions for discussion in the group.	1.MCQ 2.Oral survey 3. Case study
13	Genital tumors	Preparation of a report and presentation, an independent development of control questions for discussion in the group.	1.MCQ 2.Oral survey 3.Case study
14	Differential diagnosis of gynecological and surgical pathology	Preparation of a report and presentation, an independent development of control questions for discussion in the group.	1.MCQ 2.Oral survey 3. Case study
15	Family planing. Methods of contraception	Self-work with manual.	1.MCQ 2.Oral survey

16	Abortion	Self-work with manual. Viewing educational videos.	1.MCQ 2.Oral survey 3.Case study

8. Forms of control

8.1. Current forms of control

- oral (an interview, a credit)
- technical means (training tests, certification tests)
- written (tests, essays, abstracts, practice report).

A subject list of abstracts, reports, essays, tests, term papers, test collections and cases are shown at the section «Assessment tools».

8.2. Forms of interim attestation

Intermediate control - credit

Final control - examination

9. Library and information materials of the course

9.1. Compulsory course literature

(*available in/via the library of NSMU***)**

1. D.C. Dutta Text Book of Obstetrics : including Perinatology and Contraception/ Dutta D. C. . - 6th. ed.: New Central Book Agency LTD, 2009. - 685p.
2. CDC Dutta's textbook of Obstetrics including Perinatology and Contraception/ Dutta D.C. - 7th ed. - 2013. - 692 p.
3. Obstetrics by Ten Teachers/ ed. Philip N. Baker. -18 th.ed.. -London: Edward Arnold (Publishers) Ltd, 2006. -340 p.
4. Gynaecology by Ten Teachers/ ed. Ash Monga. -18 th.ed.. -London: Edward Arnold (Publishers) Ltd, 2006. -245 p.
5. Акушерство [Электронный ресурс] : учебник/ Г. М. Савельева [и др.]. -Москва: ГЭОТАР-Медиа, 2010. -651,[1] с: ил., цв.ил. - Режим доступа: http://www.studmedlib.ru/
6. Гинекология [Электронный ресурс] : учебник [для студентов медицинских вузов, ординаторов, аспирантов]/ Б. И. Баисова ; ред.: Г. М. Савельева, В. Г. Бреусенко. - 4-е изд., перераб. и доп.. -Москва: ГЭОТАР-Медиа, 2012. -432 с.: ил. - Режим доступа: http://www.studmedlib.ru/.
7. Gynecology [Электронный ресурс] : textbook/ ed.: V. E. Radzinskiy, A. M. Fuks. - Москва: ГЭОТАР-Медиа, 2020. -896 с.- URL: https://www.studentlibrary.ru/ru/book/ISBN9785970457993.html
8. Акушерство [Электронный ресурс] : учебник/ Г. М. Савельева [и др.]. -Москва: ГЭОТАР-Медиа, 2015. -656,[1] с: ил., цв.ил.- URL: http://www.studentlibrary.ru/book/ISBN9785970432952.html
9. Гинекология [Электронный ресурс] : учебник [для студентов медицинских вузов, ординаторов, аспирантов]/ Б. И. Баисова ; ред.: Г. М. Савельева, В. Г. Бреусенко. - 4-е изд., перераб. и доп.. -Москва: ГЭОТАР-Медиа, 2018. -432 с.: ил.- URL: http://www.studentlibrary.ru/book/ISBN9785970422540.html

9.2. Supplementary course literature
(*available in/via the library of NSMU*)

1. Nikolaeva O. A. Maternity department : Handbook for students/ O. A. Nikolaeva, T. S. Kachalina, G. O. Grechkanev. -N.Novgorod: Publishing House of Nizhny Novgorod State Medical Academy, 2007. -68 p
2. Nikolaeva O. A. Pathological gestation : Handbook for students/ O. A. Nikolaeva, T. S. Kachalina, G. O. Grechkanev; Ministry of public health, Nizhny Novgorod Medical Academy, Department of obstetrics and gynecology. -N.Novgorod: Publishing House of Nizhny Novgorod State Medical Academy, 2007. -67 p.
3. Трещева, Наталья Дмитриевна. Ситуационные задачи по гинекологии [Текст] : учеб. пособие для вузов по специальностям: лечеб. дело, педиатрия / Н. Д. Трещева ; М-во здравоохранения Рос. Федерации, Сев. гос. мед. ун-т. Каф. акушерства и гинекологии. - Архангельск : Изд-во СГМУ, 2014. - 373, [1] с.
4. Трещева, Наталья Дмитриевна. Тесты по основным разделам патологического акушерства [Текст] : учеб.-метод. пособие: в 2- х ч. / Н. Д. Трещева ; М-во здравоохранения Рос. Федерации, Сев. гос. мед. ун-т. Каф. акушерства и гинекологии. - Архангельск : Изд-во СГМУ, 2013.
5. Obstetrics [Электронный ресурс] : учебное пособие/ ред.: В. Е. Радзинский, А. М. Фукс, Ч. Г. Гагаев. -Москва: ГЭОТАР-Медиа, 2019- URL:

9.3. List of Internet resources required for mastering of the discipline (module)

1. WHO official site for maternal and perinatal health: http://www.who.int/reproductivehealth/publications/maternal_perinatal_health/en/
2. Cochrane Summaries: http://www.cochrane.org/evidence
3. The Royal College of Obstetricians and Gynaecologists (RCOG) official site: https://www.rcog.org.uk/guidelines
4. Society of Obstetricians and Gynaecologists of Canada (SOGC) official site: http://sogc.org/clinical-practice-guidelines/
5. American Congress of Obstetricians and Gynecologists (ACOG) official site: http://www.acog.org/
6. The International Federation of Gynecology and Obstetrics (FIGO) official site: http://www.figo.org/publications-resources
7. Centers for disease control and prevention (CDC): http://www.cdc.gov/

9.4 List of information technologies used in the educational process within the discipline (module), including software and referral systems

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.

MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа №2403 Морской медицины, административный учебный корпус, 4 этаж *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, экран *в) перечень учебно-наглядных пособий:* схемы, таблицы *г) используемое программное обеспечение:* Kapersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. Срок действия до 05.12.2021 г. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 20, 1 этаж акушерско-гинекологический корпус Договор № 550 от 05.07.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская областная клиническая больница». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, муляжи, табличные и справочные материалы, тонометр Gamma G7, стетоскоп, фонендоскоп, термометры, весы электронные, ростомер, муляж гинекологический, банк кейсов различных неонатальных заболеваний,	163045, Архангельская область, г. Архангельск, пр. Ломоносова, д. 292

систематизированные по нозологическим формам *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 26, 1 этаж акушерско-гинекологический корпус Договор № 550 от 05.07.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская областная клиническая больница». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования:* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, муляжи, табличные и справочные материалы, тонометр Gamma G7, стетоскоп, фонендоскоп, термометры, весы электронные, ростомер, муляж гинекологический *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163045, Архангельская область, г. Архангельск, пр. Ломоносова, д. 292
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 27, 1 этаж акушерско-гинекологический корпус Договор № 550 от 05.07.2017 года об организации практической подготовки обучающихся, заключаемый между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская областная клиническая больница». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихсяна 14 мест, основное оборудование, *б) наборы демонстрационного оборудования*	163045, Архангельская область, г. Архангельск, пр. Ломоносова, д. 292

ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, муляжи, табличные и справочные материалы, тонометр Gamma G7, стетоскоп, фонендоскоп, термометры, весы электронные, ростомер, муляж гинекологический *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Симуляционный класс № 426, учебный корпус, 4 этаж: родильный зал для отработки навыков. *перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины. Столик манипуляционный МСК-549-02-МСК, кровать для родовспоможения с матрацом, ширма, шкаф, система реанимационная открытая для ухода за новорожденными Ampla 2085, модель таза женщины для демонстрации движения плода на подставке, расширенная версия гинекологического фантома родов, робот-симулятор для отработки навыков родовспоможения женщине "Люсина", монитор фетальный Овертон 6900, система "ВиртуЭЛЬ" для отработки навыков родовспоможения и оказания приемов неотложной помощи в акушерской практике, модель демонстрации родового канала женщины на подставке, симулятор гибридный для обучения бимануальному гинекологическому исследованию, фантом гинекологический, манекен "ВиртуБОРН" новорожденного для отработки расширенных лечебно-реанимационных действий в неонатологии,полная комплектация с ЭКГ	163001, г. Архангельск, просп. Троицкий, д. 180
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 425, учебный корпус, 4 этаж (кабинет для дебрифинга) *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 12 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор, телевизор, маркерная доска *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.	163001, г. Архангельск, просп. Троицкий, д. 180

MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	

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 26th 2020

SYLLABUS OF THE DISCIPLINE

Discipline **Occupational Diseases**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI/12**
Form of the interim assessment **Credit**
Department **of Family and Internal Medicine**
Discipline workload **72** (academic hours) / **2** (credits)

Approved at the department meeting
Minutes No.
June 11th 2020
Head of the department
V.V. Popov

Author and compiler:
Popov Vladimir Viktorovich, Head of the Department of Family and Internal Medicine, Professor of the Department of Family and Internal Medicine, Doctor of Medical Sciences; Novikova Irina Albertovna, Professor of the Department of Family and Internal Medicine, Doctor of Medical Sciences

Arkhangelsk, 2020

1. Goal and tasks of the mastering of the course

Goal of the discipline	The goal of the discipline is to form professional competencies of specialists who have the readiness and ability for independent professional activities to provide medical care for treating occupational diseases.
Tasks of the discipline	- determination of the main pathological conditions, symptoms, syndromes of diseases and nosological forms due to the impact of harmful and dangerous factors of the working environment and labor process; - carrying out optimal differential diagnostic measures to establish and exclude the preliminary diagnosis of an occupational disease; - providing medical care for acute and chronic occupational diseases; - examination of temporary disability and referral to medical and social examination of patients with acute and chronic occupational diseases; - registration of medical documentation of patients with preliminary and established diagnosis of an occupational disease.

2. 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: Order of the Ministry of Education and Science of the Russian Federation № 95 dated 09.02.2016 «On approval of the federal state educational standard of higher education in the field of preparation 31.05.01 medical business (specialty level)».

In accordance with the requirements of the GEF VPO in the direction of training "medicine" clinical discipline « Occupational disease" is included in the basic (mandatory) part of the professional training cycle of the basic educational program.

To master the discipline «Occupational diseases» it is necessary to study the following disciplines: «normal physiology», «pathological physiology», «hygiene», «therapy», «neurology», «dermatovenerology», «otorhinolaryngology», «ophthalmology», «infectious diseases», «oncology».

The main attention is paid to the study of the influence of harmful and dangerous factors of the working environment and the labor process on the formation of professional and production-related diseases, clinical manifestations of occupational diseases, differential diagnostic search using modern laboratory, functional and other methods and principles of treatment of occupational diseases.

Teaching of the discipline «Occupational diseases» is carried out, including on the basis of specialized departments of occupational pathology.

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

Codes of the formed competences	Competences		
	a student has knowledge of	**a student is able to**	**a student masters**
General professional competences			
GPC – 6 Readiness to maintain medical records	Basic forms of primary medical documentation for occupational diseases / suspected occupational diseases and rules of their registration	Fill in the notice of acute or chronic occupational disease. State in the medical card of the out-patient and the medical card of the in-patient data of examination of the patient with justification of the preliminary diagnosis of the occupational disease and the plan of further management	Design skills – notices of acute or chronic occupational disease; – medical card of an ambulatory patient, including an occupational disease/ suspected occupational disease – patient's medical card, including occupational disease/ suspected occupational disease
Professional competences			
PC - 6 The ability to determine in a patient the main pathological conditions, symptoms, disease syndromes, nosological forms in accordance with the International Classification of Diseases and Health Problems, X revision	The causes and mechanisms of the main pathological processes in the body, including due to exposure to harmful and (or) dangerous factors of the working environment and the labor process Clinical symptoms and syndromes of the most common diseases occurring in a typical classical form. Methods of detection and rational diagnosis of acute and chronic occupational diseases	Get information about the disease, conduct an examination and evaluate the data of the physical examination of the patient Make a plan for laboratory, instrumental, hardware examination of the patient working with harmful factors of the working environment and the labor process Interpret the results of general and special laboratory, radiation, functional and endoscopic research methods Make a differential diagnosis	Methods of collecting anamnestic data, monitoring the patient and analyzing the information received Methods of drawing up a plan of examination of a patient with suspected occupational disease using modern diagnostic methods and analysis of research results The methodology of the statement of the preliminary diagnosis of occupational disease (taking into account the professional route, sanitary and hygienic characteristics of

		Establish a preliminary diagnosis of acute and chronic occupational disease.	working conditions, data from periodic medical examinations)
PC-7 Willingness to conduct an examination of temporary disability, participate in the conduct of medical and social expertise, ascertaining the biological death of a person	The main regulatory legal documents governing the examination of temporary disability and referral to medical and social expertise, including in case of occupational diseases. Principles of employment of patients with occupational diseases and people with disabilities due to occupational diseases	To examine the temporary disability of a patient with an occupational disease. To send a patient with an occupational disease to the medical and social assessment in order to decide on the possibility of continuing his professional activity.	The method of examination of temporary disability in occupational diseases Methodology directions for medical and social examination of patients with occupational diseases
PC 10 readiness to provide medical care for sudden acute diseases and conditions, exacerbation of chronic diseases that do not involve a threat to patient's life and do not require emergency medical care	knows adequate (thera-peutic and surgi-cal) treatment for patients with in-fectious and non-communicable diseases	- can follow an algorithm in the choice of drug and non-drug therapies for pa-tients with infec-tious and non-communicable dis-eases, observe nor-mal pregnancy and deliver a baby	administering adequate treatment according to the diagnosis

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

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

	Type of the academic work	**Total hours**	**Term**
Discipline workload (in academic hours)	Lectures (L)	10	12
	Seminars (Sem.)		
	Practical classes (PC)	25	12
	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)	37	12
	Examination control (EC)		

	Total course workload	**72**	12

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.	Introduction to the clinic of occupational diseases	Introduction to the clinic of occupational diseases and its objectives. General questions of professional pathology. The role of working conditions in the formation of professional and production-related diseases. Fundamentals of legislation on labor protection. Preliminary and periodic medical examinations. Therapeutic and preventive nutrition. Examination of the connection of the disease with the profession. Recording and investigation of occupational diseases
2.	Occupational diseases of chemical etiology	Intoxication with metals and chemicals in industry. Intoxication with substances of irritating and suffocating action. Pesticide intoxication.
3.	Occupational diseases of respiratory organs of dust etiology	General information on dust lung diseases. Silicosis. Asbestosis and karbokoniozy. Metallocenes. Diagnosis, treatment, prevention and medical and social expertise in pneumoconiosis. Chronic dust bronchitis.
4.	Occupational diseases caused by physical factors	Vibration disease. Sensorineural. Impact of sources of non-ionizing and ionizing radiation on the human body. The impact of high and low temperatures of the working environment on the human body. Diseases caused by changes in atmospheric pressure.
5.	Occupational diseases from overstrain of separate organs and systems	Diseases of the musculoskeletal system and peripheral nerves. Diseases of the vocal apparatus, organ of vision, professional psychoneurosis
6.	Reproductive health of workers	The influence of professional factors on the reproductive health of workers
7.	Occupational allergic diseases	Professional bronchial asthma. Occupational allergic diseases of the upper respiratory tract and ski
8.	Occupational diseases caused by biological factors	Occupational diseases caused by products of microbiological synthesis. Occupational zoonotic infections. Professional mycoses

5.2. Sections and types of studies

No.	**Name of the course section**	**L**	**S**	**P**	**CP**	**LBP**	**SBP**	**UW**	**Total hours**

1.	Introduction to the clinic of occupational diseases	2			5				7
2.	Occupational diseases of chemical etiology	2			5			12	19
3.	Occupational diseases of respiratory organs of dust etiology	2			5				7
4.	Occupational diseases caused by physical factors	2	5					13	20
5.	Occupational diseases from overstrain of separate organs and systems	2	5						7
6.	Reproductive health of workers	2			5				7
7.	Occupational allergic diseases				3				3
8.	Occupational diseases caused by biological factors				2				2
	Total hours	**12**	**10**		**25**			**25**	**72**

6. Interactive forms of studies

No.	Name of the course section	Interactive forms of studies	Duration (hours)
1.	Occupational diseases caused by chemical factors	Discussion at the practical lesson	4 hours
2.	Occupational diseases caused by physical factors	Discussion at the practical lesson	4 hours
		Total (hours)	8 hours
		Total (% of the class activities)	7,4%

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

No.	Name of the course section	Types of the unsupervised work	Forms of control
1.	Introduction to the clinic of occupational diseases	Small group work: review of scientific publications (optional tasks) – preparation of the presentation on the given topics, – writing essays on specific topics; – preparation of an annotated list of scientific	Presentation of the report at the practical lesson, participation in the discussion Essay assessment

		publications for the last 5 years	
2.	Occupational diseases of chemical etiology	Small group work: review of scientific publications (optional tasks) – preparation of the presentation on the given topics, – writing essays on specific topics; – preparation of an annotated list of scientific publications for the last 5 years	Presentation of the report at the practical lesson, participation in the discussion Essay assessment
3.	Occupational diseases of respiratory organs of dust etiology	Small group work: review of scientific publications (optional tasks) – preparation of the presentation on the given topics, – writing essays on specific topics; – preparation of an annotated list of scientific publications for the last 5 years	Presentation of the report at the practical lesson, participation in the discussion Essay assessment
4.	Occupational diseases caused by physical factors	Small group work: review of scientific publications (optional tasks) – preparation of the presentation on the given topics, – writing essays on specific topics; – preparation of an annotated list of scientific publications for the last 5 years	Presentation of the report at the practical lesson, participation in the discussion Essay assessment
5.	Occupational diseases from overstrain of separate organs and systems	Small group work: review of scientific publications (optional tasks) – preparation of the presentation on the given topics, – writing essays on specific topics; – preparation of an annotated list of scientific publications for the last 5 years	Presentation of the report at the practical lesson, participation in the discussion Essay assessment
6.	Reproductive health of workers	Small group work: review of scientific publications (optional tasks)	Presentation of the report at the practical lesson, participation in the discussion

		– preparation of the presentation on the given topics, – writing essays on specific topics; – preparation of an annotated list of scientific publications for the last 5 years	Essay assessment
7.	Occupational allergic diseases	Small group work: review of scientific publications (optional tasks) – preparation of the presentation on the given topics, – writing essays on specific topics; – preparation of an annotated list of scientific publications for the last 5 years	Presentation of the report at the practical lesson, participation in the discussion Essay assessment
8.	Occupational diseases caused by biological factors	Small group work: review of scientific publications (optional tasks) – preparation of the presentation on the given topics, – writing essays on specific topics; – preparation of an annotated list of scientific publications for the last 5 years	Presentation of the report at the practical lesson, participation in the discussion Essay assessment

8. Forms of control

8.1. 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 section 'Evaluation tools'.

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

Stages of the interim assessment

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

Questions for a pass/fail test and an examination, a theme list of test collections and situational problems are shown at the section 'Set of the evaluation tools for the current control and interim assessment of students'.

9. Library and information materials of the course

9.1. Compulsory literature

1. Dotsenko S.Y., Afanas`ev A. V., Samura B. B., Tokarenko I. I., Tyaglaya V. N. Occupational diseases (tutorial for practical exercises). – 2015, Zaporizhzhya.
2. Koh, D., & Takahashi, K. (2011). Textbook of Occupational Medicine Practice. (3rd ed.).
3. Kostyuk I. and Kapustnyk V. Occupational Diseases: Manual. – Kharkiv: Osnova, 2005.
4. Smedley, J., Dick, F., & Sadhra, S. (2007). Oxford handbook of Occupational Health.
5. Siegenthaler W. Differential Diagnosis in Internal Medicine: From Symptom to Diagnosis [Электронный ресурс]/ W. Siegenthaler: Thieme, 2007- URL: https://medone-education.thieme.com/ebooks/2193980?fromSearch=true#/ebook_2193980_SL83144759
6. Профессиональные болезни [Электронный ресурс] : учебник/ Н. А. Мухин [и др.]. -2-е изд., перераб. и доп.. -Москва: ГЭОТАР-Медиа, 2016. -512 с.: ил.- URL: http://www.studmedlib.ru/book/ISBN9785970436660.html

9.2. Supplementary literature

1. Beckett, W. S. (2000-02-10). "Occupational respiratory diseases". The New England Journal of Medicine. 342 (6): 406–413.
2. Coenraads, P. J.; Diepgen, T. L. (1998-02-01). "Risk for hand eczema in employees with past or present atopic dermatitis". International Archives of Occupational and Environmental Health. 71 (1): 7–13.
3. Health & Safety Executive (HSE). 2012. Musculoskeletal disorders. Available at: www.hse.gov.uk/statistics/causdis/ musculoskeletal/msd.pdf [4 Feb. 2013].
4. International Labour Office (ILO). 2013. GB.317/POL/3 Prevention of occupational diseases, Report, 317th Session of the Governing Body, Geneva, 2013 (Geneva). Available at: www.ilo.org/wcmsp5/groups/public/---ed_norm/---relconf/documents/meetingdocument/wcms_204755.pdf
5. Steffers G. General Pathology and Internal Medicine for Physical Therapists [Электронный ресурс] : учебник/ G. Steffers, S. Credner. -1st ed.: Thieme, 2012- URL: https://medone-education.thieme.com/ebooks/2093236?fromSearch=true#/ebook_2093236_SL80475533
6. Измеров Н.Ф. Гигиена труда [Электронный ресурс] : учебник/ Н. Ф. Измеров, В. Ф. Кириллов; ред. В. Ф. Измеров. -Москва: ГЭОТАР-Медиа, 2016. -592 с.: ил.- URL: http://www.studmedlib.ru/book/ISBN9785970436912.html
7. Производственная безопасность и профессиональное здоровье [Электронный ресурс] : руководство для врачей/ ред.: А. Г. Хрупачев, А. А. Хадарцев. -Москва: ГЭОТАР-Медиа, 2012. -336 с.: ил.- URL: http://www.studmedlib.ru/book/06-COS-2349.html

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

- specific sites and web portals;
- digital collections, digital libraries, data bases and etc.;
- specialized programs, video films, audio recordings.

International database

1.	Data base «Scopus»	http://www.scopus.com/
2	Electronic archive of journals published by SAGE PUBLICATIONS	www.sagepub.com
3	Electronic archive of journals published by IOP Publishing	http://iopscience.iop.org/jornals?type= archive
4	Electronic archive of journals published by OXFORD UNIVERSITY PRESS	www.oxfordjournals.org/
5	Electronic archive of journals published by SCIENCE издательства AAAS	www.sciencemag.org.

6	Electronic archive of journals published by ROYAL SOCIETY OF CHEMISTRY	www.rsc.org/

The electronic library of the University

1	Digital library of NSMU	http://lib.nsmu.ru/lib/

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

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

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа № 2403 Морской медицины, административный учебный корпус, 4 этаж *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, экран *в) перечень учебно-наглядных пособий:* схемы, таблицы *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 39 Договор № 362 от 11.05.2017года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ФГБУЗ «Северный медицинский клинический центр	163000, Архангельская область, г. Архангельск, просп. Троицкий, д.115

имени Н.А. Семашко Федерального медико-биологического агентства». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, весы медицинские напольные, глюкометр One Ultra, настенный ростомер – рулетка 208 опу, стетоскоп cardiophon, прибор для оценки функции сосудов pulsetrace с принадлежностями: фотоплетизмографический датчик, газоанализатор micro со с принадлежностями, электрокардиограф портативный , термометр, пульсоксиметр, анализатор уровня сахара крови портативный с тест полосками, пикфлоуметр со сменными мундштуками, негатоскоп, световод – карандаш для осмотра зева, секундометр, камертон частота с – 1 256 гц, набор смотровой лор врача, пульсоксиметр onyx, спироанализатор диагностический , сантиметр, стетоскоп, медицинская кушетка , молоточек неврологический *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Учебная аудитория для занятий семинарного типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 218 учебный корпус, 2 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, медицинская кушетка, ростомер, весы, электрокардиограф *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно	163001, г. Архангельск, просп. Троицкий, д. 180

Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	

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 26th 2020

SYLLABUS OF THE DISCIPLINE

Discipline **Differential Diagnostics of Skin and Sexually-Transmitted Diseases**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI / 11**
Form of the interim assessment **Credit**
Department **of Skin and Venereal Diseases**
Discipline workload **72** (academic hours) / **2** (credits)

Approved at the department meeting
Minutes No.
June 20th 2020
Head of the department
S. L. Kashutin

Author and compiler:
Kashutin Sergey Leonidovich, Head of the Department of Skin and Venereal Diseases, Associate Professor of the Department of Skin and Venereal Diseases, Doctor of Medical Sciences; Pukhova Ksenia Gennadievna, Assistant Professor of the Department of Skin and Venereal Diseases; Korolev Konstantin Kirillovich, Assistant Professor of the Department of Skin and Venereal Diseases

Arkhangelsk, 2020

1. Goal and tasks of the mastering of the course:

Goal of the discipline	The goal of the discipline is to develop students' skills in diagnostics, prevention and treatment of skin and sexually-transmitted diseases, providing first aid in emergency conditions at the prehospital level.
Tasks of the discipline	- to teach students to carry out activities to form a motivated attitude of the population to preserve and strengthen their health and the health of others in a tense epidemic situation with infectious skin and venereal diseases; - to know the organization of preventive and anti-epidemic measures aimed at preventing the occurrence and spread of infectious skin and venereal diseases; - to acquaint students with the prevalence, etiology, pathogenesis, clinical signs, principles of treatment of skin and sexually transmitted diseases; - to form students' skills in diagnostics and provision of urgent dermatological care; - to teach students how to use herbal medicine, the main resort factors in patients with skin diseases in need of rehabilitation.

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

The discipline of "Dermatology" is studied in the 11 semester, refers to the cycle of professional disciplines of the educational standard of higher professional medical education " General medicine". Block 1. Variative part.

The basic knowledge required for the study of the discipline is studied:

- on the cycle of humanitarian disciplines (philosophy, bioethics, education, psychology, law, history of medicine, economics, Latin, foreign language);
- on the cycle of mathematical, scientific, medical and biological disciplines (mathematics, physics, chemistry, biochemistry, biology, medical science, anatomy and topographic anatomy, microbiology, virology, immunology, histology, cytology, normal physiology, pathological anatomy, pathophysiology, physiology, pharmacology);
- on the cycle of professional disciplines (general hygiene, public health monitoring, clinical laboratory diagnostics, propaedeutics internal medicine, internal medicine, general physiotherapy, endocrinology, professional diseases, general surgery, Intensive Care and anesthesiology, surgical diseases, urology, radiodiagnosis, disaster medicine, life safety, medical rehabilitation, medical genetics).

Teaching of the discipline must be carried out on the basis of the Arkhangelsk regional dermatology and venearology clinic. The training material on the subject "Dermatology" is mastered by the students systemically, with the teaching of the common issues of diagnosis and treatment precedes teaching the basics of private pathology. The focus is on clinical signs of skin and venereal diseases, modern methods of instrumental and laboratory diagnosis using knowledge of the latest

concepts of etiology and pathogenesis of diseases, as well as new methods of treatment and rehabilitation.

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

Codes of developed competences	**Competences**		
	a student has knowledge of	**a student is able to**	**a student masters**
PC -№	**Professional competences**		
PC-1 ability and readiness to implement a set of measures to preserve and promote health, including healthy lifestyle, prevent the onset and/or spread of diseases, their early detection, identification of causes and circumstances of their emergence and development, as well as measures to eliminate harmful effects of environmental factors on human health	-the main symptoms of skin and venereal diseases; -modern methods of clinical, laboratory, instrumental examination of the patients, their diagnostic capabilities;	-to establish a clinical diagnosis of the most common skin diseases that occur in the typical form, and to substantiate the diagnosis;	-interpretation of results of laboratory and instrumental methods of diagnostics; algorithm deployed clinical diagnosis; algorithm of preliminary diagnosis with subsequent referral to the appropriate specialist;

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

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

	Type of the academic work	**Total hours**	**Term**
Discipline workload (in academic hours)	Lectures (L)	12	11
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	35	11
	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)	25	11
	Examination control (EC)		
	Total course workload	**72**	**11**

5. Contents of the course:

5.1. Contents of the sections of the course

№ п/п	Name of the course section	Content of the section
1.	General dermatology.	**The structure of the skin.** The epidermis, derma, subcutaneous fat, blood and lymphatic network, innervation of the epidermis, dermis, subcutaneous tissue. Skin appendages: sweat and sebaceous glands, nails, muscles of the skin. Neuro-receptor apparatus. **The physiology of the skin.** Functions of the skin: protection thermoregulation, reception, secretion, resorption, respiration, metabolism, reflection, immune. The relationship between the skin and the vital functions of the body in health and disease. **Morphological elements.** Primary and secondary elements, the relative position of the elements of the eruption (isolated elements, merging, grouping, erythroderma). Monomorphic and polymorphic rash, symmetrical and asymmetrical arrangement of the eruption, localization of the eruption. The meaning of skin biopsy for diagnosis. **Examination of skin of the patient.** Methods of examination, used in dermatology: clinical, histological, microbiological, physiological, biochemical, immunological. The techniques of dermatological clinical examination of the patient: determining the sensitivity and permeability of the skin., dermographism evaluation, checking of the muscle-hair reflex, the pharmacodynamic tests., hydrophilicity samples, symptoms of the pinch and the harness, chemical agents tests, iodine samples, layered scratchboard, diascopy, test with bellied probe, Besnier-Meshchersky symptom, Nikolsky sign, identification of scabies moves, luminescence, taking pathological material (hair, nails, scales). The main biochemical and serological tests used in dermatological practice. **Principles of treatment of dermatological patients.** Formulations. Formulation in dermatology. Topical steroids: mechanism of action, classification, indications, contraindications, systemic side effects.

		Systemic steroids: mechanism of action, classification, indications, contraindications, side effects, application schema. Antihistamines: mechanism of action, classification, indications, contraindications, side effects. Fizoterapiya. Diet therapy.
2.	Noninfectious diseases of the skin	**Allergodermatoses** **Dermatites.** Definition of dermatitis: simple or contact, artificial in individuals with normal skin reactivity (etiology, differential diagnosis, treatment, prognosis); allergic or sensitizing (etiology, differential diagnosis, skin tests, treatment, prognosis). Concept of obligate and facultative irritants (allergens). **Toksidermii.** Definition, etiology and pathogenesis; Clinic, common symptoms, morphological types of reactions to certain medications; diagnosis of drug reaction (allergic history, skin tests, immunological tests); principles of treatment; prevention. Lyell's syndrome. Onset of the disease, common symptoms, clinical manifestations on the skin and mucous membranes, types of course, diagnosis, differential di agnosia, treatment. **Eczema.** Etiology; pathogenesis; Clinic, eczematous stage of the process, pathognomonic symptoms. Clinical forms of eczema: true, microbial, seborrheic, professional, infant. Histopathology eczema. The course; diagnosis; treatment (regimen, diet, hygienic water treatment); Treatment of typical eczema, widespread, including erythroderma resistant cases of eczema; indications for oral corticosteroids and / or parenteral, topical treatment, relapse prevention. **Atopic dermatitis.** Etiology, pathogenesis (endogenous and exogenous factors, the concept of atopy, disruption of the central nervous system), clinic, clinical classification, course, complications, prognosis, diagnosis, differential diagnosis, treatment (general and local, health resort), prevention. **Urticaria.** Etiology; pathogenesis, clinical variants; diagnosis, differential diagnosis, treatment; Emergency aid for angioedema, prognosis, prevention. **Pruritic dermatoses.**

		Pruritus. The causes of itchy skin; pathophysiological aspects of itching. Itching as one of the symptoms of somatic diseases. Clinical variants of limited, spread, senile, winter, height pruritus. Treatment. Prevention. **Prurigo.** The definition, pathogenesis, clinical forms, treatment. **Bullous autoimmune dermatoses.** **Pemphigus.** Classification, pathogenesis. The clinical picture of vulgar, leaf-shaped, vegetating, seborrheic pemphigus. Primary localization on the skin and mucous membranes. Diagnosis: direct and indirect Nikolsky sign, symptom of Asbo-Hansen, cytological examination of Ttsanka cells, histological examination of biopsy of the skin. Differential diagnosis. Treatment of patients with pemphigus acantholytic (corticosteroids and cytotoxic drugs, the treatment of "support" doses on an outpatient basis. Complications, their prevention and treatment, prognosis. Medications used in the treatment of pemphigus, their dosage, the diet of patients, external therapy, occupational expertise. **Duhring herpetiformis dermatosis.** Etiology and pathogenesis; Clinic (complaints, the nature of lesions, laboratory tests, differential diagnosis, histopathology), treatment of sulfone drugs; atypical forms (trihofitoidnaya, ekzemopodobnye et al.). **Diseases of the skin appendages.** **Psoriasis.** Etiology, pathogenesis; Clinic (primary and secondary elements, pathognomonic symptoms, diagnostic tests, clinical variants, the stage, the defeat of the joints and internal organs); histopathology, diagnosis and differential diagnosis, treatment, physical therapy, spa treatment, relapse prevention. **Lichen planus.** The etiology and pathogenesis, histopathology, clinical presentation (typical and atypical shapes, defeat the oral mucosa), diagnosis differenialny diagnosis, treatment, prevention of recurrence. Болезни соединительной ткани. **Lupus erythematosus.** Etiology, pathogenesis, clinical variants of chronic lupus erythematosus; discoid, disseminated, centrifugal, deep; differential diagnosis, course, treatment.

3.	Infectious diseases of the skin.	**Pyoderma.** The composition of the normal flora of the skin and its function. Etiology, pathogenesis, factors that contribute to the development of piodermitov classification (by etiology, primary, depth, immunological reactivity). **Mycosis.** Dermatophytes, their biology, epidemiology, predisposing factors. Classification of the depth of defeat (keratomikozy, epidermomikozy, trihomikosis, deep mycoses). **Keratomikosis.** Chromophytosis: etiology, pathogenesis, clinical picture, diagnosis, differential diagnosis, treatment, prevention. **Feet mycosis.** Clinical forms (squamous, intertriginoznoy, disgidroticheskaya acute mycosis, onychomycosis). Diagnosis, treatment, depending on the clinical form. Prevention. **Trihomikosis.** Microsporia, trichophytosis. Etiology, pathogenesis, classification, etiology (antropofilnymi, zoofilnye), clinical lesions of the scalp (surface shape, a deep form), clinical lesions smooth skin (with the defeat vellus hair without defeat vellus hair). Parasitic sycosis. The diagnosis, differential diagnosis. Treatment of systemic antifungals (indications, contraindications, monitoring of treatment), local antimycotics. Physiotherapy. Clinical supervision. Prevention. **Deep mycoses.** Blastomycosis, chromomycosis. Etiology, pathogenesis, diagnosis, differential diagnosis, treatment, prevention. **Parasitic diseases.** **Scabies.** Etiology, pathogenesis, the life cycle of itch mite, clinical, clinical varieties of scabies (scabious limfoplaziya, scabies "cleanly", "Norwegian" scabies). Complications scabies (allergodermia, eczematization, secondary infection). Diagnosis, treatment and control of cure, control measures, prevention. **Lice.** Head lice, etiology, pathogenesis, life cycle, clinical presentation, treatment, protivoeipidemicheskie with the activities, prevention. Hanging lice etiology, pathogenesis, life cycle, clinical presentation, treatment, protivoeipidemicheskie event prevention. Pubic lice (pediculosis pubis), etiology, pathogenesis, life cycle, clinical presentation, treatment,

		protivoeipidemicheskie with the activities, prevention.
4.	Syphilis.	Development stages of Venereology. Social aspects of sexually transmitted diseases. Methods of examination of patients with sexually transmitted diseases. Questions of ethics. Etiology, epidemiology. The immunity for the general classification. **Etiology and pathogenesis of syphilis.** The causative agent, differencies between Treponema pallidum and saprophytic treponemes, the incubation period, epidemiology, general course of syphilis. Clinic of syphilis. **Primary period of syphilis.** Clinical manifestations. Clinical characteristics of the chancre (a kind of chancre, diagnostic features). Characteristics of regional lymphadenitis. Complications chancre, differential diagnosis. **The secondary period of syphilis.** Feature vysypnyh elements in the secondary period (spotted, papular, pustular syphilides), secondary fresh and secondary recurrent syphilis lesion of the oral mucosa, alopecia, leucoderma differential diagnosis. **Tertiary syphilis** (tertiary active and tertiary hidden), the main clinical forms Bugorkova gumoznogo and syphilis. Differential diagnosis. **Congenital syphilis.** Classification. Clinical manifestations in various stages of congenital syphilis. **Diagnosis of syphilis.** Research on pale treponemu. Research on Treponema pallidum in the dark field. **Treatment and prevention of syphilis**. Logistical support, types of treatment (preventive, specific, prophylactic trial, epidemiological), treatment methods of preventive treatment, sptsificheskogo treatment of primary, secondary, tertiary, and congenital syphilis. Alternative treatment regimens. Treatment of pregnant women. Treatment of children, the calculation of the dosage of drugs
5.	Sexually transmitted infections/	**Gonorrhea.** Characteristics of the pathogen. Epidemiology. Gonorrhea in men, classification. Complications. Laboratory diagnosis. Principles of

		treatment of gonorrhea. The criteria for cure gonorrhea. Prevention of gonorrhea. **Trichomoniasis.** Pathogen. Epidemiology. Clinic trichomoniasis in men. Laboratory diagnosis. Principles of treatment. The criteria for cure trichomoniasis. Prevention. **Chlamydia.** Etiology, epidemiology, general pathology, pathogenesis. Clinic of urogenital chlamydia. Extragenital manifestations of infection. Chlamydia and sterility. The methodology of the survey. Modern methods of laboratory diagnostics. Reiter's syndrome. Principles of treatment of chlamydia and its complications. The criteria for cure chlamydia. Prevention. **Mycoplasmosis.** Epidemiology, etiology, clinical features, diagnosis, complications. Principles of treatment. The criteria for cure. Prevention. **Genital herpes.** Pathogen. Epidemiology. The clinical picture. Principles of treatment, prevention. **Anogenital warts.** Pathogen. Epidemiology. The clinical picture. Principles of treatment, prevention.

5.2. Sections and types of studies

No.	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
1	General dermatology	4	-	-	5	-		5	14
2	Noninfectious diseases of the skin	4	-	-	10	-		5	19
3	Infectious diseases of the skin.	2	-	-	10	-		5	17
4	Syphilis.	2	-	-	5	-		5	12
5	Sexually transmitted infections/	0	-	-	5	-		5	10
	Total (hours)	12	0	0	35	0	0	25	72

5.2.1. Lectures

№	Lectures topics	Volume
		11th
1.	Anatomy and physiology of the normal skin: epidermis, papillar and reticular layers of dermis, hypoderma.	2
2.	Methods of examination in dermatology. Primary and secondary elements	2

3.	Papular skin diseases: psoriasis and lichen ruber planus.	2
4.	Allergic dermatosis: dermatitis, toxidermatitis, eczema, atopic dermatitis, pruritic dermatoses,	2
5.	Infection skin diseases: Scabies. Pustular disease,lice	2
6.	Primary and secondary syphilis.	2
Total		12

5.2.2. Clinical practical training

№	Practicals topics	Volume
		11th
1.	Methods of examination in dermatology. Clinical analysis of primary and secondary elements. Principles of prevention of skin patients. Prevention relapses of papular skin diseases: psoriasis and lichen ruber planus.	5
2.	Differential diagnosis of allergic dermatosis: dermatitis, toxidermatitis, eczem, atopic dermatitis.	5
3.	Differential diagnosis of bullous dermatosis: pemphigus, Duhring dermatitis herpetiformis. Lupus erythematosus	5
4.	Differential diagnosis of mycosis: trihomikosis, feet mycosis, candidiasis, keratomikosis, deep mycoses.	5
5.	Pediculosis. Scabies. Pustular disease. Scrofuloderma. Herpes.	5
6.	Non - gonorrhea urethrites: trichomoniasis, chlamydia, mycoplasmosis. Genital herpes. Anogenital warts. Gonorrhea in men and its complications. Treatment of gonorrhea.	5
7.	Differential diagnosis of syphilis: primary and secondary, tertiary syphilis, congenital syphilis**,** diagnosis of syphilis, treatment and prevention of syphilis.	5
Total		35

6. Interactive forms of studies

№	Name of the course section	Interactive forms of studies	Duration (hours)
1.	General dermatology.	**1.1. Discussion on the DVD-movie "Selection of the topical therapy"** **1.2. Clinical analysis of patients**	1 hour 1 hour
2.	Noninfectious diseases of the skin	**2.1. Discussion on the DVD-movies** 2.1.1. «Lichen planus.»,	1 hour

		«Psoriasis» 2.1.2. «Acne disease», «Acneiform dermatoses» 2.1.3. «Allergodermatoses», « Atopic dermatitis» 2.1.4. «Bullous dermatoses», « Lichen planus » **2.2. Solution of case studies by topics:** 2.2.1. Pruritus. Prurigo. Professional skin diseases. Seborrhea. Acne disease. Rosacea. Malignant tumors of the skin. 2.2.2. Dermatitis. Toksidermii. Eczema. Atopic dermatitis. Urticaria. Curation. 2.2.3. Pemphigus. Duhring dermatitis herpetiformis. Lupus erythematosus **2.3. Clinical analysis of patients**	1 hour 1 hour
3.	Infectious diseases of the skin	**3.1. Discussion on the DVD-movies** 3.1.1. «Tuberculosis», «Herpetic infections» 3.1.2.«Candidosis», « Up-to-date treatment of mycoses ». **3.2. Solution of case studies by topics:** 3.2.1. Pediculosis. Scabies. Pustular disease. Scrofuloderma. Herpes. 3.2.2. Mycosis. Trihomikosis. Feet mycosis. Candidiasis. Skin lesions in HIV infection. Erythema multiforme. **3.3. Clinical analysis of patients**	1 hour 1 hour 1 hour
4.	Syphilis.	**4.1. Discussion on the DVD-movie** « Syphilis » **4.2. Solution of case studies by topics:** 4.2.1. The causative agent of syphilis (test on treponema pallidum). Primary syphilis. Secondary syphilis and its	1 hour 1 hour

		differential diagnosis. 4.2.2. Tertiary syphilis. Congenital syphilis and its prevention. Serological diagnosis of syphilis. Principles of treatment of syphilis. Deontology in Venereology. **4.3. Clinical analysis of patients**	1 hour
5.	Sexually transmitted infections.	**5.1. Discussion on the DVD-movies** 5.1.1.« Gonorrhea », « Trichomoniasis » **5.2. Solution of case studies by topics:** 5.2.1. Gonorrhea in men and its complications. Treatment of gonorrhea. 5.2.2. Non- gonorrhea urethrites (trichomoniasis, chlamydia, mycoplasmosis). Genital herpes. Anogenital warts. **5.3. Clinical analysis of patients**	1 hour 1 hour 1 hour
Total hours for 5 -hour lesson			28 (19,44%)
Total (% of classroom lessons)			28 (19,44%)

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

№	Name of the course section	Type of the unsupervised work	Forms of control
1.	General dermatology.	Computer testing (. Preparation of abstracts	Checking the abstracts
2.	Noninfectious diseases of the skin.	Computer testing. Preparation of abstracts Medical history	Checking the abstracts Checking the medical histories
3.	Infectious diseases of the skin.	Computer testing. Preparation of abstracts Medical history	Checking the abstracts Checking the medical histories
4.	Syphilis.	Computer testing. Preparation of abstracts	Checking the abstracts

5.	Sexually transmitted infections	Computer testing. Preparation of abstracts	Checking the abstracts

8. Forms of control

8.1. **Forms of current control**

8.1.1. Computer testing.

8.1.2. Checking the abstracts

8.2. **Forms of intermediate control** (pass/fail test, exams)

Stages of the examination (pass/fail test)

1. Stage - computer testing

2. Stage – Practical skills

3. Stage - interview

9. Contents of the sections of the course

9.1 Compulsory literature

Kashutin, Sergey Leonidovich. Dermatovenerology [Electronic resource]: textbook / S. L. Kashutin. - Arkhangelsk: Publishing house of the Northern state medical University, 2015. - 138 p. - 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/K%2031-892310

Chebotarev, V. V. Dermatology [Electronic resource] : textbook for students of higher educational institutions / V. V. Chebotarev, M. S. Ushakov. - Moscow: GEOTAR-Media, 2016. - 680 p.: Il. - URL: http://www.studentlibrary.ru/book/ISBN9785970435670.html

Vladimirov, V. V. Skin and venereal diseases [Electronic resource]: Atlas: textbook / V. V. Vladimirov. - Moscow: GEOTAR-Media, 2016. - 232 p. - URL: http://www.studentlibrary.ru/book/ISBN9785970435465.html

9.2 Supplementary literature

Platonova, A. N. Dermatovenerology. Atlas [Electronic resource]: textbook / A. N. Platonova, A. L. Bakulev, S. R. Utts. - Moscow: GEOTAR-Media, 2017. - 136 p. - URL: http://www.studentlibrary.ru/book/ISBN9785970440858.html

Dermatovenerology [Electronic resource] : textbook / ed.: A.V. Samtsov, V. V. Barbinov. - 3rd ed., ISPR. and additional - Moscow: GEOTAR-Media, 2016. - 432 p. - URL: http://www.studentlibrary.ru/book/ISBN9785970436509.html

Essentials of dermatology for foreing students of medical universites [Электронный ресурс] : методический материал/ S. L. Kashutin [и др.]. - Архангельск: Изд-во Северного государственного медицинского университета, 2017. -128 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/K22-321761

9.3. List of the Internet resources required for mastering of the course

(module)*

№	Internet resource	Describtion
1	http://www.studmedlib.ru/	Provides individual access to full-text database of relevant literature for medical and pharmaceutical education
2	http://www.scopus.com	Provides access to bibliographic and scientometric database
3	http://www.iprbookshop.ru/	Provides individual access to full-text database of modern educational literature
4	http://www.rosmedlib.ru/	Provides access to electronic medical information and the educational system for interns, residents, post-graduates, listeners of courses of improvement of qualification

9.4 List of the information technologies used in the educational process of the course (module)

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным

самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа № 2511, административный учебный корпус, 5 этаж *а) перечень основного оборудования:* комплект учебной мебели (столы, стулья, экран, доска), рабочее место преподавателя, рабочие места для обучающихся на 190 мест *б) наборы демонстрационного оборудования:* моноблок, проектор, экран *в) перечень учебно-наглядных пособий:* схемы, таблицы *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно.	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации **№ 5**, 4 этаж Договор № 337 от 11.04.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГАУЗ Архангельской области «Архангельский клинический кожно-венерологический диспансер». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* комплект учебной мебели (столы, стулья, экран, доска), рабочее место преподавателя, рабочие места для обучающихсяна 24 места *б) наборы демонстрационного оборудования:* ноутбук, проектор *в) перечень учебно-наглядных пособий:* наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно.	163000, Архангельская область, г. Архангельск, проезд Сибиряковцев, д. 2, корп.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 26th2020

SYLLABUSOF THE DISCIPLINE

Discipline **Basics of Gerontology**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI/11**
Form of the interim assessment **Credit**
Department**of Outpatient Internal Medicine and Nursing**
Discipline workload **108** (academic hours)/**3**(credits)

Approved at the department meeting
Minutes No.
June 20th2020
Head of the department
E.V. Serdechnaya

Authors and compilers:
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Arkhangelsk, 2020

1. The purpose and objectives of mastering the discipline

Goal of the discipline	The goal of the discipline is to form students' knowledge, skills and abilities connected with the peculiarities of diagnostics, treatment and prevention of diseases at the senile age
Tasks of the discipline	- to ensure the assimilation of knowledge, skills and abilities necessary for the diagnosis of diseases, identification of etiological factors and pathogenetic mechanisms, treatment and prevention of the most common typical nosological forms of diseases of internal organs among people of the senile age; - to teach students how to make a diagnosis and treat emergency conditions for diseases of internal organs among people of the senile age; - to form the foundations of clinical thinking, including not only professional, but also moral preparation for medical practice.

2. Place of discipline (module) in the structure of the educational program

The program is drawn up in accordance with the requirements of the Federal State Educational Standard 3+ in the direction of training 05/31/01 General Medicine, Block 1. Variative part. Elective disciplines.

The basic knowledge necessary for studying the discipline is formed:
- in the cycle of humanitarian disciplines (philosophy, bioethics, pedagogy, psychology, jurisprudence, history of the Fatherland, history of medicine, economics, Latin, foreign language);
- in the cycle of mathematical, natural science, medico-biological disciplines (mathematics, physics, chemistry, biochemistry, biology, medical informatics, anatomy and topographic anatomy, microbiology, virology, immunology, histology, cytology, embryology, normal physiology, pathological anatomy, pathophysiology , pharmacology);
- in a cycle of professional disciplines (hygiene, healthcare organization, restorative medicine, general surgery, propaedeutics of internal diseases, faculty therapy, radiation diagnostics, neurology, polyclinic therapy, medical genetics).
In order to fulfill the instructions of the President of the Russian Federation dated November 27, 2010 No. Pr-3464GS and the Government of the Russian Federation dated December 6, 2010 No. AZ-P12-8307, the Methodological Commission on Therapy proposes the following solutions to include the study of gerontology issues in SSMU:

Gerontology and geriatrics is a field of medical and biological science, which includes the study of aging processes, causes of occurrence, mechanisms of

development and characteristics of the course of diseases in older age groups. Geriatrics (clinical gerontology) is aimed at studying the features of diagnosis, treatment and prevention of diseases in old and senile age. The problem is studied at various departments:

1. Demographic, sociological, social and hygienic issues of old age and aging. Development of principles and organization of medical and social services for elderly and senile people. Statistical reporting and processing of statistical data. (Department of Health Organization)
2. Studying the process of aging and old age. The main mechanisms of physiological, premature, pathological aging, antiaging processes. Development of methods for determining biological age. (Department of Normal and Pathological Physiology)
3. Morphological and functional age-related features of organs and systems. The role of various factors in the development of senile changes in the body and the mechanisms of the formation of senile polypathy. (Department of Pathological Anatomy)
4. Development of the principles of preventive gerontology and geriatrics, methods and means for the prevention of premature aging and prolongation of life. Study of the principles of physiology and hygiene of nutrition in old and senile age and the pathways of nutrient metabolism in health and in various pathological processes. (Department of Hygiene)
5. Study of the features of clinical pharmacology of elderly and senile age (pharmacokinetics and pharmacodynamics). (Department of Clinical Pharmacology)
6. Prevention, detection of newly emerging diseases in old and senile age, dispensary observation of persons of older age groups. Features of the etiology and pathogenesis of common diseases, features of clinical manifestations, methods for diagnosing diseases in old and senile age using clinical, laboratory and other research methods. (department of polyclinic therapy).

3. 3. The list of planned learning outcomes in the discipline (module), correlated with the planned results of mastering the educational program

Competency codes	Competencies		
	Know	Be able to	Possess
PC -No	Professional competence		
PC - 1 the ability and readiness to implement a set of measures aimed at maintaining and strengthening health and including the	- assessment methods natural and medico-social factors of the environment in the development of diseases in the elderly population, carrying out their correction, - implementation preventive activities for warning infectious and non-	- to identify natural and medico-social factors of the environment in the development of diseases in the elderly population, to carry out their correction, - carry out preventive measures to prevent non-infectious diseases, conduct	- skills of forming positive medical behavior among the population and their family members, aimed at maintaining and improving

formation of a healthy lifestyle, preventing the occurrence and spread of diseases, their early diagnosis, identifying the causes and conditions of their occurrence and development, as well as aimed at eliminating harmful the impact of environmental factors on human health	infectious diseases, - holding health education work on hygiene issues and formation of population health th lifestyle, methods of early diagnosis of diseases	sanitary and educational work on hygienic issues, the formation healthy way life, screening for early detection and diagnosis of the most common and socially significant diseases (for base "Health Centers")	the level of health, - the skills of introducing elements of healthy lifestyle, including including to eliminate bad habits (explanatory conversations, information letters, visual agitation: health bulletins, memos); screening the most common and socially significant diseases (based on "Health Centers")

4. Scope of the module and types of educational work

The total labor intensity of the course is **3** credits

	Type of the academic work	Total hours	Term
Discipline workload (in academic hours)	Lectures (L)		
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	54	11
	Laboratory-based practicals (LBP)		
	Simulation-based practicals (SBP)		
	Preparation for the examination (PE)		
	Preparation for the credit (PC)		
	Exam consultations (EC)		
	Coursework (CW)		
	Unsupervised work (UW) (total)	54	11
	Examination control (EC)		
	Total course workload	**108**	**11**

5. Content of the discipline

5.1. Contents of discipline sections

No.	Discipline section name	Section content
1	2	3
1	1. Fundamental Gerontology and Socio-Medical Aspects of Gerontology	**Foundations of modern gerontology.** **Aging. Definition and theory of aging. The biology of aging. Passport and biological age. Morphological changes during aging. Functional changes with aging. General laws of the regulation of metabolism and energy during aging. Age features of the immune system. Age features of the physiology of organs and systems. Physiology and hygiene of food in old and old age. Possibilities of bioregulation in the prevention of age-related pathology. Geroprotectors. Fundamental and applied research in gerontology.** **Demographic, sociological, social and hygienic issues of old age and aging.** **Social aspects of gerontology. Geriatric Patient Evaluation. Modern gerontotechnologies. Rehabilitation in geriatrics. Providing assistance at home, in nursing homes. Medical psychology. Ethical and deontological issues in geriatrics. Psychogeriatric Aspects in Geriatric Practice. Somatic masks for depression in the elderly. Nursing assistance in gerontology and geriatrics. Methods of medical and social research (including the assessment of the ability to self-service, living conditions of centenarians, etc.).** **Legal and ethical foundations of care for elderly patients.** **Fundamentals of the organization of medical care in terms of compulsory and voluntary health insurance. Legal aspects of providing preferential medical services to the population. Legal bases, laws and legislative acts on the organization of geriatric and social assistance to the population. Legislative and legal acts on the organization of assistance to veterans. Legislative acts on preferential provision of medicines. Legislative and legal acts on medical and social expertise. Legislative and legal acts on pension provision. Legislative acts on non-state assistance to the elderly. Informed consent. Confidentiality. Elderly patient autonomy. Guardianship Rights.** **Organization of medical and social assistance to the elderly in the Russian Federation.** **Social and health care for the elderly. State and non-state institutions, organizations and societies providing medical and social assistance to the elderly. Organization and principles of operation of geriatric medical institutions.**
2	Features of diseases of the cardiovascular system in old and senile age	**Features of clinical examination of an elderly patient with diseases of the cardiovascular system.** **Age anatomical and functional features of the cardiovascular system.** **Examination of elderly patients with diseases of the cardiovascular system. Clinical evaluation of the results of physical research methods. Clinical evaluation of the results of laboratory research methods. Clinical evaluation of the results of instrumental research methods. Clinical evaluation of**

		fluoroscopy and chest X-ray data. Clinical evaluation of echocardiographic data. **Atherosclerosis is a problem in geriatrics.** **Definition of the concept of atherosclerosis. Etiology. Age-related risk factors. Pathomorphology. Pathogenesis. Lipid metabolism. Dyslipidemia, forms, prognostic value. Carbohydrate metabolism in atherosclerosis. Diagnostic methods. Clinic of atherosclerosis of the aorta, coronary arteries, cerebral vessels, limb vessels, internal organs vessels. Larish syndrome. Diet therapy. Lipid-lowering drug therapy. Sorption methods. Surgery. Prevention.** **Coronary heart disease.** **Definition, etiology, pathogenesis, pathomorphology, epidemiology. Risk factors. IHD classification. Clinical forms of angina pectoris. Differential diagnosis of cardialgia. Postinfarction cardiosclerosis. Painless and arrhythmic forms of ischemic heart disease. Sudden death with ischemic heart disease. Modern methods of diagnosis and differential diagnosis of coronary artery disease. IHD treatment: medical, surgical. Methods of myocardial revascularization. Prevention. Rehabilitation of elderly patients with coronary artery disease.** **Myocardial infarction.** **Etiology and pathogenesis. Variants of the course in old age. ECG changes: classic ECG changes, features of ECG changes in old age and their interpretation. Changes in the activity of serum enzymes (especially in old and senile age). Treatment of "uncomplicated" myocardial infarction in old and senile age. General principles of treatment, tactics and peculiarities of patient management: relief of pain syndrome, hospitalization in the intensive care unit, prevention of rhythm disturbances, prevention of thromboembolic complications, the possibility of drug effects in order to limit the size of myocardial infarction, thrombolytic therapy of myocardial infarction. Complications of myocardial infarction, their diagnosis and treatment. Rhythm and conduction disturbances. Acute circulatory failure (cardiac asthma, pulmonary edema, cardiogenic shock). Other complications of myocardial infarction: paresis of the gastrointestinal tract, erosion and ulcers of the gastrointestinal tract, acute atony of the bladder, postinfarction syndrome, heart failure, mental changes and psychosis, disseminated intravascular coagulation. Prevention of myocardial infarction and rehabilitation of patients with myocardial infarction. Primary prevention (identification of risk factors, early detection and treatment of coronary artery disease). Secondary prevention: effective treatment of ischemic heart disease and rehabilitation after myocardial infarction, the possibility of drug prevention of repeated myocardial infarction.** **Essential hypertension and symptomatic hypertension.** **Definition of the concepts of hypertension, symptomatic arterial hypertension. The etiology of hypertension and risk factors. The pathogenesis of hypertension. Classification of hypertension. The clinical picture of various forms of hypertension. Complications of hypertension. Hypertensive crises. Prevention of hypertension. Drug treatment: antiadrenergic drugs, beta-**

		blockers, calcium antagonists, peripheral vasodilators, diuretics, angiotensin-converting enzyme inhibitors, angiotensin receptor blockers, sedatives. Psychotherapy. Questions of combined drug therapy with various combinations of antihypertensive drugs. Principles of rational selection of antihypertensive drugs depending on the form and stage of hypertension. Secondary prevention of hypertension. Symptomatic hypertension. Nephrogenic hypertension due to inflammatory lesions of the kidneys (glomeluronephritis, pyelonephritis, other lesions). Renovascular hypertension (atherosclerosis of the renal arteries, fibromuscular hyperplasia, nonspecific aortoarteritis). Arterial hypertension due to damage to the heart and large vessels (atherosclerosis of the aorta, damage to the carotid and vertebral arteries, aortic valve insufficiency, complete atrioventricular block). Isolated systolic hypertension. Endocrine hypertension. Arterial hypertension associated with taking medications. Rehabilitation of elderly patients. **Other lesions of the heart.** **Pericarditis. Amyloidosis of the heart. Tumors of the heart. Alcoholic heart disease.** **Violations of heart rhythm and conduction.** **Etiology and pathogenesis of rhythm disturbances.** **Electrophysiological mechanisms of arrhythmias. Diagnostics of rhythm disturbances. Ectopic complexes and rhythms.** **Extrasystole, classification of extrasystoles. Parasystole.** **Escaping contractions and rhythms / migration of the pacemaker /, conditions leading to the emergence**
3	Diseases of the respiratory system in old and old age	**Features of clinical examination of an elderly patient with respiratory diseases.** **Age anatomical and functional features of the respiratory system in old and senile age. Examination of elderly patients with respiratory diseases. Features of the course of respiratory diseases in old and senile age.** **Pneumonia in old and old age.** **Etiology, pathogenesis, classification, diagnosis, empirical antibiotic therapy. Features of the course of pneumonia in old and senile age. Clinic of focal pneumonia (bacterial, viral, pneumonia caused by physical and chemical factors). Croupous pneumonia. Prolonged pneumonia. Hypostatic pneumonia. Laboratory diagnostics, functional, radiological. Diagnosis formulation. Features of the treatment of pneumonia in old and senile age. Prevention of pneumonia. Differential diagnosis of pneumonia with: bronchitis, suppurative lung diseases, other diseases. Indications for diagnostic bronchoscopy and bronchography. Prevention of pneumonia.** **Suppurative lung diseases** **Lung abscess (etiology, pathogenesis, classification, treatment features of the abscess). Staphylococcal destruction of the lungs (clinical features and treatment). Lung gangrene.** **Chronic obstructive pulmonary disease.** **Etiology, pathogenesis, risk factors. Smoking as a leading risk factor for the disease. Features of the clinical course of the disease in old and senile age. Stages and severity of the disease. Features of diagnostics. Spirography. Analysis of spirograms.**

		Differential diagnostics. Prevention of exacerbations. Differentiated approach to treatment during exacerbation and remission. **Bronchial asthma.** **Definition of the concept. Modern classification. Etiology and pathogenesis of the main forms. Clinical features. Differential diagnostics. Medicinal and non-medicinal therapies. Asthmatic status. Primary and secondary prevention. Prognosis for various forms, assessment of remission resistance. Differential diagnosis of broncho-obstructive syndrome in old and senile age. Acute and chronic respiratory failure.**
4	Features of rheumatic diseases and osteoporosis in geriatrics	**Features of clinical examination of an elderly patient with rheumatic diseases and osteoporosis.** **The main groups of rheumatic diseases. International classification of rheumatic diseases. Epidemiology and genetics of rheumatic diseases. Metabolic disorders in rheumatic diseases. Structural and functional disorders of connective tissue in rheumatic diseases. Features of the structure and function of the musculoskeletal system in old age. Immunological aspects of rheumatic diseases. Pathomorphology of rheumatic diseases. Methods of examination of patients with rheumatic diseases.** **Diseases of the joints in old and senile age.** **Classification of joint diseases. Inflammatory diseases of the joints (arthritis). Non-inflammatory diseases of the joints (arthrosis). Research methodology for the function of the musculoskeletal system. Basic principles of non-drug and drug treatment. Indications for surgical treatment. Prevention: primary and secondary.** **Rheumatoid arthritis.** **Modern views on etiology and pathogenesis. Classification. Clinic. Characteristics of the articular syndrome. The defeat of internal organs and systems. The main clinical forms and variants of the course. Diagnosis of rheumatoid arthritis. Principles and methods of basic therapy for rheumatoid arthritis.** **Ankylosing spondylitis (ankylosing spondylitis).** **Etiology and pathogenesis. Classification. Clinic. Differential diagnosis with other spondyloarthritis. Treatment. Rehabilitation.** **Primary deforming osteoarthritis.** **Etiology and pathogenesis. The role of heredity. The role of endocrine disorders. The role of metabolic disorders. The role of vascular factor. The role of physical overload and joint microtraumatization. Pathomorphology. Clinic. Diagnostic criteria, differential diagnosis. Basic principles of treatment and prevention.** **Gout.** **Etiology and pathogenesis. Clinic for gout. Forms and variants of the flow. Gouty nephropathy. Tissue deposits of urate. X-ray manifestations. Diagnostic criteria. Differential diagnosis. Treating gout. Prevention of exacerbations. Basic principles of diet therapy.** **Osteoporosis is a leading problem in old and old age.** **Etiology and pathogenesis. Clinic and features of the course. X-**

		ray diagnostics. Differential diagnosis. Treatment. Differential diagnosis for articular syndrome. Differential diagnosis for back pain in the elderly. Prevention: the role of nutrition, physical activity, prevention of falls, medications.
5	Diseases of the kidneys and urinary tract in geriatrics	**Features of clinical examination of an elderly patient with kidney and urinary tract diseases.** **Age anatomical and functional features of the urinary system. Clinical examination of the patient. Clinical evaluation of the results of laboratory examination methods: general blood test, general urine analysis, urinalysis according to Nechiporenko, proteinuria selectivity, bacteriological urine analysis, biochemical analysis, renal functional state, in terms of clearance, ammonium and acidogenesis. Clinical evaluation of the results of instrumental research methods: X-ray, radionucleide, ultrasound, computed tomography, kidney biopsy with morphological examination.** **Glomerulonephritis in elderly and senile patients.** **Etiology of acute and chronic glomerulonephritis. Classification of acute and chronic glomerulonephritis. Pathomorphology. Histological types of acute and chronic glomerulonephritis. The main clinical symptoms. Pathogenesis of individual clinical symptoms. Pathogenesis of edema. Pathogenesis of arterial hypertension. Pathogenesis of anemia. Pathogenesis of urine changes in glomerulonephritis. Pathogenesis of hyperlipoproteinemia and hyperlipidemia in glomerulonephritis. Pathogenesis of platelet and plasma hemostasis disorders in glomerulonephritis. Clinical forms and variants of the course of acute and chronic glomerulonephritis. Complications. Differential diagnosis with amyloidosis, acute and chronic pyelonephritis, kidney damage in systemic diseases, myeloma kidney, diabetic glomerulosclerosis, polycystic kidney, gouty kidney, nephritis in bacterial endocarditis, heart failure, renal tumor, kidney tuberculosis. Treatment of acute and chronic glomerulonephritis. Types of pathogenetic therapy. Principles of treatment with glucocorticoid hormones with cytostatics, pulse therapy with glucocorticoids, drugs of the 4-aminoquinoline series, non-steroidal anti-inflammatory drugs, antiplatelet agents, direct anticoagulants, indirect anticoagulants. Immunosorption and plasmapheresis. Therapy of the main symptoms of the disease. Treatment of complications.** **Pyelonephritis in old and senile age.** **Etiology of acute and chronic pyelonephritis. Pathogenesis of acute and chronic pyelonephritis. Classification of acute and chronic pyelonephritis. Clinic and options for the course of acute and chronic pyelonephritis: primary, secondary, interstitial. Clinic of chronic pyelonephritis in remission and exacerbation. Features of the course of the disease in older men. Differential diagnosis of acute and chronic pyelonephritis with glomerulonephritis, renal tuberculosis, cystitis and lower urinary tract infections. Treatment of acute and chronic pyelonephritis. Antibacterial drugs. Sulfanilamide preparations. Nalidixic acid preparations. Nitrofuran preparations. Combined treatment. Symptomatic treatment. Spa treatment. Features of treatment, depending on the period of chronic pyelonephritis:**

		exacerbation, remission. Prevention of pyelonephritis in elderly patients. **Nephrotic syndrome.** **Definition of nephrotic syndrome. Etiology. Pathogenesis. Morphological changes in the kidneys. Clinic. Pathogenesis of nephrotic edema. The pathogenesis of proteinuria in nephrotic syndrome. Hypo- and dysproteinemia. Hyperlipoproteinemia. Hypercoagulation and oppression of fibrinolysis in nephrotic syndrome. Changes in humoral and cellular immunity. Electrolyte disturbances in nephrotic syndrome. The functional state of the kidneys. Variants of the course of nephrotic syndrome: chronic recurrent, steadily progressive, terminal. Complications of nephrotic syndrome: infectious, vascular thrombosis, nephrotic crisis, hypovolemic shock. Methods for the diagnosis of nephrotic syndrome. Indications and contraindications for kidney puncture biopsy. Differential diagnosis of nephrotic syndrome depending on the etiological factor. Treatment of nephrotic syndrome. Mode. Diet therapy. Principles of etiological treatment. Principles of pathogenetic treatment. The main groups of drugs: glucocorticoid hormones, cytostatics, direct and indirect anticoagulants, anabolic steroids, drugs of the 4-aminoquinoline series, non-steroidal anti-inflammatory drugs, diuretics. Prevention of nephrotic syndrome.** **Amyloidosis of the kidneys.** **Causes of renal amyloidosis. The structure of amyloidosis. Classification of amyloidosis. Pathogenesis of secondary amyloidosis. The clinical picture of amyloidosis. Stages of amyloidosis: latent, proteinuric, edematous stage. Diagnosis of amyloidosis: Bengold test with Congo, test with methylene blue, biopsy of the mucous membrane of the rectum, gums, cheeks, kidney biopsy. Differential diagnosis of amyloidosis with nephrotic syndrome of a different etiology. Pathogenetic treatment of amyloidosis. Remediation of foci of infection. Drug therapy: ascorbic acid, drugs of the 4-aminoquinoline series, colchicine, dimethyl sulfoxide, unit**.
6	Problems of gastroenterology in geriatrics	**Features of clinical examination of an elderly patient with diseases of the digestive system.** **Age anatomical and functional features of the digestive system. Methods of examination of elderly patients with diseases of the digestive system. Methods of physical examination of the digestive system. Clinical evaluation of the results of laboratory diagnostic methods. Methods for the study of gastric secretion. Clinical evaluation of the results of instrumental diagnostic methods. X-ray methods. Endoscopic methods. Radionucleide methods. pH meter. Clinical evaluation of the results of morphological research methods. Clinical evaluation of the results of surgical diagnostic methods: laparoscopy, percutaneous and surgical cholecystocholangiography.** **Diseases of the stomach in the elderly.** **Features of the course of gastritis in old and senile age. Diagnosis and differential diagnosis. Features of the treatment of acute and chronic gastritis in old and senile age. Gastrocardiac syndrome (symptomatology, pathogenesis, treatment). Diverticula of the**

		stomach. Deformities of the stomach. Gastroptosis. Prolapse of the gastric mucosa into the duodenal bulb. Peptic ulcer of the stomach and duodenum. Etiology and pathogenesis of peptic ulcer disease. Classification of peptic ulcer. Clinic of gastric ulcer, duodenal ulcer, combined ulcers. Features of the course of the disease in old and senile age. Complications of peptic ulcer disease. Treatment of gastric ulcer and duodenal ulcer. Diet therapy. Combined drug therapy. Physiotherapy. Peptic ulcer prevention. Diseases of the operated stomach. Dumping syndrome (pathogenesis, clinical picture, diagnosis, treatment, prevention). Lead loop syndrome (pathogenesis, clinical picture, diagnosis, treatment, prevention). The state of protein, fat, carbohydrate, mineral and vitamin metabolism in patients after gastric resection. The functional state of the liver, biliary tract in patients after gastric resection. The functional state of the intestine after gastric resection. The functional state of the pancreas after gastric resection. Morphofunctional state of the stomach stump. Recurrent peptic ulcers of the anastomosis. Mental and neuro-vegetative disorders. **Bowel disease in the elderly.** **Enzymopathies. Diverticula of the small and large intestine. Duodenitis Enteritis, colitis. Features of the clinical symptoms of chronic enterocolitis. Mineral metabolic disorders and osteoporosis. Anemia. Dysbacteriosis. Constipation. Differential diagnostics. Basic principles of treatment. Diet therapy. The use of drugs: eubiotics, sulfonamides and antibiotics, nitrofuran preparations, vitamins, enzyme preparations, antidiarrheals. Intestinal dysbiosis. Definition of the concept (eubiosis, dysbiosis, dysbiosis). The intestinal microflora of an elderly healthy person and its physiological significance. The role of internal and external factors in the disturbance of the microbial balance of the intestinal flora. Medicinal dysbiosis. The concept of endogenous and exogenous superinfection. Phases of dysbiosis development. Chronic colitis. Ulcerative colitis, nonspecific. Etiology and pathogenesis. Clinic depending on the localization of the process in different parts of the colon. Diagnosis and differential diagnosis. Treatment. Indications for surgical treatment. Prevention.** **Diseases of the liver and biliary tract in the elderly.** **Chronic diffuse liver disease. Hepatosis. Chronic hepatitis. Classification. Etiology and pathogenesis, the role of occupational factors in the development of chronic hepatitis. The clinical picture. Diagnosis and differential diagnosis. Basic principles of treatment. Diet therapy. Alcoholic liver damage. Liver cirrhosis. Pathomorphology. Clinic. Diagnosis and differential diagnosis. Basic principles of treatment. Liver failure. Etiology and pathogenesis. Classification. Features of the clinical picture in elderly patients. Diagnostics. General principles of conservative treatment. Indications for surgical treatment (extracorporeal dialysis). Other liver diseases: cysts, parasitic diseases, liver abscesses. Vascular diseases: diseases of the hepatic artery, diseases of the portal vein, diseases of the hepatic veins. Dyskinesia of the gallbladder and biliary tract. Chronic cholecystitis. Etiology and pathogenesis. Classification.**

		Features of the clinical picture in elderly patients. Diagnosis and differential diagnosis. Diet therapy. Basic principles of treatment. Cholelithiasis. Indications for laser crushing of gallstones, endoscopic surgical methods of treatment. Indications for surgical treatment. Postcholecystectomy syndrome. Stenoses of the biliary tract (stenosis of the common bile duct, Vater's nipple, papillitis). Cholangitis. Parasitic diseases of the biliary system.
7	Hematology in Geriatrics	**Features of clinical examination of an elderly patient with diseases of the hematopoietic organs.** **Examination of patients with diseases of the hematopoietic organs. Major hematological syndromes. Concepts: hemoblastosis, anemia, hemorrhagic diathesis, neutropenia, agranulocytosis, porphyria, leukemoid reactions. Evaluation of the results of laboratory tests: general blood test, general urine analysis, cytological examination of bone marrow, histological examination of bone marrow, cytological examination of the liver, spleen, lymph nodes. Study of blood serum proteins and their fractions (proteinograms). Study of urine proteins. Immunophoresis of blood and urine proteins. Cytogenetic study of bone marrow elements. Enzymatic blood test. Immunochemical studies. Evaluation of the results of instrumental and hardware research methods: X-ray, radiological, ultrasound, computed tomography.** **Hemoblastosis.** **Classification of hemoblastoses. Acute leukemia. Principles of therapy for acute leukemia. Development prospects, problems of acute leukemia. Chronic leukemia. Myeloid leukemia. Lymphocytic leukemia. Erythremia. Subleukemic myelosis. Macrophage leukemia. Principles of chronic leukemia therapy. Paraproteinemic hemoblastosis. Classification, diagnostics. Multiple myeloma. Myeloma therapy. Other paraproteinemic hemoblastosis. Non-neoplastic paraproteinemia. Primary and secondary immunodeficiencies (pathogenesis, diagnosis, therapy). Non-leukemic hemoblastosis. Paraneoplastic syndromes. Accelerated ESR syndrome. Differential diagnosis for lymphadenopathies Fever of unknown origin.** **Anemia in the elderly.** **Classification of anemias. Anemia in chronic diseases. Iron deficiency anemia. Iron exchange in the body. Tactics for the treatment of iron deficiency anemias. B12-deficiency anemia. Anemias associated with a deficiency of folic acid. Hemolytic anemias. Acquired hemolytic anemias. The concept of autoimmune and heteroimmune hemolytic anemias. Autoimmune hemolytic anemias with incomplete heat agglutinins. Cold forms of autoimmune hemolytic anemias. Aplastic anemias. Pathogenesis of aplastic anemias. Aplastic anemia therapy. Porphyrias. Definition of the concept of porphyria and classification. Biosynthesis of porphyrins. Erythropoietic uroporphyria. Erythropoietic protoporphyria. Acute intermittent porphyria. Features of clinical manifestations, diagnosis and treatment in elderly patients.** **Hemorrhagic diathesis.**

		The mechanism of normal hemostasis. Platelet hemostasis. Internal mechanism of hemostasis. External mechanism of hemostasis. Anticoagulant system. Fibrinolysis. Methods for studying hemostasis. Nosological forms of hemorrhagic diathesis. Thrombocytopenic purpura. Thrombocytopathy. Von Willebrand disease. DIC syndrome. Violation of the factors of the prothrombin complex. Features of clinical manifestations, diagnosis and treatment in elderly patients. **Depression of hematopoiesis, neutropenia, agranulocytosis in elderly patients.** **Agranulocytosis. Immune agranulocytosis. Myelotoxic agranulocytosis. Acute radiation sickness. Hereditary neutropenias. Treatment of agranulocytosis and neutropenia. Principles of antibiotic therapy. Indications and contraindications for the appointment of glucocorticoid hormones. Prevention of exogenous and endogenous infections. the importance of aseptic chambers. Pancytopenia. Thrombocytopenia. Anemia. Granulocytopenia. Features of clinical manifestations, diagnosis and treatment in elderly patients**.
8	Features of diseases of the endocrine system in old age	**Diabetes.** **Features of the clinical course of diabetes mellitus in the elderly. Complications of diabetes mellitus. Laboratory diagnostics. The concept of compensated and decompensated diabetes mellitus. Angiopathies in diabetes mellitus. Coma in diabetes mellitus: ketoacidotic, hypoglycemic, hyperosmolar, hyperlactacidemic (diagnosis and treatment). Basic principles of treatment. Diet therapy. Indications for insulin therapy. Insulin types. Insulin resistance, ways to overcome. Complications of insulin treatment. Indications for the use of biguanides. Complex treatment. Primary prevention of diabetes mellitus. Forecast, rehabilitation. Elderly Patient Education.**

5.2 Sections of disciplines and types of classes

No.	Discipline section name	**L**	**PZ**	**S**	**LP**	**KPZ**	**SRS**	**Total hours**
1	Fundamental Gerontology and Socio-Medical Aspects of Gerontology					7	4	
2	Features of diseases of the cardiovascular system in old and senile age					14	6	
3	Diseases of the respiratory system in old and old age					5	8	
4	Features of rheumatic diseases and osteoporosis in geriatrics					5	6	
5	Diseases of the kidneys and urinary tract in geriatrics					5	6	
6	Problems of gastroenterology in geriatrics					5	6	
7	Hematology in Geriatrics					5	6	
8	Features of diseases of the endocrine system in old age					5	6	
9	Medical, social and psychological problems of gerontology					5	4	
	Total					54	54	108

6. Interactive forms of conducting classes

In accordance with the requirements of the Federal State Educational Standard 3+ HPE in the direction of training, the implementation of the competence-based approach provides for the widespread use of active and interactive forms of conducting classes in the educational process. When conducting clinical practical classes in the discipline "Fundamentals of Gerontology", the supervision of patients with the main nosology is widely used according to the topic of clinical practical studies. Clinical analyzes of supervised patients are carried out, during which students are involved in a discussion on the patient being examined, the patient's history and revealed physical data are actively discussed, laboratory and instrumental studies are evaluated, disease risk factors, clinical diagnosis are identified, and students reveal the principles of treatment of the underlying disease in specific patient. Analyzes of clinical situations are carried out according to the proposed situational tasks.

#	Discipline section name	Interactive forms of conducting classes	**Duration (hour.)**
1	Features of diseases of the cardiovascular system in old and senile age	Clinical analysis	4
2	Diseases of the respiratory system in old and old age	SZ solution (in Moodle)	2
3	Features of rheumatic diseases and osteoporosis in geriatrics	Clinical analysis (in Moodle)	2
4	Diseases of the kidneys and urinary tract in geriatrics	Solution SZ	1
5	Problems of gastroenterology in geriatrics	Clinical analysis	2
6	Hematology in Geriatrics	SZ solution (in Moodle)	2
7	Features of diseases of the endocrine system in old age	Clinical analysis (in Moodle)	2
		Total (hours)	15
		Total (% of classroom lessons)	30%

7. The list of educational and methodological support for independent work of students in the discipline

№	Self-Study Sections and Topics	Types of independent work	Forms of control
1	**Topic Features of diseases of the cardiovascular system in old and senile age.** **Diseases of the myocardium.** **Classification of myocardial diseases. General characteristics of myocardial diseases. Myocarditis. Outcomes of myocarditis. Myocardial dystrophy. Alcoholic dystrophy of the myocardium. Cardiomyopathy. Dilated cardiomyopathy. Restrictive cardiomyopathy. Myocarditis cardiosclerosis.**	Presentation preparation	Final test control

	Infective endocarditis. **Primary endocarditis. Secondary endocarditis. Non-inflammatory endocarditis. Abacterial valvular endocarditis. Features of IE in the elderly** **Heart defects.** **Features of the clinical course of defects in the elderly. The frequency of damage to the mitral, aortic, tricuspid valves. Clinical and anatomical forms and pathogenesis of hemodynamic disorders in heart disease. Diagnostic methods. Clinic, criteria for the diagnosis of individual heart defects. Differential diagnosis for heart disease. Degenerative lesions of the valve apparatus. Indications for surgical treatment**		
2	**Topic Diseases of the respiratory system in old and old age** **Respiratory failure.** **Features of the course in old age. Chronic respiratory failure. Definition. Etiology and pathogenesis. Laboratory and functional diagnostics. Clinic. Diagnosis and differential diagnosis. Treatment and prognosis. Chronic cor pulmonale.** **Pulmonary heart.** **Definition of the concept of cor pulmonale. Etiology. Pathogenesis: with a prolonged attack of bronchial asthma, severe pneumonia, pneumothorax. Classification. Clinic of various variants of chronic pulmonary heart: bronchopulmonary, vascular, thoracodiaphragmatic. Compensated cor pulmonale. Decompensated cor pulmonale. Stages of heart failure in pulmonary heart disease. Peculiarities of treatment of patients in elderly senile age. Sanatorium treatment of patients with chronic pulmonary heart disease. Prevention of cor pulmonale in old and old age.** **Pulmonary embolism.** **Etiology. Risk factors in elderly and senile patients. Clinic, diagnosis, treatment, prevention in the elderly and senile age.** **Emphysema of the lungs in the elderly.** **Etiology. Pathogenesis. Classification. Diagnostics. Complications. Treatment of pulmonary emphysema, geriatric features.**	Presentation preparation Review of related literature	Final test control Situational tasks Presentation protection
3	**Topic Features of rheumatic diseases and osteoporosis in geriatrics.** **Reiter's disease. Reactive arthritis.** **The role of histocompatibility antigens. Psoriatic arthritis, clinical picture and treatment of psoriatic arthritis. Reactive arthritis. Etiology and pathogenesis. Classification of reactive arthritis. Post-enterocolitic (yerseniosis, salmonellosis, klebsiellosis, etc.), urogenital (excluding Reiter's disease and gonorrhea), after nasopharyngeal infection, after other infections. Basic principles of treatment. Prevention.** **Systemic vasculitis in the elderly.** **Polymyalgia rheumatica. Temporal arteritis: clinical presentation, differential diagnosis, treatment. The main groups of drugs in rheumatology. Non-steroidal anti-inflammatory drugs. Features of use in the elderly.**	Presentation preparation Review of related literature	Final test control Situational tasks Presentation protection
4.	**Subject Kidney and urinary tract diseases in geriatrics.** **Medicinal kidney damage.**	Presentation	Final test control

	Morphological changes in the kidneys. Clinical lesions and course options. Differential diagnosis of drug-induced renal disease with other diseases. Features of the treatment of drug kidney damage. **Chronic renal failure (CRF) in elderly and senile patients.** **Classification of chronic renal failure, depending on the degree of its severity. Clinic. Features of the clinical manifestations of chronic renal failure, depending on the degree of its severity. Features of the CRF clinic depending on the patient's age. Treatment. Diet therapy. Water and salt regime. Correction of water-electrolyte disturbances. Correction of acid-base disorders. Features of the dosage of various medications for chronic renal failure. Indications and contraindications for hemodialysis and kidney transplantation.**	preparation Review of related literature	Situational tasks Patient supervision Presentation protection
5	**Topic Problems of gastroenterology in geriatrics** **Diseases of the esophagus.** **Atony of the esophagus. Achalasia of the cardia. Diverticula of the esophagus. Hernia of the esophageal opening of the diaphragm. Esophagitis. Features of clinical manifestations, diagnosis, treatment, prevention, rehabilitation in elderly patients.** **Diseases of the pancreas.** **Chronic pancreatitis. Etiology and pathogenesis. Features of the clinical course in elderly patients. Diagnosis and differential diagnosis. Complications. Basic principles of treatment. Diet therapy. Indications for surgical treatment. Prevention. Alcoholic lesions of the pancreas. Basic principles of treatment.**	Presentation preparation Literature review by topice	Final test control Situational tasks Patient supervision Presentation protection
6	**Hematology in Geriatrics** **Hemorrhagic diathesis.** **The mechanism of normal hemostasis. Platelet hemostasis. Internal mechanism of hemostasis. External mechanism of hemostasis. Anticoagulant system. Fibrinolysis. Methods for studying hemostasis. Nosological forms of hemorrhagic diathesis. Thrombocytopenic purpura. Thrombocytopathy. Von Willebrand disease. DIC syndrome. Violation of the factors of the prothrombin complex. Features of clinical manifestations, diagnosis and treatment in elderly patients.** **Depression of hematopoiesis, neutropenia, agranulocytosis in elderly patients.** **Agranulocytosis. Immune agranulocytosis. Myelotoxic agranulocytosis. Treatment of agranulocytosis and neutropenia. Principles of antibiotic therapy. Indications and contraindications for the appointment of glucocorticoid hormones. Prevention of exogenous and endogenous infections. the importance of aseptic chambers. Features of clinical manifestations, diagnosis and treatment in elderly patients.**	Presentation preparation Review of related literature	Final test control Situational tasks Presentation protection
7	**Theme. Features of diseases of the endocrine system in old age** **Thyroid disease in the elderly.** **Diffuse toxic goiter. Clinical forms and stages of the disease. Features of diffuse toxic goiter in elderly and senile patients. The role and assessment of laboratory and instrumental**	Presentation preparation	Final test control Situational tasks

	research methods. Basic principles of treatment. Thyrotoxic crisis. Supportive therapy. Indications for surgical treatment. Prevention of diffuse toxic goiter. Hypothyroidism Etiology, pathogenesis, classification. Features of clinical manifestations in the elderly. Differential diagnostics. Basic principles of treatment	Review of related literature	Patient supervision Presentation protection

8. Forms of control

8.1. Monitoring forms
- oral (interview, report)
- written (checking tests, abstracts, abstracts, problem solving).
A list of topics for essays, reports, collections of tests and situational tasks are given in the section "Set of Assessment Tools".

8.2. Intermediate certification forms - test
During the year, a test is mandatory.
It has two parts.
Part 1 - test control
Part 2 - an interview on 2 questions on the ticket.
Conditions for admission to offset:
- protection of academic medical history
- the absence of missing practical classes for no valid reason
- attendance at least 75% of lectures
- in case of missing practical lessons, it is necessary to work them out in the form suggested by the teacher (supervision of the patient on the topic, duty, oral questioning, etc.)
- in case of missing more than 50% of the lecture for an unjustified reason, it is necessary to practice them in the form suggested by the teacher (providing a lecture notes, oral questioning, etc.)
- supervision of the patient, writing an academic history of the disease, checking it by the teacher, correcting the errors indicated by the teacher.
The head of the department (or associate professor) takes credit for the academic history of the disease.
On the test it is necessary
- demonstrate their skills in establishing a preliminary diagnosis based on survey data and physical examination,
- draw up a survey plan for a given nosological form, correctly interpret the data of laboratory and instrumental examination methods,
- formulate the final diagnosis,
- know the etiology, pathogenesis of this disease,
- carry out a differential diagnosis,
- draw up a treatment plan, know the characteristics of the main drugs used, the principles of non-drug treatment
- evaluate the prognosis for this disease, conduct an examination of the ability to work

Test pass is considered passed if the number of correct answers exceeds 70%. Questions for the test are given in Appendix No. 4 to the working curriculum "Fund of assessment tools for monitoring and intermediate certification of students."

9. Library and information support of the discipline.

9.1. Main literature.

1. A guide to gerontology and geriatrics [Electronic resource]: in 4 volumes / ed .: V. N. Yarygin, A. S. Melent'ev. - Moscow: GEOTAR-Media, 2008 - 2010.
Vol.1: Fundamentals of Gerontology. General geriatrics. - 2010 .-- 720 p. : ill.
2. Essentials of Clinical Examination Handbook. [Электронныйресурс]/ Y. Shi [идр.]. -8th ed.: Thieme, 2018- URL: https://medone-education.thieme.com/ebooks/2251929#/ebook_2251929_SL84831974
3. Руководство по геронтологии и гериатрии [Электронный ресурс] : в 4 т./ ред.: В. Н. Ярыгин, А. С. Мелентьев Т.1 : Основы геронтологии. Общая гериатрия: ГЭОТАР-Медиа, 2008. -720 с.: ил.- URL: http://www.studentlibrary.ru/book/ISBN9785970416877.html
4. Zavarzina, O. O.Care for the elderly: fundamentals of gerontology, [Electronic resource]: tutorial / OO Zavarzina. - Moscow: GEOTAR-Media, 2016 .-- 224 p. - Access mode: http://www.studentlibrary.ru/book/ISBN9785970438879.html

9.2. Supplementary literature.

1. Shchepin, O. P.
Public health and health care [Electronic resource]: postgraduate textbook. professional education / O. P. Shchepin, V. A. Medic. - Moscow: GEOTAR-Media, 2012 .-- 592 p. : ill. - (Postgraduate education). - Access mode: http://www.studentlibrary.ru/book/ISBN9785970422168.html
2. Internal diseases [Electronic resource]: textbook in 2 volumes / ed .: V. S. Moiseev, A. I. Martynov, N. A. Mukhin. - 3rd ed., Rev. and add. - Moscow: GEOTAR-Media, 2015 -.
T.2. -. - Moscow: GEOTAR-Media, 2015 .-- 896 p. : ill.
3. Internal diseases [Electronic resource]: textbook in 2 volumes / ed .: V. S. Moiseev, A. I. Martynov, N. A. Mukhin. - 3rd ed., Rev. and add. - Moscow: GEOTAR-Media, 2015 -.
Vol. 1. -. - Moscow: GEOTAR-Media, 2015 .-- 960 p. : ill.
4. An elderly patient. Features of management in an outpatient setting [Electronic resource]: textbook / ed. I. I. Chukaeva. - Moscow: RUSAYNS, 2016 .-- 182 p. - Access mode: http://www.studentlibrary.ru/book/ISBN9785436509433.html

9.3. The list of resources of the information and telecommunication environment "Internet" necessary for mastering the discipline (module)
- EBS Iprbooks http://www.iprbookshop.ru/
- Internal diseases in 2 volumes [Electronic resource]: textbook / ed. N. A. Mukhina, V. S. Moiseeva, A.I. Martynova - M.: GEOTAR-Media, 2010 .-- 1264 p.

Access mode: http: //www.studmedlib.ru/book/ISBN9785970414217.html? SSr = 52013302f210491fe03855c
- Shchepin OP Public health and health care [Electronic resource]: textbook / OP Shchepin, VA Medic. - M.: GEOTAR-Media, 2011 .-- 592 p. : ill. Access mode: http: //www.studmedlib.ru/doc/ISBN9785970417836-SCN0004.html? SSr = 52013302f210491fe03855c

9.4. The list of information technologies used to implement the educational process in the discipline (module), including the list of software and information reference systems:
- EBS "Student Consultant" http://www.studmedlib.ru/
- Russian medical information resource http://www.rosmedic.ru
- Medscape www.medscape.ru

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical base necessary for the implementation of the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа № 2403 Морской медицины, административный учебный корпус, 4 этаж *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, экран *в) перечень учебно-наглядных пособий:* схемы, таблицы *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номерлицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций,	163061, Архангельская область, г. Архангельск, пр. Троицкий, д. 99

текущего контроля и промежуточной аттестации № 32, 4 этаж Договор № 372 от 16.05.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская городская клиническая поликлиника №1». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихсяна 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, табличный и справочный материал по темам. *г) используемое программное обеспечение:* KasperskyendpointSecurity. № лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 33, 4 этаж Договор № 372 от 16.05.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская городская клиническая поликлиника №1». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор, телевизор, принтер *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, картотека лекарственных препаратов *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163061, Архангельская область г. Архангельск, пр. Троицкий, д. 99

Симуляционный класс № 430 учебный корпус, 4 этаж: Кабинет здорового человека и его окружения для отработки навыков. *перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины ростомер, весы электронные медицинские вэм-150-масса-к, кушетка медицинская, тумба приставная тп-4.1, шкаф медицинский мд 2 1670/ss , стол белый, таблица сивцева, компьютерный стол, столик манипуляционный мск-549-02-мск", аппарат экг, робот-симулятор симптомов инсульта, фантом-симулятор чел.для отоскопии, фантом человека для отоскопии, симулятор пальпации виртуальный, тренажер для отработки навыков записи и интерпретации экг в 12 отведениях с возможностью выполнения дефибриляции и манипуляций на дыхательных путях, тренажер аускультации взрослого человека, тренажер постановки клизм и внутримышечных инъекций, фантом для обследования предстательной железы чел., фантом груди человека для обследования молочных желез, манекен-имитатор пациента электронный, экстрактор вакуумный "вакус"7208, дефибриллятор, фантом-симулятор чел.для ретинопатии, тренажер офтальмоскопии.	163001, г. Архангельск, просп. Троицкий, д. 180
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 410 учебный корпус, 4 этаж (кабинет для дебрифинга) *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 12 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор, телевизор, колонки, маркерная доска *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163001, г. Архангельск, просп. Троицкий, д. 180

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 26th 2020

SYLLABUS OF THE DISCIPLINE

Discipline **Psychotherapy**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI / 11**
Form of the interim assessment **Credit**
Department **of Psychiatry and Clinical Psychology**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No.
June 20th 2020
Head of the department

A.G. Soloviev

Author and compiler:
Belova Olga Sergeevna, Associate Professor of the Department of Psychiatry and Clinical Psychology, Candidate of Medical Sciences

Arkhangelsk, 2020

1. Goal and tasks of the mastering of the course

Goal of the discipline	The goal of the discipline is to form competences of a specialist in the use of psychotherapeutic methods and techniques for psycho-psychotherapeutic correction of somatic, mild mental and behavioral disorders.
Tasks of the discipline	- to acquaint students with basic concepts and principles of psychotherapy and with etiopathogenesis of the formation of pathology from the standpoint of the psyche; - to acquaint students with modern possibilities of psycho-psychotherapeutic and psychopharmacological correction of mild mental, psychosomatic and behavioral disorders; - to form students' skill to establish professionally competent psychotherapeutic relationships with patients.

2. 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:
Block 1. Variative part. Elective disciplines.

Discipline refers to the base of the professional cycle. The program is developed following the requirements of Federal State Education Standard for higher education in the field of 31.05.01 «General medicine».

Teaching of the discipline "Psychotherapy" is held on 6th year, since the students have the basic knowledge of psychology and pedagogy, normal anatomy and physiology, pathological anatomy and physiology, pharmacology, internal medicine, neurology, psychiatry. The education system of the future doctors is studied in close relationships with other clinical disciplines, the variative part of the professional cycle. It is estimated labor input in 2 credits.

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

Codes of the formed competences	**Competences**		
	To have knowledge of	**To be able to**	**To master**
	Professional competences (PC)		
PC-1 the ability and readiness to implement a set of measures aimed at maintaining and	Criteria for the diagnosis of common diseases	Appoint additional diagnostic methods and psychotherapy method	The skill of choice and interpretation of additional research methods in mental pathology and

strengthening health and including the formation of a healthy lifestyle, preventing the occurrence and spread of diseases, their early diagnosis, identifying the causes and conditions of their occurrence and development, as well as aimed at eliminating harmful the impact of environmental factors on human health			psychotherapy method

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

Total workload of the course is **3** credits.

	Type of the academic work	**Total hours**	**Term**
Discipline workload (in academic hours)	Lectures (L)		
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	54	11
	Laboratory-based practicals (LBP)		
	Simulation-based practicals (SBP)		
	Preparation for the examination (PE)		
	Preparation for the credit (PC)		
	Exam consultations (EC)		
	Coursework (CW)		
	Unsupervised work (UW) (total)	54	11
	Examination control (EC)		
	Total course workload	**108**	**11**

5. Contents of the course:

5.1. Contents of the sections of the course

No	**Name of the course section**	**Content of the section**
1	2	3
1	General issues and the history of psychotherapy	Philosophical concepts of psychotherapy. History of psychotherapy. Main directions of psychotherapy, its clinical use.
2	Psychotherapy and pharmacotherapy	Etiology and pathogenesis of anxiety

	in the neuro-psychiatric disorders.	and depressive disorders. Types of psychotherapy. Types of pharmacotherapy.
3	Psychosomatic disorders	Psychosomatic disorders. Definition, etiology, personality characteristics of patients. Psychotherapeutic approaches.

5.2. Sections and types of studies

No	Name of the section of the course	L	P	S	LBP	CP	UW	Total hours
1	2	3	4	5	6	7	8	9
1	General issues and the history of psychotherapy					20	20	40
2	Psychotherapy and pharmacotherapy in the neuro-psychiatric disorders.					15	15	30
3	Psychosomatic disorders					20	20	40
	Total					**54**	**54**	**108**

6. Interactive forms of studies

No	Name of the course section	Interactive forms of studies	Duration (hours)
2	Psychotherapy and pharmacotherapy in the neuro-psychiatric disorders.	The decision of situational problems and case studies (Case-study). Computerized psychological test (self-test and analysis of the results).	5
3	Psychosomatic disorders	Analysis of the results of psychological testing, audio and video recordings. (Case-study). Seminar-discussion. The decision of situational problems and case studies - diagnostic training.	5
		Total (hours)	**10/37**
		Total (% of in-class learning)	**27%**

7. List of teaching materials for the course' unsupervised work of students

No	Name of the course section	Types of the unsupervised work	Forms of control
1	General issues and the history of psychotherapy	• Work with special literature • Work with tests for self	Presentation (Ex. History of Psychotherapy in India; The role of
2	Psychotherapy and pharmacotherapy in the neuro-		

	psychiatric disorders.	• Self-development of practical skills	psychotherapy in the practical work of a doctor)
3	Psychosomatic disorders		

8. Forms of control

8.1. Current forms of control

- oral (a report)
- written (checking of tests, review papers, lecture notes, abstracts).

A theme list of reports, abstracts are shown at the section «Set of the evaluation tools».

8.2. Forms of the interim assessment (pass & fail test, examination, term paper)

Stages of the examination (pass & fail test)

Questions for a pass & fail test and an examination are shown at the section « Set of the evaluation tools for the current control and interim assessment of students».

1. Stage – Pass and fail test
   (name of the stage)
2. Stage -
   (name of the stage)
3. Stage-
   (name of the stage)

9. Library and information materials of the course

9.1. Compulsory literature

1. Comprehensive Handbook of Psychotherapy Volume 1 - Psychodynamic Object Relations Florence W. Kaslow. Copyright 2002 by John Wiley & Sons, New York. 642p http://www.al-edu.com/wp-content/uploads/2014/05/Kaslowmgnavita-eds-Comprehensive-Handbook-of-Psychoterapy-vol-1-Psychodynamic-object-relations.pdf
2. Counseling and Psychotherapy theories in context and practice - John Sommers Copyright 2004 by John Wiley & Sons, Inc. 554p http://frenglish.ru/16_eng_books_psych_sbornik_list.html
3. Encyclopedia of Psychotherapy - Michel Hersen. Copyright 2002, Elsevier Science (USA). 1772p http://frenglish.ru/16_eng_books_psych_sbornik_list.html
4. Krukemeyer M. Introductory Guide to Medical Training. From Basic Sciences to Medical Specialties [Электронный ресурс]/ M. Krukemeyer. - 1st ed.: Thieme, 2015- URL: https://medone-education.thieme.com/ebooks/2093828?fromSearch=true#/ebook_2093828_SL80527499
5. Карвасарский Б. Д. Психотерапия [Электронный ресурс]/ Б. Д. Карвасарский, Н. Г. Незнанов. -Москва: ГЭОТАР-Медиа, 2011- URL: http://www.studentlibrary.ru/book/970406649V0034.html

9.2. Supplementary literature

1. Ahuja Niraj A Short Textbook of Psychiatry [Text]/ N. Ahuja. -7th. ed.. -Delhi: Jaypee brothers medical publishers (P) LTD, 2011. -261 p.: il [English]
2. Davidson`s Principles and Practice of Medicine [Text]/ ed. N. A. Boon [et al.]. -20th. ed.. -Edinburgh: ELSEVIER, 2008. -1381 p.: il. [English]
3. Harrison's Principles of internal medicine [Text], Vol. 1/ ed. A. S. Fauci [и др.]. -17th. ed.. -New York; Chicago; San Francisco: Mc Graw Hill : Medical, 2008. -1364, [149] p.: il. [English]
4. Descriptive Psychopathology. Michael Alan Taylor, Nutan Atre Vaidya. Cambridge University Press. 2009. 498p. [English]
5. Gale encyclopedia of mental disorders/ Ellen Thackery, editor. 2003. 604p. http://www.the-eye.eu/public/WorldTracker.org/Reference/Encyclopedia%27s/The%20Gale%20Encyclopedia%20Of%20Mental%20Disorders%20Vol%202.pdf [English]
6. Hibbert, Allison. Rapid Psychiatry / Allison Hibbert, Alice Godwin, Frances Dear. 2004. 169p. http://ncpz.ru/siteconst/userfiles/file/englit/A.%20Hibbert,%20A.%20Godwin,%20F.%20Dear%20-%20Rapid%20Psychiatry%20(PDF,%20823%20Kb).pdf [English]
4. Essentials of psychiatry. Jerald Kay. Allan Tasman. 2006. 1092p. http://www.ebook3000.com/Essentials-of-Psychiatry--Jerald-Kay--Allan-Tasman_90409.html [English]
5. Psychiatry Made Ridiculously Simple. Jefferson Nelson, William Good, Michael Ascher. 2016. 96p. https://easy2book.pythonanywhere.com/00-cathryn-grant-7/-psychiatry-made-ridiculously-simple-medmaster-ri.pdf [English]

9.3. List of the Internet resources required for mastering of the course (module)
- specific sites and web portals;
- digital collections, digital libraries, data bases and etc.;
- specialized programs, video films, audio recordings.

http://www.who.int/ — World Health Organization
http://www.ncbi.nlm.nih.gov/pmc/ — PubMed Central (PMC)
biomedcentral.com — BioMed Central (London)
https://doaj.org/ — Directory of Open Access Journals (DOAJ)
http://munin.uit.no/ — open archive of Tromso University (Norway)

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.

- Computer testing following studying of discipline sections
- Use of slide presentations at practical classes
- Use of multimedia at educational process (presentations and video)

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа № 2403 Морской медицины, административный учебный корпус, 4 этаж *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, экран *в) перечень учебно-наглядных пособий:* схемы, таблицы *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 1378, главный учебный корпус, 3 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихсяна 30 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, схемы по темам заняти	163000, г. Архангельск, просп. Троицкий, д. 51

г) используемое программное обеспечение: Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 13100, главный учебный корпус, 3 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 34 места. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, схемы по темам занятий *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 1399, главный учебный корпус, 3 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 34 места. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, схемы по темам занятий *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51

MINISTRY OF HEALTHCARE OF THE RUSSIAN FEDERATION
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APPROVED
Dean of the International Faculty
of General Practitioner
A. K. Sherstennikova
June 26th2020

SYLLABUSOF THE DISCIPLINE

Discipline **Clinical Oncology**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI/11**
Form of the interim assessment **Credit**
Department **of Radiology, Radiotherapy and Oncology**
Discipline workload **108** (academic hours)/**3**(credits)

Approved at the department meeting
Minutes No.
June 20th2020
Head of the department
M.Y. Valkov

Authors and compilers:
Valkov Mikhail Yurievich, Head of the Department of Radiology, Radiotherapy and Oncology, Professor of the Department of Radiology, Radiotherapy and Oncology, Doctor of Medical Sciences; Odintsov Vladislav Alexandrovich, Professor at the Department of Radiology, Radiotherapy and Oncology, Doctor of Medical Sciences; ValkovaLiudmilaEvgenievna, Assistant Professor of the Department of Radiology, Radiotherapy and Oncology

Arkhangelsk, 2020

1. Goal and tasks of the mastering of the course

Goal of the discipline	The goal of the discipline is to prepare students for the implementation of professional activities in the field of oncology and radiation therapy.
Tasks of the discipline	- formation of basic medical knowledge among students in the field of primary prevention and early diagnosis of malignant neoplasms at the level of the primary health care; - formation of students' skills to recognize early clinical and laboratory signs of major oncological diseases, determination of indications for the palliative therapy of malignant tumors; - formation of students' skills of interviewing and examining patients for early detection of malignant tumors, drawing up a program for the rehabilitation of cancer patients after treatment.

2. Position of the course within the structure of the educational program

The program is drawn up in accordance with the requirements Federal State Educational Standard of Higher Education in the training field 31.05.01 **Medicine.** The subject "Clinical Oncology" refers to theBLOCK 1, variable part elective discipline of the basic educational program 31.05.01 General medicine.

The list of disciplines mastering of which is necessary for studying of discipline "Clinical Oncology":
Human anatomy
Pathological anatomy
Internal disease
Nervous disease
Oncology, radiation therapy
Radiology

1. List of intended learning outcomes on course (module), correlated with the planned results of the educational program

Codes of formed competences	a student has knowledge of	a student is able to	a student masters
Professional competences			
PC- 1 the ability and readiness to implement a set of measures aimed at maintaining and strengthening health and including the formation of a healthy lifestyle, preventing the occurrence and spread of diseases, their early diagnosis, identifying the causes and conditions of their occurrence and development, as well as aimed at eliminating harmful the impact of environmental factors on human health			

PC- 1	rules of medical care in case of sudden acute oncological diseases, conditions, exacerbation of chronic diseases that are not accompanied by a threat to the life of the patient and do not require emergency medical care	provide medical care in case of sudden acute cancer diseases, conditions, exacerbation of chronic diseases that are not accompanied by a threat to the life of the patient and do not require emergency medical care	skills of medical care in sudden acute cancer diseases, conditions, exacerbation of chronic diseases that are not accompanied by a threat to the life of the patient and do not require emergency medical care	

4. THE SCOPE OF THE DISCIPLINE (MODULE) AND THE TYPES OF TRAINING SESSIONS:

The total complexity of discipline is under 3 points of credit.

	Type of the academic work	**Total hours**	**Term**
Discipline workload (in academic hours)	Lectures (L)		
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	54	11
	Laboratory-based practicals (LBP)		
	Simulation-based practicals(SBP)		
	Preparation for the examination (PE)		
	Preparation for the credit (PC)		
	Exam consultations (EC)		
	Coursework (CW)		
	Unsupervised work (UW) (total)	54	11
	Examination control (EC)		
	Total course workload	**108**	**11**

5. THE CONTENT OF THE DISCIPLINE:

5.1. The content of sections of discipline

	Name the of section discipline	**Thecontentssection**
1	Outpatient aspects of cancer services in the Russian Federation, Arkhangelsk region, and India	Morbidity and mortality of malignant neoplasm. Organization of outpatient cancer services in Russia and the Arkhangelsk region. Oncological vigilance of General practitioners. The formation of the high-risk groups. Diagnosis of early, timely and late. Age-sexual features. Dynamics and structure of morbidity. Regional features of distribution of malignant tumors in the Arkhangelsk region. Factors contributing to the emergence of tumors. The most important research areas in Oncology. The dynamics of the

		cure rate of cancer patients. Current advances in Oncology. The structure of cancer services in Arkhangelsk region. The role of primary care in the organization of cancer services. General description of the state of cancer care in the Arkhangelsk region. Reference symptoms of malignant tumors. Oncological alertness. Ethical aspects of physician outpatient clinics with cancer patients. Rehabilitationofcancerpatients.
2	Principles of diagnosis and treatment of malignant tumors of the CNS in outpatient phase and in neuro-oncological hospital.	Early and timely diagnosis of malignant tumors of the CNS. The specific features of CNS tumors. The histological classification. Clinical and anatomic classification. Clinical symptoms of brain tumors. General and local symptoms. Spinal tumors, their symptoms depending on localization. Surgical treatment. The indications for surgery. Main types of operations. Palliative surgery. Main types of operations for tumors of the spinal cord. Radiation, medication, and combined treatment of tumors of the Central nervous system. Radiation therapy. Radiation reaction, General and local. Radiation dose. Classification of methods of radiation therapy by way of dose, ionizing radiation. Remote and contact methods of radiotherapy. Characteristics of dose distribution in human body in different methods of radiotherapy. Chemotherapy of CNS tumors. Prognosis Survival.
3	Principles of diagnosis and treatment of malignant tumors of the liver, biliary tract and pancreas in outpatient setting.	Epidemiology of malignant tumors of the liver, biliary tract and pancreas. Risk factor. Early symptom. Active detection, screening. Consultation and diagnostic centers. Histological classification of tumors of the liver. The macroscopic form of primary liver cancer. Nodular form. Massive form. The diffuse form. Metastasis. Clinical TNM classification (2009). Clinical picture. Characteristics of the clinical picture. Clinical forms of liver cancer. Diagnostics. Metastatic cancer of the liver. Treatment. Surgical. Chemotherapy. Targeted therapy. Radiation therapy. Combined treatment. Forecast. Observation. The clinical picture of pancreatic cancer. Diagnostics. Radio- surgical diagnostics.Radionuclide study. Differential diagnosis of obstructive jaundice. Surgical treatment. Indications. Radical, palliative operations. Combined treatment. Radiation therapy. Chemotherapy. Forecast. Observation. Rare forms of malignant tumors of the liver, biliary tract and pancreas.
4	Principles of diagnosis and treatment of malignant tumors of the urinary system in outpatient setting.	Epidemiology of kidney cancer in the world, Russia, Arkhangelsk region. Early detection of tumors of urinary system in outpatient phase and at the consultative and diagnostic centers. Symptoms of malignant tumors of the urinary system. Pathogenesis. Early diagnosis of kidney cancer. High-risk groups. The TNM classification (2009). Regional lymph nodes. Clinical implications. Diagnosis: ultrasound, CT, MRI. Treatment of localized and locally advanced renal cancer. Invasive methods of treatment. Nephrectomy. Immunotherapy. Targeted therapy. Factors of prognosis and treatment of metastatic kidney cancer, renal cell carcinoma. Prognosis. Epidemiology of bladder cancer in the world, Russia, Arkhangelsk region. Prevention. Screening. Symptoms detected at clinical stage. Clinical implications. Diagnostics. Staging. The TNM classification, version 7 (2009).

		Treatment. Surgical treatment. Indications, contraindications. Type of operation. Combined treatment. Radiation therapy. Chemo radiotherapy. Organ preservation with conservative treatment. Indications, contraindications. Intravesical and systemic chemotherapy. Indications. Drugs and treatment regimens. Prognosis. Rehabilitation.
5	Principles of diagnosis and treatment of prostate cancer in outpatient setting.	Epidemiology of prostate cancer in the world, Russia, Arkhangelsk region. Prevention. Precancerous diseases of the prostate. Diagnosis and treatment of benign prostatic hyperplasia. Screening for prostate cancer and new methods. The etiology of prostate cancer. The morphological classification. Prognostic index of Gleason. The TNM classification (2009). Clinical picture. Diagnostics. Biopsies. Treatment. Radical prostatectomy. Radiation therapy. Hormonal therapy. Complications surgical, radiotherapy, hormonal therapy, their prevention and correction. Treatment of locally advanced prostate cancer. The treatment of widespread prostate cancer outpatient Treatment hormone resistant prostate cancer. Prognosis. Rehabilitation.
6	Principles of diagnosis and treatment of malignant tumors of the female reproductive system in outpatient setting.	Epidemiology of malignant tumors of the female reproductive system in the world, Russia, Arkhangelsk region. Primary prevention of cervical cancer, uterine body, ovaries, vulva and trophoblastic disease. Cervical cancer. Risk factors. The etiology and pathogenesis. Precancerous disease. Vaccination against HPV. Screening, organization of screening in primary care. PAP smear. Cytological examination. Clinical implications. Diagnostics. Staging. Clinical classification according to the TNM system (2009) and the International Federation of obstetricians and gynecologists (FIGO). Treatment. Surgical treatment. Indications, contraindications. Type of operation. Radiotherapy. Remote radiotherapy. Brach therapy. Concomitant radiotherapy. Combined treatment. Chemotherapy as a component of combined treatment and in an independent version. The choice of treatment tactics depending on the stage of the disease. Relapses, their diagnosis and treatment. Remote result. Rehabilitation. Cancer of the uterine body. Risk factor. The etiology and pathogenesis. Precancerous disease. Clinical implications. Diagnostics. Staging. Clinical classification according to the TNM system (2009) and the International Federation of obstetricians and gynecologists (FIGO). Treatment. Surgical treatment. Indications, contraindications. Type of operation. Radiotherapy. Remote radiotherapy. Brach therapy. Concomitant radiotherapy. Combined treatment. Chemotherapy as a component of combined treatment and in an independent version. The choice of treatment tactics depending on the stage of the disease. Relapses, their diagnosis and treatment. Remote result. Rehabilitation. Ovarian cancer. Risk factor. The etiology and pathogenesis. Precancerous disease. Genetically determined ovarian cancer. Clinical implications. Diagnostics. Staging. Clinical classification according to the TNM system (2009) and the International Federation of obstetricians and gynecologists (FIGO). Treatment. Surgical treatment. Indications, contraindications. Type of operation. Adjuvant, palliative chemotherapy. Targeted therapy. The choice of treatment tactics depending on the stage of the disease. Relapses, their diagnosis and treatment. Remote result. Rehabilitation. Rare gynecological tumors.

7	PalliativecareinOncology.	Hospice. Outpatient hospice. Modern possibilities of special palliative care in Oncology: radiation, medical, surgical. Supportive treatment in Oncology. Treatment of pain in cancer patients. Cachexia: pathogenesis, principles of correction. Treatment of the syndrome of intestinal obstruction. Syndrome of compression of the large vessels. Correction of gastrointestinal complications in cancer patients. Infectiouscomplicationsincancerpatients. ThromboticcomplicationsinOncology.

5.2. Sections and types of studies

No,	**Names of the section in discipline**	**L**	**CP**	**UW**	**Totalhrs**
1.	Outpatient aspects of cancer services in the Russian Federation, Arkhangelsk region and India.	2	5	3	10
2.	Principles of diagnosis and treatment of malignant tumors of the CNS in outpatient phase and in neuro-oncological hospital.	2	5	3	10
3.	Principles of diagnosis and treatment of malignant tumors of the liver, biliary tract and pancreas in outpatient phase.	2	5	3	10
4.	Principles of diagnosis and treatment of malignant tumors of the urinary system in outpatient phase.	2	5	3	10
5.	Principles of diagnosis and treatment of prostate cancer in outpatient phase.	2	5	4	11
6.	Principles of diagnosis and treatment of malignant tumors of the female reproductive system in outpatient phase.	2	5	4	11
7.	Palliative care in oncology		5	5	10
	Total	**12**	**35**	**25**	**72**

6. Interactive forms of practical classes

No.	**Names of the section of discipline**	**Interactive form of conducting classes**	**Duration(hrs.)**
1	Clinical oncology	Business game: Multidisciplinary team decision making)	1
2		Discussion - 1	1
3		Business game: Targeted therapy in kidney cancer	1
4		Business game: Combined therapy in urinary bladder cancer.	1
		Total hrs	4
		Total (7,0 % of classroom learning's)	**4**

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

№ п/п	Name of the course section	Types of the unsupervised work	Formsofcontrol
1.	Outpatient aspects of cancer services in the Russian Federation and Arkhangelsk region.	Preparation for clinical practical training (working with literature). Preparation of papers, reports and presentations	Tests Discussions
2.	Principles of diagnosis and treatment of malignant tumors of the CNS in outpatient phase and in neuro-oncological hospital.		
3.	Principles of diagnosis and treatment of malignant tumors of the liver, biliary tract and pancreas in outpatient phase.		
4.	Principles of diagnosis and treatment of malignant tumors of the urinary system in outpatient phase.		
5.	Principles of diagnosis and treatment of prostate cancer in outpatient phase.		
6.	Principles of diagnosis and treatment of malignant tumors of the female reproductive system in outpatient phase.		
7.	PalliativecareinOncology		

8. Form of control

8.1. Forms of current control

 oral (interview, report, clinical analysis);

 written (check tests, essays, problem solving).

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

Interview.
The stages of the competition
Stage 1 – interview test questions
Stage 2 – decision of situational tasks
Stage 3-test verification

9. LIBRARY AND INFORMATION SUPPORT OF THE DISCIPLINE

9.1. Compulsory literature
Davydov M. I. Oncology [Electronic resource]/ M. I. Davydov , S. H. Ghanaians. -Moscow: GEOTAR-Media, 2013. -920 S. - Mode of access: http://www.studmedlib.ru/.
Radiation therapy [Electronic resource] : textbook / [G. E. Trufanov, M. A. Asaturyan, G. M. Zharinov, V. N. English] ; edited by G. E. Trufanova. - M. : GEOTAR-Media, 2013. - 2008 S. - Mode of access: http://www.studmedlib.ru/.
Essentials of Clinical Examination Handbook. [Электронный ресурс]/ Y. Shi [и др.]. -8th ed.: Thieme, 2018- URL: https://medone-education.thieme.com/ebooks/2251929#/ebook_2251929_SL84831974

Черенков В.Г. Онкология [Электронный ресурс] : учебник/ В. Г. Черенков. -4-е изд., испр. и доп.. -Москва: ГЭОТАР-Медиа, 2017. -512 с.- URL: http://www.studentlibrary.ru/book/ISBN9785970440919.html
9.2. Supplementary literature
Davydov M. I. Oncology [Text] : textbook. for universities / M. I. Davydov, S. H. Ghanaians. - Moscow : GEOTAR-Media, 2013. - 912 p.: Col. slime.
Steffers G. General Pathology and Internal Medicine for Physical Therapists [Электронныйресурс] : учебник/ G. Steffers, S. Credner. -1st ed.: Thieme, 2012- URL: https://medone-education.thieme.com/ebooks/2093236?fromSearch=true#/ebook_2093236_SL80475533
Вельшер Л.З. Клиническая онкология. Избранные лекции [Электронный ресурс] : учеб. пособие/ Л. З. Вельшер, Б. И. Поляков, С. Б. Петерсон. -Москва: ГЭОТАР-Медиа, 2014. -496 с.- URL: http://www.studmedlib.ru/book/ISBN9785970428672.html
Oncology [Text] : textbook. with CD for med students. universities / ed. by V. I. Chissov, S. L. Daryalova. - Moscow : GEOTAR-Media, 2007. - 559 p.
Oncology [Electronic resource] : textbook for universities/ L. Z. Velsher [and others]. - Moscow: GEOTAR-Media, 2009. -512 p. - Mode of access: http://www.studmedlib.ru/.
Ternovoy S. K. Ray diagnostics and therapy [Electronic resource] : study guide / S. K. Ternovoy, V. E. Sinitsyn. - M.: GEOTAR-Media, 2010. - 304 s: Il.- Mode of access: http://www.studmedlib.ru/.

9.3 List of the Internet resources required for mastering of the course

1. The Internet website of the Russian oncological server RosOncoWeb - http://www.rosoncoweb.ru.
2. ONCOLOGY.ru (ONCOLOGY.ru)
3. Information portal. All about Oncology for specialists-oncologists and cancer patients.
4. Medscape

One of the best medical portals, including information on Oncology/Hematology. Contains constantly updated medical news for professionals, related articles, opinions of experts, summary of recommendations for treatment, clinical cases and much more. https://www.medscape.com/

5. CancerNetwork

Interesting resource, enabling access to the full texts of a very popular benefits in Oncology, extensive collections of articles on each location of the tumor, news, links to helpful cancer and General medical sites, etc. http://www.cancernetwork.com/

6. OncoLink

Portal Cancer Center of the University of Pennsylvania, contains a rich collection of information concerning various aspects of Oncology. There is information about the planned conferences and symposia in the field of Oncology. http://www.oncolink.ru/

7. Internet website servers international cancer Cancer Network - http://www.cancernetwork.com.
8. The Internet site journal of Cancer Journal for Clinicians - http://caonline.amcancersoc.org.
9. The Internet site journal of Clinical Oncology Jourlal - http://jco.ascopubs.org.
10. Internet site search engine PubMed database MEDLINE National library of medicine – http://www.pubmed.com.

11. Clinical practice guidelines of professional medical societies http://www.klinrek.ru
12. CD textbook: Oncology, edited by Acad. V. Chissov,
Professor C. L. Daryalova. Moscow 2007.

9.4 List of the information technologies used in the educational process of the course

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа № 2403 Морской медицины, административный учебный корпус, 4 этаж *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, экран *в) перечень учебно-наглядных пособий:* схемы, таблицы *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номерлицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номерлицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 14 Лаборатория радиологического корпуса, 3 этаж Договор № 336 от 14.04.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельский клинический онкологический диспансер». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихсяна 14 мест. *б) наборы демонстрационного оборудования* проектор, ноутбук *в) перечень учебно-наглядных пособий:*	163045, Архангельская область, г. Архангельск, пр. Обводный канал, д. 145 корп. 5, строение 1

Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, табличные и справочные материалы,негатоскоп стационарный, набор фотоальбомов по диагностике визуальных локализаций рака, набор учебных видеофильмов, приборы для забора биопсийного материала; сшивающие аппараты *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номерлицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Trafficinspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Учебная аудитория для занятий семинарного типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации№ 210 учебный корпус, 2 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихсяна 14 мест, основное оборудование, *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины,табличные и справочные материалы,негатоскоп стационарный, набор фотоальбомов по диагностике визуальных локализаций рака, набор учебных видеофильмов *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номерлицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Trafficinspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163001, г. Архангельск, просп. Троицкий, д. 180

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 26th 2020

SYLLABUS OF THE DISCIPLINE

Discipline **Evidence-based Medicine**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI / 11**
Form of the interim assessment **Credit**
Department **of Clinical Pharmacology and Pharmacotherapy**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No.
June 20th 2020
Head of the department
N.A. Vorobyova

Author and compiler:
Vorobyeva Nadezhda Alexandrovna, Professor, Head of the Department of Clinical Pharmacology and Pharmacotherapy, Doctor of Medical Sciences

Arkhangelsk, 2020

1. Goal and tasks of the mastering of the course

Goal of the discipline	The goal of the discipline is to systematize knowledge on methods of assessing the evidence base of clinical and laboratory diagnostic methods and to form students' stable skills of their application in the treatment and diagnostics process.
Tasks of the discipline	- acquaintance with the basics of the Evidence-based medicine; - acquaintance with the main types of clinical trials; - consolidation of skills in assessment of the evidence base of medical and biological information; - acquaintance with the problem of standardization and metrological assurance of the uniformity of measurements in various fields of laboratory research.

2. 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: 31.05.01 General Medicine.

Formulation of the clinical diagnosis and monitoring the quality and effectiveness of the treatment is a complex multi-level information-measuring process. How reliable and comparable information is obtained at various stages of diagnosis, including the laboratory stage, the practical significance depends on the data and the effectiveness of treatment of the patient. This, in turn, dictates learning the basics of evidence-based medicine. Evidence-based medicine (Evidence-based medicine - medicine based on evidence) is an approach to medical practice in which decisions about the use of preventive, diagnostic and therapeutic measures are taken based on available evidence of their effectiveness and safety, and such evidence is subject to search, comparison, generalization and wide dissemination for the benefit of patients (Evidence Based Medicine Working Group, 1993).

The basis of evidence-based medicine verification of the effectiveness and safety of methods of diagnostics, prevention and treatment in clinical trials. Under the practice of evidence based medicine understand the use of data obtained from clinical studies into everyday clinical work of a doctor. In most countries, some have become generally accepted rules for clinical research set out in the standard GCP (Good Clinical Practice "good clinical practice"), and rules for the production of medicines (GMP) and laboratory studies (GLP standard).

The international system of evidence-based medicine is developing exponentially since its formation in the early 90-ies and present the number of centres, monographs and forums for tens, the number of publications in hundreds. Agency for health care policy and science United States subsidized in 1997 for a period of 5 years, 12 such centers established at leading universities and research organizations in various States; a growing number of centers on individual issues (child health, primary care, General practice, mental health, etc.). Common to all areas is the use of the principle of evidence at any level of decision - making- from the state program prior to the appointment of individual therapy.

Issue of medicine, evidence-based, deeper than just collecting, processing and storing information. Actually, it is possible to talk about changing the Outlook of the physician about a new medical code based on evidence. However, evidence-based medicine is not limited to the

analysis of the results of randomized clinical trials. Its applicable to any field of medical science, including General problems of optimal organization of the health system.
In medicine large role played by the subjective factor, in particular the personal experience of the doctor, experts, etc. In certain situations, for example, the choice of antibiotic for empirical therapy of infections, individual experience is very important, but in other cases it can not bring any benefit. In recent years there has been a clear trend towards greater use of proven methods of treatment whose effectiveness is proven in adequate clinical trials. A reflection of this trend are attempts to standardize approaches to the treatment of common diseases (guidelines for treatment of hypertension, HIV infection, pneumonia, chronic hepatitis, etc.). Such attempts may cause criticism from supporters of individualized treatment, but such objections hardly justified. First, the recommendations, as a rule, leave enough leeway (for example, recommendations for treatment of hypertension suggest the choice of the first row among the six groups of antihypertensive drugs), that allows to provide an individual approach to therapy. And secondly, most importantly, these recommendations are based on real facts and eliminate the widespread use of inadequate methods of treatment.
Thus, the formation of students ' clinical thinking and knowledge based on evidence-based medicine is very important.
The present work programme taking into account modern achievements of science and practice in the field of evidence-based medicine to improve the quality of training, in accordance with the requirements of State educational standard of higher professional education to the level of training the graduate with a degree ФГОС ВО 31.05.01 General medicine».
The purpose of teaching the students with the basics of evidence-based medicine is the systematization of the knowledge on the methods of evaluation of the evidence base of clinical and laboratory methods of diagnosis and formation of sustainable skills of their application in diagnostic and treatment process.
Objectives of teaching the subject -
- familiarization with the basics of evidence-based medicine;
- familiarization with the main types of clinical trials;
- consolidation of skills in evaluating the evidence base of medical and biological information;
- familiarity with the problem of standardization and metrological provision of uniformity of measurements in various areas of laboratory research.

The program is drawn up in accordance with the requirements Federal State Educational Standard of Higher Education in the training field 31.05.01 **Medicine.** The subject "Clinical Oncology" refers to the BLOCK 1, variable part elective discipline of the basic educational program 31.05.01 General medicine.

Sections of the module, and interdisciplinary connections with provided(subsequent) disciplines

№	Name provide (follow-up) disciplines	No. sections of this module needed to explore provided (subsequent) disciplines		
		1	***2***	***3***
1.	Physiology, pathology	+	+	+
2.	General pharmacology	+	+	+
3.	Clinical pharmacology	+	+	+

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

Codes of the formed competences	Competences		
	a student has knowledge of	**a student is able to**	**a student masters**
PC –No.	**Professional competences**		
PC- 1 the ability and readiness to implement a set of measures aimed at maintaining and strengthening health and including the formation of a healthy lifestyle, preventing the occurrence and spread of diseases, their early diagnosis, identifying the causes and conditions of their occurrence and development, as well as aimed at eliminating harmful the impact of environmental factors on human health	Primary and secondary search sources. Useful sources. Summary based on the evidence. health technology assessment. Systematic reviews. Major databases. Search high-quality evidence	Scope and purpose of the evidence. Methods. Applicability.	Evaluation of articles devoted to studies of diagnostic tests.

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

Total workload of the course is 3 credits.

Discipline workload (in academic hours)	**Type of the academic work**	**Total hours**	**Term**
	Lectures (L)		
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	54	11
	Laboratory-based practicals (LBP)		
	Simulation-based practicals (SBP)		
	Preparation for the examination (PE)		
	Preparation for the credit (PC)		
	Exam consultations (EC)		
	Coursework (CW)		
	Unsupervised work (UW) (total)	54	11
	Examination control (EC)		
	Total course workload	**108**	**11**

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	Evidence-based medicine as a science. Its place in clinical medicine. The search for evidence. How to get the most from search.	Primary and secondary search sources. Useful sources. Summary based on the evidence. health technology assessment. Systematic reviews. Major databases. Search high-quality evidence.
2	A critical assessment of the evidence.	Scope and purpose of the evidence. Methods. Applicability. A conflict of interest.
3	Assessment of systematic reviews.	Search strategies reviews. Evaluation of articles devoted to studies of diagnostic tests. Evaluation of articles on harm/benefit.

		Assessment of prognosis of diseases. Evaluation of articles on therapy. Study quality indicators.
4	The use of evidence. the levels of evidence. The types of research.	The study is case-control. Cohort, cross, cross, randomized, controlled study.
5	Peculiarities of clinical trials in the development of treatment methods using new drugs	Phases of clinical trials. Good clinical practice. Informed consent. Fundamentals of legislation about health protection of citizens.
6	Quality of clinical information and its interpretation.	The system of authoritarian relationships in medicine and attempt to change it. A critical attitude to the clinical information - the most important principle of evidence-based medicine. Quality assessment of clinical information Randomization is the main factor in ensuring the reliability and accuracy of controlled trial. The ways of increasing the effectiveness of randomization
7	Good clinical practices.	The principles of good clinical practice (GCP). The Protocol of the clinical study. Ethics. The ethical Committee.

5.2. Sections and types of studies

No.	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
1	Evidence-based medicine as a science. Its place in clinical medicine. The search for evidence. How to get the most from search. Lecture 1- PRINCIPLES OF MEDICINE	2	5						7
2	A critical assessment of the evidence. Lecture 2- Evidence-based medicine		5						5
3	Assessment of systematic reviews. Lecture 3- MEDICAL ETH-ICS	2	5					5	12
4	The use of evidence. the levels of evidence. The types of research. Lecture 4- Steps of Evi-dence-based practic	2	5					5	12
5	Peculiarities of clinical trials in the development of	2	5					5	12

	treatment methods using new drugs Lecture 5- 4th Universal Definition of Myocardial Infarction								
6	Quality of clinical information and its interpretation. Lecture 6- Syncopes 2018 ESC Guideline	2	5					5	12
7	Good clinical practices. Lecture 7- Evidence-based Practice What Does it Mean for Nursing?	2	5					5	12

6. Interactive forms of studies

No.	Name of the course section	Interactive forms of studies	Duration (hours)
	Esse	assignment essay preparation	14
		Total (hours)	14
		Total (% of the class activities)	

7. 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	Lecture 1- PRINCIPLES OF MEDICINE		Test. Introduction to clinical epidemiology. Mesures of disease occurance and risk
2	Lecture 2- Evidence-based medicine		Test. Clinical trials
3	Lecture 3- MEDICAL ETHICS		Essay L3 What problems may arise during the research study?
4	Lecture 4- Steps of Evidence-based practice		Essay L4 Come up with your clinical trial, describe in detail the design, goals and expected results
5	Lecture 5- 4th Universal Definition of Myocardial Infarction 2018 ESC/EACTS Guidelines on myocardial revascularization The Task Force on myocardial revascularization of the European Society of Cardiology (ESC)		study of clinical recommendations

	and European Association for Cardio-Thoracic Surgery (EACTS)		
6	Lecture 6- Syncopes 2018 ESC Guideline		study of clinical recommendations Guidelines
7	Lecture 7- Evidence-based Practice What Does it Mean for Nursing?		study of clinical recommen-dations
	Lesson 1- Introduction in clinical epidemiology Introduction in clinical epidemiology. Clinical epidemiology Introduction to EBM		**Essay 1** Write all definitions of evidence-based medicine- **Essay 2** What are the objectives of evidence-based medicine? **Essay 3** Definition of clinical epidemiology **Essay 4** Write the tasks of clinical epidemiology
	Lesson 2- Clinical trials Ethics in clinical trials ICH Good Clinical Practice E6 (R2) GCP E 6 2016		**Test.** Clinical trials **Essay 1** Write down the basic principles of good clinical practice. **Essay 2** What are the rules of the clinical trial? **Essay 3** What types of clinical trials do you know? **Essay 4** What are the main ethical principles of clinical trials?
	Lesson 3- Critical appraisal. Guidelines Lab results: Clinical Decision-Making		1.Clinical appraisal of diagnostic tests 2.Test Research on diagnosis
	Lesson 4- Clinical decision. Guidelines Diabetes & pre-diabetes ESC 2019 Guidebook EBM Clinical Decision Making in Cardiology		**Essay 1** 1) What groups of drugs are used to treat type 2 diabetes? (write specific drugs and doses) 2) What are the effects and indications for the appointment of each drug? **Essay 2** What are the effects and indications for the appointment of each drug? **Essay 3** What are the target levels of glucose and glycated

			hemoglobin? **Essay 4** What determines the target levels of glucose and glycated hemoglobin?
	Lesson 5-Guidelines. Dyslipidaemias ESC 2019. Acute pulmonary embolism ESC 2019 и 2014		**Essay #1** After reviewing the clinical recommendations for pulmonary embolism - 2014, 2019, submit a conclusion on what is new in the 2019 recommendations for outpatient management **essay #2** After reviewing the clinical recommendations for pulmonary embolism - 2014, 2019, submit a conclusion on what is new in the recommendations of 2019 for the diagnosis of pulmonary embolism **essay #3** After reviewing the clinical recommendations for pulmonary embolism - 2014, 2019, submit a conclusion on what is new in the recommendations of 2019 for the treatment of pulmonary embolism **essay #4** After reviewing the clinical recommendations for dyslipidemia - 2016-2019, provide a conclusion on what's new in the 2019 recommendations for the treatment of dyslipidemia **essay #5** After reviewing the clinical recommendations for dyslipidemia - 2016-2019, provide a conclusion on what's new in the 2019 recommendations for the diagnosis of dyslipidemia
	Lesson 6- Guidelines. Chronic coronary syndrome ESC 2019 new recommendations of the European Society of Cardiology in 2019		**essay #1** After watching the new recommendations of the European Society of Cardiology in 2019, imagine your attitude to the term

	(Guidelines. Chronic coronary syndrome ESC 2019)		Chronic coronary syndrome in relation to the term IHD from the perspective of evidence-based medicine and real clinical practice. **essay #2** After watching the new recommendations of the European Society of Cardiology in 2019, imagine your attitude to the 6 phenotypes of Chronic coronary syndrome. **essay #3** After viewing the new recommendations of the European Society of Cardiology in 2019, present your attitude to the recommendations of ESC-2019 on the involvement of the patient in decision-making on the management of Chronic coronary syndrome from the perspective of evidence-based medicine and real clinical practice **essay #4** After watching the new recommendations of the European Society of Cardiology in 2019, imagine your attitude to the general principles of pharmacological treatment of Chronic coronary syndrome from the perspective of evidence-based medicine and real clinical practice
	Lesson 7- Final standing		Final test

8. Forms of control

8.1. Current forms of control
essay preparation
test solution

8.2. Forms of the interim assessment (pass/fail test, examination, term paper)
Stages of the interim assessment - testing

Questions for a pass/fail test and an examination, a theme list of test collections and situational problems are shown at the section ‘Set of the evaluation tools for the current control and interim assessment of students’.

The main focus of the independent work done on various forms of practical student work to enhance learning and cognitive activity of students on the basis of extracurricular self-study, independent work on practical exercises. The best form of all types of independent work in the Department is the system of training tasks that include information retrieval work of the student when assessing the evidence base of clinical studies, scientific reviews, articles.

9. Library and information materials of the course

9.1. Compulsory literature
Essentials of Clinical Examination Handbook. [Электронный ресурс] / Y. Shi [и др.]. - 8th ed. - [Б. м.] : Thieme, 2018. - URL: https://medone-education.thieme.com/ebooks/2251929#/ebook_2251929_SL84831974

9.2. Supplementary literature
Петров, Владимир Иванович. Медицина, основанная на доказательствах [Электронный ресурс] : учебное пособие / В. И. Петров, С. В. Недогода. - Москва : ГЭОТАР-Медиа, 2012. - 144 с. - URL: http://www.studentlibrary.ru/book/ISBN9785970423219.html

Kobalava J. D. principles of internal medicine [Electronic resource] / J. D. Kobalava, S. V. Moiseev, V. S. Moiseev ; under. edited by V. S. Moiseeva. - M. : GEOTAR-Media, 2014
The list of questions and tasks for independent work.

Clinical Pharmacology (for the foreign medical students) Part 1 СГМУ, 2014, с. 93, Vorobyeva N.

Clinical Pharmacology (for the foreign medical students) Part 2 СГМУ, 2014, с. 43, Voroyeva N.
Clinical Pharmacology (for the foreign medical students) Part 3 СГМУ, 2014, с. 105, Vorobyeva N.

9.3. List of the Internet resources required for mastering of the course (module)*
- PubMed
- eLiabrary
http://www.nsmu.ru/student/faculty/department/clin_farm/poil_inform.php
Design and Interpretation of Clinical Trials https://www.coursera.org/course/clintrials

Vaccine Trials: Methods and Best Practices https://www.coursera.org/course/vacctrials

Data Management for Clinical Research https://www.coursera.org/course/datamanagement

Understanding Research: An Overview for Health Professionals
https://www.coursera.org/course/researchforhealth

The American Disease: Drugs and Drug Control in the USA
https://www.coursera.org/course/americandisease

The Science of Safety in Healthcare https://www.coursera.org/course/healthcaresafety

Instructional Methods in Health Professions Education
https://www.coursera.org/course/instructmethodshpe

An Introduction to Global Health https://www.coursera.org/course/globalhealthintro
Principles of Public Health https://www.coursera.org/course/publichealth

Social Epidemiology https://www.coursera.org/course/socialepi

Global Health: An Interdisciplinary Overview
https://www.coursera.org/course/globalhealthoverview

Epidemiology: The Basic Science of Public Health
https://www.coursera.org/course/epidemiology

Global Tuberculosis (TB) Clinical Management and Research
https://www.coursera.org/course/tbmanagement

Drug Discovery, Development & Commercialization
https://www.coursera.org/course/drugdiscovery

9.4. List of the information technologies used in the educational process of the course (module)
- software: certified, license programs of general and educational assignment, information & reference systems – Garant, Consultant and etc.
Electronic library system (ELS) for schools. Electronic medical library "Consultant student" Publishing group "GEOTAR-Media"
1. Learning programme Guidelines on Reversal of Anticoagulation, CD, 2007
2. Video movie "Ethical aspects of clinical medicine", Vorobyeva, N. A. Lavrinov P. A., Belova N. And. 2013

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа № 2403 Морской медицины, административный учебный корпус, 4 этаж *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, экран *в) перечень учебно-наглядных пособий:*	163000, г. Архангельск, просп. Троицкий, д. 51

схемы,таблицы *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации **№ 5**, 2 этаж Договор № 710 от 26.09.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Первая городская клиническая больница им. Е.Е. Волосевич». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихсяна 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163001, Архангельская область, г. Архангельск, ул. Суворова, д.1, корп.2
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 411 учебный корпус, 4 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места студентов, основное оборудование, Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *б) наборы демонстрационного оборудования* ноутбук, проектор *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008	163001, г. Архангельск, просп. Троицкий, д. 180

Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации **№ 9**, 2 этаж Договор № 710 от 26.09.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Первая городская клиническая больница им. Е.Е. Волосевич». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихсяна 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163001, Архангельская область, г. Архангельск, ул. Суворова, д. 1, корп.2

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 26th2020

SYLLABUSOF THE DISCIPLINE

Discipline**Prevention of Skin Diseases**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI/ 11**
Form of the interim assessment**Credit**
Department**of Skin and Venereal Diseases**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No.
June 22th2020
Head of the department
S. L. Kashutin

Authors and compilers:
Kashutin Sergey Leonidovich, Head of the Department of Skin and Venereal Diseases, Associate Professor of the Department of Skin and Venereal Diseases, Doctor of Medical Sciences; Pukhova Ksenia Gennadievna, Assistant Professor of the Department of Skin and Venereal Diseases; Korolev Konstantin Kirillovich, Assistant Professor of the Department of Skin and Venereal Diseases

Arkhangelsk, 2020

1. Goal and tasks of the mastering of the course:

Goal of the discipline	The goal of the discipline is to develop students' skills in diagnosis, prevention and treatment of skin diseases.
Tasks of the discipline	- to teach students to carry out measures on formation of motivated attitude of the population to preserve and strengthen health and health of other people in a tense epidemiological situation of infectious skin diseases; - to know the organization of prophylactic and anti-epidemic measures of preventing the occurrence and spread of contagious skin diseases; - to familiarize students with the prevalence, etiology, pathogenesis, clinical signs, principles of treatment of skin diseases; - to form students' skills in diagnosing and treatment of emergency dermatological conditions; - to learn to use means of herbal medicine, the main resort factors in rehabilitation of the patients with skin diseases.

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

The discipline of "Dermatology" is studied in the 8 semester, refers to the cycle of professional disciplines of the educational standard of higher professional medical education "Generalmedicine".

Block 1. Variative part. Elective disciplines.

The basic knowledge required for the study of the discipline is studied:
- on the cycle of humanitarian disciplines (philosophy, bioethics, education, psychology, law, history of medicine, economics, Latin, foreign language);
- on the cycle of mathematical, scientific, medical and biological disciplines (mathematics, physics, chemistry, biochemistry, biology, medical science, anatomy and topographic anatomy, microbiology, virology, immunology, histology, cytology, normal physiology, pathological anatomy, pathophysiology, physiology, pharmacology);
- on the cycle of professional disciplines (general hygiene, public health monitoring, clinical laboratory diagnostics, propaedeutics internal medicine, internal medicine, general physiotherapy, endocrinology, professional diseases, general surgery, Intensive Care and anesthesiology, surgical diseases, urology, radiodiagnosis, disaster medicine, life safety, medical rehabilitation, medical genetics).

Teaching of the discipline must be carried out on the basis of the Arkhangelsk regional dermatology and venearology clinic. The training material on the subject "Dermatology" is mastered by the students systemically, with the teaching of the

common issues of diagnosis and treatment precedes teaching the basics of private pathology. The focus is on clinical signs of skin and venereal diseases, modern methods of instrumental and laboratory diagnosis using knowledge of the latest concepts of etiology and pathogenesis of diseases, as well as new methods of treatment and rehabilitation.

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

Codes of developed competences	**Competences**		
	a student has knowledge of	**a student is able to**	**a student masters**
PC -№	**General professional competences**		
PC-1 the ability and readiness to implement a set of measures aimed at maintaining and strengthening health and including the formation of a healthy lifestyle, preventing the occurrence and spread of diseases, their early diagnosis, identifying the causes and conditions of their occurrence and development, as well as aimed at eliminating harmful the impact of environmental factors on human health	Primary and secondary elements, the relative position of the elements of the eruption (isolated elements, merging, grouping, erythroderma). Monomorphic and polymorphic rash, symmetrical and asymmetrical arrangement of the eruption, localization of the eruption. The meaning of skin biopsy for diagnosis	Definition of dermatitis:simple or contact, artificial in individuals with normal skin reactivity (etiology, differential diagnosis, treatment, prognosis); allergic or sensitizing (etiology, differential diagnosis, skin tests, treatment, prognosis). Concept of obligate and facultative irritants (allergens).	Methods of examination, used in dermatology: clinical, histological, microbiological, physiological, biochemical, immunological.The techniques of dermatological clinical examination of the patient: determining the sensitivity and permeability of the skin., dermographism evaluation, checking of the muscle-hair reflex, the pharmacodynamic tests., hydrophilicity samples, symptoms of the pinch and the harness, chemical agents tests, iodine samples, layered scratchboard, diascopy, test with bellied probe, Besnier-Meshchersky symptom, Nikolsky sign, identification of scabies moves, luminescence, taking pathological material (hair, nails, scales). The main biochemical and serological tests used in dermatological practice.

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

Total workload of the course is **3**credits.

	Type of the academic work	**Total hours**	**Term**
Discipline workload	Lectures (L)		
	Seminars (Sem.)		

(in academic hours)	Practical classes (PC)		
	Clinical practicals (CP)	54	11
	Laboratory-based practicals (LBP)		
	Simulation-based practicals (SBP)		
	Preparation for the examination (PE)		
	Preparation for the credit (PC)		
	Exam consultations (EC)		
	Coursework (CW)		
	Unsupervised work (UW) (total)	54	11
	Examination control (EC)		
	Total course workload	**108**	**11**

5. Contents of the course:

5.1. Contents of the sections of the course

№ п/п	Name of the course section	Content of the section
1.	General dermatology.	**The structure of the skin.** The epidermis, derma, subcutaneous fat, blood and lymphatic network, innervation of the epidermis, dermis, subcutaneous tissue. Skin appendages: sweat and sebaceous glands, nails, muscles of the skin. Neuro-receptor apparatus. **The physiology of the skin.** Functions of the skin: protection thermoregulation, reception, secretion, resorption, respiration, metabolism, reflection, immune. The relationship between the skin and the vital functions of the body in health and disease. **Morphological elements.** Primary and secondary elements, the relative position of the elements of the eruption (isolated elements, merging, grouping, erythroderma). Monomorphic and polymorphic rash, symmetrical and asymmetrical arrangement of the eruption, localization of the eruption. The meaning of skin biopsy for diagnosis. **Examination of skin of the patient.** Methods of examination, used in dermatology: clinical, histological, microbiological, physiological, biochemical, immunological.The techniques of dermatological clinical examination of the patient: determining the sensitivity and permeability of the skin., dermographism evaluation, checking of the muscle-hair reflex, the pharmacodynamic tests., hydrophilicity samples, symptoms of the pinch and the harness, chemical agents tests, iodine samples,

		layered scratchboard, diascopy, test with bellied probe, Besnier-Meshchersky symptom, Nikolsky sign, identification of scabies moves, luminescence, taking pathological material (hair, nails, scales). The main biochemical and serological tests used in dermatological practice. **Principles of prevention of dermatological patients.** Formulations. Formulation in dermatology. Topical steroids: mechanism of action, classification, indications, contraindications, systemic side effects. Systemic steroids: mechanism of action, classification, indications, contraindications, side effects, application schema. Antihistamines: mechanism of action, classification, indications, contraindications, side effects. Fizoterapiya. Diet therapy.
2.	Prevention of noninfectious diseases of the skin	**Preventional of allergodermatoses** **Preventional of dermatites.** Definition of dermatitis:simple or contact, artificial in individuals with normal skin reactivity (etiology, differential diagnosis, treatment, prognosis); allergic or sensitizing (etiology, differential diagnosis, skin tests, treatment, prognosis). Concept of obligate and facultative irritants (allergens). **Preventional of toksidermii.** Definition, etiology and pathogenesis; Clinic, common symptoms, morphological types of reactions to certain medications; diagnosis of drug reaction (allergic history, skin tests, immunological tests); principles of treatment; prevention. Lyell's syndrome. Onset of the disease, common symptoms, clinical manifestations on the skin and mucous membranes, types of course, diagnosis, differential di agnosia, treatment. **Eczema.** Etiology; pathogenesis; Clinic, eczematous stage of the process, pathognomonic symptoms. Clinical forms of eczema: true, microbial, seborrheic, professional, infant. Histopathology eczema. The course; diagnosis; treatment (regimen, diet, hygienic water treatment); Treatment of typical eczema, widespread, including erythroderma resistant cases of eczema; indications for oral corticosteroids and / or parenteral, topical treatment, relapse prevention. **Atopic dermatitis.** Etiology, pathogenesis (endogenous and exogenous factors, the concept of atopy, disruption of the central nervous system), clinic, clinical classification, course, complications,

		prognosis, diagnosis, differential diagnosis, treatment (general and local, health resort), prevention. **Urticaria.** Etiology; pathogenesis, clinical variants; diagnosis, differential diagnosis, treatment; Emergency aid for angioedema, prognosis, prevention. **Pruritic dermatoses.** **Pruritus.** The causes of itchy skin; pathophysiological aspects of itching. Itching as one of the symptoms of somatic diseases. Clinical variants of limited, spread, senile, winter, height pruritus. Treatment. Prevention. **Prurigo.** The definition, pathogenesis, clinical forms, treatment. **Preventional of bullous autoimmune dermatoses.** **Pemphigus.** Classification, pathogenesis. The clinical picture of vulgar, leaf-shaped, vegetating, seborrheic pemphigus. Primary localization on the skin and mucous membranes. Diagnosis: direct and indirect Nikolsky sign, symptom of Asbo-Hansen, cytological examination of Ttsanka cells, histological examination of biopsy of the skin. Differential diagnosis. Treatment of patients with pemphigus acantholytic (corticosteroids and cytotoxic drugs, the treatment of "support" doses on an outpatient basis. Complications, their prevention and treatment, prognosis. Medications used in the treatment of pemphigus, their dosage, the diet of patients, external therapy, occupational expertise. **Duhring herpetiformisdermatosis.** Etiology and pathogenesis; Clinic (complaints, the nature of lesions, laboratory tests, differential diagnosis, histopathology), treatment of sulfone drugs; atypical forms (trihofitoidnaya, ekzemopodobnye et al.). **Prevention of the skin appendages.** **Psoriasis.** Etiology, pathogenesis; Clinic (primary and secondary elements, pathognomonic symptoms, diagnostic tests, clinical variants, the stage, the defeat of the joints and internal organs); histopathology, diagnosis and differential diagnosis, treatment, physical therapy, spa treatment, relapse prevention. **Lichen planus.** The etiology and pathogenesis, histopathology, clinical presentation (typical and atypical shapes, defeat the oral mucosa), diagnosis

		differenialny diagnosis, treatment, prevention of recurrence.Болезнисоединительнойткани. **Lupus erythematosus.** Etiology, pathogenesis, clinical variants of chronic lupus erythematosus; discoid, disseminated, centrifugal, deep; differential diagnosis, course, treatment.
3.	Prevention of infectious diseases of the skin.	**Preventional of pyoderma.** The composition of the normal flora of the skin and its function. Etiology, pathogenesis, factors that contribute to the development of piodermitov classification (by etiology, primary, depth, immunological reactivity). **Preventional of mycosis.** Dermatophytes, their biology, epidemiology, predisposing factors. Classification of the depth of defeat (keratomikozy, epidermomikozy, trihomikosis, deep mycoses). **Keratomikosis.** Chromophytosis: etiology, pathogenesis, clinical picture, diagnosis, differential diagnosis, treatment, prevention. **Feet mycosis.** Clinical forms (squamous, intertriginoznoy, disgidroticheskaya acute mycosis, onychomycosis). Diagnosis, treatment, depending on the clinical form. Prevention. **Trihomikosis.** Microsporia, trichophytosis. Etiology, pathogenesis, classification, etiology (antropofilnymi, zoofilnye), clinical lesions of the scalp (surface shape, a deep form), clinical lesions smooth skin (with the defeat vellus hair without defeat vellus hair). Parasitic sycosis. The diagnosis, differential diagnosis. Treatment of systemic antifungals (indications, contraindications, monitoring of treatment), local antimycotics. Physiotherapy. Clinical supervision. Prevention. **Deep mycoses.** Blastomycosis, chromomycosis. Etiology, pathogenesis, diagnosis, differential diagnosis, treatment, prevention. **Preventional of parasitic diseases.** **Scabies.** Etiology, pathogenesis, the life cycle of itch mite, clinical, clinical varieties of scabies (scabious limfoplaziya, scabies "cleanly", "Norwegian" scabies). Complications scabies (allergodermia, eczematization, secondary infection). Diagnosis, treatment and control of cure, control measures, prevention. **Lice.** Head lice, etiology, pathogenesis, life cycle, clinical presentation, treatment,

		protivoeipidemicheskie with the activities, prevention. Hanging lice etiology, pathogenesis, life cycle, clinical presentation, treatment, protivoeipidemicheskie event prevention. Pubic lice (pediculosis pubis), etiology, pathogenesis, life cycle, clinical presentation, treatment, protivoeipidemicheskie with the activities, prevention.

5.2. Sections and types of studies

No.	Name of the course section	L	S	PC	CP	LBP	SBP	UW	Total hours
1	General dermatology	-	-	10		-		6	16
2	Preventional of noninfectious diseases of the skin	-	-	20		-		8	28
3	Preventional of infectious diseases of the skin.	-	-	20		-		8	28
	Total (hours)	-	0	50		0	0	22	72

5.2.1. Clinical practical training

№	Practicals topics	Volume
		10th
1.	The structure of the skin. The physiology of the skin. Morphological elements.	5
2	Examination of skin of the patient. Principles of prevention of dermatological patients.	5
3	Preventional of allergodermatoses (preventional of dermatitis, toksidermii, eczema).	5
4	Preventional of allergodermatoses (preventional of atopic dermatitis, urticaria, pruritic dermatoses)	5
5	Prevention of bullous dermatosis: pemphigus, Duhring dermatitis herpetiformis. Lupus erythematosus	5

6	Prevention of the skin appendages.	5
7	Preventional of pyoderma.	5
8	Preventional of mycosis (keratomikosis, feet mycosis)	5
9	Preventional of mycosis (trihomikosis, deep mycoses)	5
10	Preventional of parasitic diseases.	5
Total		50

6. Interactive forms of studies

№	Name of the course section	Interactive forms of studies	Duration (hours)
1.	General dermatology.	**1.1. Discussion on the DVD-movie "Selection of the topical therapy"** **1.2. Clinical analysis of patients**	1hour 1hour
2.	Preventional of noninfectious diseases of the skin	**2.1. Discussion on the DVD-movies** 2.1.1. «Lichen planus.», «Psoriasis» 2.1.2. «Acne disease», «Acneiform dermatoses» 2.1.3. «Allergodermatoses», « Atopic dermatitis» 2.1.4. «Bullous dermatoses», « Lichen planus » **2.2. Solution of case studies by topics:** 2.2.1. Pruritus. Prurigo. Professional skin diseases. Seborrhea. Acne disease. Rosacea. Malignant tumors of the skin. 2.2.2. Dermatitis. Toksidermii. Eczema. Atopic dermatitis. Urticaria. Curation. 2.2.3. Pemphigus. Duhring dermatitis herpetiformis. Lupus erythematosus **2.3. Clinical analysis of patients**	1 hour 1 hour 1 hour

3.	Preventional of infectious diseases of the skin.	**3.1. Discussion on the DVD-movies** 3.1.1. «Tuberculosis», «Herpetic infections» 3.1.2.«Candidosis», «Up-to-date treatment of mycoses ». **3.2. Solution of case studies by topics:** 3.2.1. Pediculosis. Scabies. Pustular disease. Scrofuloderma. Herpes. 3.2.2. Mycosis. Trihomikosis. Feet mycosis. Candidiasis. Skin lesions in HIV infection. Erythema multiforme. **3.3. Clinical analysis of patients**	1 hour 1 hour 1 hour
		Total hours for 5 -hour lesson	8 (16%)
		Total (% of classroomlessons)	8 (16%)

7. Listofteaching materials forthecourse unsupervised workofstudents (including the use of e - learning opportunities, distance learning technologies (Moodle))

№	Name of the course section	Type of the unsupervised work	Forms of control
1.	General dermatology.	Computer testing. Preparation of abstracts	Checking the abstracts
2.	Preventional of noninfectious diseases of the skin	Computer testing. Preparation of abstracts Medical history	Checking the abstracts Checking the medical histories
3.	Preventional of infectious diseases of the skin.	Computer testing. Preparation of abstracts Medical history	Checking the abstracts Checking the medical histories

8. Forms of control

8.1. **Forms of current control**

8.1.1. Computer testing.

8.1.2. Checking the abstracts

8.2. **Forms of intermediate control**(pass/fail test, exams)

Stages of the examination (pass/fail test)

1. Stage - computer testing

2. Stage – Practical skills

3. Stage - interview

9. Contents of the sections of the course

9.1 Compulsory literature

1. Kashutin, Sergey Leonidovich. Dermatovenerology [Electronic resource]: textbook / S. L. Kashutin. - Arkhangelsk: Publishing house of the Northern state medical University, 2015. - 138 p. - 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/K%2031-892310

2. Chebotarev, V. V. Dermatology [Electronic resource] : textbook for students of higher educational institutions / V. V. Chebotarev, M. S. Ushakov. - Moscow: GEOTAR-Media, 2016. - 680 p.: Il. - URL: http://www.studentlibrary.ru/book/ISBN9785970435670.html

3. Vladimirov, V. V. Skin and venereal diseases [Electronic resource]: Atlas: textbook / V. V. Vladimirov. - Moscow: GEOTAR-Media, 2016. - 232 p. - URL: http://www.studentlibrary.ru/book/ISBN9785970435465.html

9.2 Supplementary literature

1. Platonova, A. N. Dermatovenerology. Atlas [Electronic resource]: textbook / A. N. Platonova, A. L. Bakulev, S. R. Utts. - Moscow: GEOTAR-Media, 2017. - 136 p. - URL: http://www.studentlibrary.ru/book/ISBN9785970440858.html
2. Dermatovenerology [Electronic resource] : textbook / ed.: A.V. Samtsov, V. V. Barbinov. - 3rd ed., ISPR. and additional - Moscow: GEOTAR-Media, 2016. - 432 p. - URL: http://www.studentlibrary.ru/book/ISBN9785970436509.html
3. Essentials of dermatology for foreing students of medical universites [Электронныйресурс] : методическийматериал/ S. L. Kashutin [идр.]. - Архангельск: Изд-воСеверногогосударственногомедицинскогоуниверситета, 2017. -128 с.- URL: http://nb.nsmu.ru/cgi-bin/irbis64r_11/cgiirbis_64.exe?LNG=&Z21ID=&I21DBN=ELIB&P21DB

N=ELIB&S21STN=1&S21REF=3&S21FMT=fullwebr&C21COM=S&S21CNR=20&S21P01=0&S21P02=1&S21P03=I=&S21STR=elb/K22-321761

9.3. List of the Internet resources required for mastering of the course

(module)*

№	Internet resource	Describtion
1	http://www.studmedlib.ru/	Provides individual access to full-text database of relevant literature for medical and pharmaceutical education
2	http://www.scopus.com	Provides access to bibliographic and scientometric database
3	http://www.iprbookshop.ru/	Provides individual access to full-text database of modern educational literature
4	http://www.rosmedlib.ru/	Provides access to electronic medical information and the educational system for interns, residents, post-graduates, listeners of courses of improvement of qualification

9.4 List of the information technologies used in the educational process of the course (module)

- software: certified, license programs of general and educational assignment, information

Ttester program

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа № 2511, административный учебный корпус, 5 этаж *а) перечень основного оборудования:*	163000, г. Архангельск, просп. Троицкий, д. 51

комплект учебной мебели (столы, стулья, экран, доска), рабочее место преподавателя, рабочие места для обучающихся на 190 мест *б) наборы демонстрационного оборудования:* моноблок, проектор, экран *в) перечень учебно-наглядных пособий:* схемы, таблицы *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номерлицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно.	
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 5, 4 этаж Договор № 337 от 11.04.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГАУЗ Архангельской области «Архангельский клинический кожно-венерологический диспансер». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* комплект учебной мебели (столы, стулья, экран, доска), рабочее место преподавателя, рабочие места для обучающихсяна 24 места *б) наборы демонстрационного оборудования:* ноутбук, проектор *в) перечень учебно-наглядных пособий:* наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номерлицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно.	163000, Архангельская область, г. Архангельск, проезд Сибиряковцев, д. 2, корп.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 26th 2020

SYLLABUS OF THE DISCIPLINE

Discipline **Modern Approaches to Drug Development**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI / 11**
Form of the interim assessment **Credit**
Department **of Pharmacology and Pharmacy**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No.
June 20th 2020
Head of the department
I. A. Krylov

Author and compiler:
Krylov Ilya Albertovich, Head of the Institute of Pharmacology and Pharmacy, Head of the Department of Pharmacology and Pharmacy, Associate Professor of the Department of Pharmacology and Pharmacy, Doctor of Medical Sciences

Arkhangelsk, 2020

1. Goal and tasks of the mastering of the course

Goal of the discipline	The goal of the discipline is to form system knowledge, skills and abilities to work with modern legislative acts regulating the processes of drug supply to the population (drug turnover), various reference literature on drug supply to the population, familiarization with the specifics of preferential provision of medicines in the region.
Tasks of the discipline	-to study the concept of providing medical care to the population; - to study the basics of legislative and legal guarantees of providing medical care to the population; - to study the procedure for state quality control of medicines; - to study the principles of forming a form list (hospital level); - to study the general licensing procedure in the field of circulation of medicines; - to study the methodology of pharmaco-economic analysis; - to teach students the ability to use educational, scientific, popular science literature, the Internet to search and analyze information data on medicines, economic aspects of providing medical care to the population.

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

The program is developed following the requirements of Federal State Education Standard (FSES) for higher education in the field of 31.05.01 «General medicine». Block 1. Variative part. Elective disciplines.

The program related to many academic and clinical disciplines, including such as "Physiology", "Pathology", "Therapy", "Clinical pharmacology". In turn, the main provisions of the pharmacology is the basis for the formation of the individual specialist.

The title of disciplines interested in program division.

- The human physiology and anatomy: physiology of the autonomic nervous system, central nervous system, $GABA_A$ receptors, nociceptive and anti-nociceptive systems, electrophysiology of normal cardiac rhythm; normal regulation of blood pressure; renal tubule transport mechanisms; normal lipoprotein metabolism: synthesis and catabolism; mechanisms of blood coagulation, blood coagulation cascade (fibrin formation), initiation of clotting; hematopoiesis, the main components of the haemopoietic system; physiology and anatomy respiratory

system; gastrointestinal system; the homeostatic mechanisms controlling energy balance; endocrine system; bone mineral homeostasis.

- Pathological anatomy: characteristic of inflammatory reactions, atheromatous disease, respiratory system disorders; gastrointestinal disorders; bone mineral homeostasis disorders.
- Pathological physiology: the immune response (acute or chronic), characteristic of inflammatory reactions, types of allergic or hypersensitivity reactions (immediate or anaphylactic hypersensitivity, antibody-dependent cytotoxic hypersensitivity, complex-mediated hypersensitivity, cell-mediated hypersensitivity), mediators of inflammation and immune reactions; the pathogenesis of major depression; parkinsonism pathophysiologic changes; types of heart failure; mechanisms of arrhythmias; pathophysiology of angina; systemic hypertension and regulation of blood pressure; atheromatous disease, modifiable risk factors for atheromatous disease; athophysiology of hyperlipoproteinaemia: atherogenesis, lipoprotein transport in the blood; disorders of coagulation; types of anaemia; respiratory system disorders; gastrointestinal disorders; endocrine system disorders; bone mineral homeostasis disorders.
- Biochemistry: the cyclo-oxygenase family: tissue expression, functions; hormones; bone mineral homeostasis.
- General surgery: description of the stages of anesthesia.
- Microbiology and immunology: types of microorganisms, antibiotic resistance phenomen, the immune response (acute or chronic), characteristic of inflammatory reactions, types of allergic or hypersensitivity reactions.

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

Codes of the formed competences	**Competences**		
	a student has knowledge of	**a student is able to**	**a student masters**
	Professional competences		
PC-1 the ability and readiness to implement a set of measures aimed at maintaining and strengthening health and including the formation of a healthy lifestyle, preventing the occurrence and spread of diseases, their early diagnosis, identifying the causes and conditions of their occurrence and development, as well as aimed at eliminating harmful the impact of environmental factors on human health			

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

Total workload of the course is **3** credits.

Discipline workload (in academic hours)	**Type of the academic work**	**Total hours**	**Term**
	Lectures (L)		
	Seminars (Sem.)		
	Practical classes (PC)	54	11
	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)	54	11
	Examination control (EC)		
	Total course workload	**108**	**11**

5. Contents of the course:

5.1. Contents of the sections of the course

No	Name of the course section	Content of the section
1	2	3
1	**The Section I. The General principals of gerontopharmacology.**	
		Introduction to gerontopharmacology. Basic principles of gerontopharmacology. Drug reactivity and drug-receptor bonds (covalent, electrostatic, and hydrophobic – their characteristic) in elderly patients. Pharmacokinetic of the drugs (pharmacokinetic processes) in elderly patients: ways and means of the introduction medicine (routes of administration). The absorption (permeation): dissolution (the Noyes-Whitney equation), aqueous diffusion, lipid diffusion, special carriers (transporters), endocytosis and exocytosis, role of the ionization. Extent of absorbtion, rate of absorbtion. Transport medicinal material. Drug absorption from the intestine, factors affecting gastrointestinal absorption. Bioavailability and bioequivalence. Distribution of the drugs (volume of

		distribution). Drug clearance in elderly patients: the ways of the elemination medicine from organism; renal excretion of drugs and drug metabolites (glomerular filtration, active tubular secretion, passive diffusion across tubular epithelium); half-life period ($t_{1/2}$) (probabilistic nature of half-life, formulae for half-life in exponential decay, half-life in non-exponential decay), drug accumulation (material and functional tapes; accumulation factors) in elderly patients. Pharmacodynamic processes and pharmacodynamic principles (drug-body interactions) in elderly patients. Monitoring bodies. Examples of adverse effects associated with specific medications in elderly patients. Special aspects of geriatric pharmacology. Pharmacologic changes associated with aging: effect of age on some physiologic functions, pharmacokinetic changes (absorption, distribution, metabolism, elimination), pharmacodynamic changes, behavioral and lifestyle changes. Major drug groups: sedative-hypnotics, opioid analgesics, traditional antipsychotic and antidepressant agents, drugs used in Alzheimer's disease, antihypertensive drugs, positive inotropic agents, antiarrhythmic agents, antimicrobial drugs, anti-inflammatory agents. Adverse drug reactions in the elderly.
2	**The Section II.** **The Private of geriatric pharmacology.**	
		Beta-adrenoceptor antagonists: the pharmacological actions of β-receptor antagonists, and their pharmacologic characteristic (chemistry, pharmacokinetic properties, organ system effects, therapeutic applications, unwanted effects and their preventive maintenance, drug interactions).

		Pharmacological control to allergies and inflammations. The immune response (acute or chronic), characteristic of inflammatory reactions, types of allergic or hypersensitivity reactions (immediate or anaphylactic hypersensitivity, antibody-dependent cytotoxic hypersensitivity, complex-mediated hypersensitivity, cell-mediated hypersensitivity). Mediators of inflammation and immune reactions: histamine (synthesis and storage, histamine release and actions, types of histamine receptors, pathophysiological roles of histamine), eicosanoids (structure and biosynthesis), prostanoids (catabolism of the prostanoids, prostanoid receptors, actions of the prostanoids, the role of the prostanoids in inflammation), leukotrienes (actions and receptors of the leukotrienes, the role of leukotrienes in inflammation), platelet-activating factor (sources of platelet-activating factor, actions and role in inflammation), bradykinin and lysyl bradykinin (source and formation of bradykinin, metabolism and inactivation of bradykinin, actions and role of bradykinin in inflammation, bradykinin receptors). The cyclo-oxygenase family: tissue expression, functions, pharmacologic inhibitors. Therapeutic strategies (nonsteroidal anti-inflammatory drugs, glucocorticoids, disease-modifying antirheumatic drugs). Nonsteroidal anti-inflammatory drugs: pharmacologic classification (chemical classes), pharmacokinetic properties, pharmacodynamics (mechanisms of action: anti-inflammatory activity, analgesic effects, antipyretic effects, antiplatelet activity), clinical uses, dosage (optimal analgesic or antipyretic dose), adverse effects (local and systemic toxic effects) and their mechanism of the development and preventive maintenance, drug interactions. Salicylism, Reye's syndrome - mechanism of the development. Some important interactions

		with other drugs. Specifics of the COX-2 selective inhibitors (celecoxib, etoricoxib, valdecoxib, parecoxib). Disease-modifyng antirheumatic drugs (antirheumatoid drugs): mechanism of antirheumatoid action, pharmacokinetic aspects, indications, adverse effects of the methotrexate, chlorambucil, cyclophosphamide, cyclosporine, azathioprine, mycophenolate mofetil, chloroquine and hydroxychloroquine, gold compounds, sulfasalazine. Drugs used in gout: characteristic of the pathophysiologic events in a gouty joint, pharmacologic classification (inhibitors of uric acid synthesis, increasing uric acid excretion /uricosuric agents/, inhibitors of leucocyte migration into the joint, a general anti-inflammatory and analgesic effect), pharmacologic characteristic of colchicine and uricosuric drugs. H_1-receptor antagonists (antihistamines drugs): pharmacologic classification (chemical classes), pharmacological actions, pharmacokinetic aspects, side-effects, drug interactions. Pharmacology of central nervous system (CNS) drugs. Types of ion channels and neurotransmitter receptors in the CNS; $GABA_A$ receptor-chloride ion channel macromolecular complex, excitatory postsynaptic potential, inhibitory postsynaptic potential, sites of drug action. Cellular organization of the brain: hierarchical systems, nonspecific or diffuse neuronal systems. Central neurotransmitters: amino acids (glutamate, glycine and GABA), acetylcholine, monoamines (dopamine and norepinephrine and 5-hydroxytryptamine /5-HT, serotonin/), CNS peptides, nitric oxide, endocannabinoids. Basic pharmacology of sedative-hypnotic (anxiolytic) drugs: chemical classification and characteristic (benzodiazepines,

		barbiturates, chemical structures of newer hypnotics), pharmacokinetics (absorption and distribution, metabolic transformation, excretion, factors affecting biodisposition), pharmacodynamics of benzodiazepines, barbiturates and newer hypnotics (molecular components of the $GABA_A$ receptor, types of ligand-benzodia-zepine receptor interactions, organ level effects /sedation, hypnosis, anesthesia, anticonvulsant effects, muscle relaxation, effects on respiration and cardiovascular function/), tolerance; psychologic and physiologic dependence; adverse effects (direct toxic actions); benzodiazepine antagonists (flumazenil), drug interactions. Pharmacologic principles of treatment of anxiety states, sleep disorders, psychiatric and other therapeutic uses of sedative-hypnotic (anxiolytic) drugs. Opioid analgesics and antagonists. Source. Pharmacological classification, chemistry characteristic. Endogenous opioid peptides. Pharmacokinetic properties: absorbtion, distribution, metabolism, excretion. Pharmacodynamics. Mechanism of action: receptor types, cellular actions, relation of physiologic effects to receptor type, receptor distribution and neural mechanisms of analgesia /spinal action, supraspinal actions/, tolerance and physical dependence /withdrawal or abstinence syndrome, the concept of receptor uncoupling/. Organ system effects of morphine and its surrogates: central nervous system effects (analgesia, euphoria, sedation, respiratory depression, cough suppression, miosis, truncal rigidity, nausea and vomiting, temperature), peripheral effects (cardiovascular system, gastrointestinal tract, biliary tract, renal function, uterus, neuroendocrine, pruritus, miscellaneous). Effects of opioids with both agonist and antagonist actions. Clinical use of opioid analgesics: analgesia, acute pulmonary edema, cough, diarrhea, shivering,

		applications in anesthesia. Alternative routes of administrations. Toxicity. Undesired effects. Drug dependence: physical dependence, psychologic dependence. Tolerance. Cross-tolerance. Diagnosis and treatment of opioid overdosage. Contraindications and cautions in therapy. Use of pure agonists with weak partial agonists. Use in patients with head injuries. Use in patients with impaired pulmonary function. Use in patients with impaired hepatic or renal function. Use in patients with endocrine disease. Drug interactions. Specific agents: pharmacologic characteristic of strong agonists (phenanthrenes /morphine, hydromorphone, and oxymorphone, heroin/, phenylheptylamines /methadone/, phenylpiperidines / Fentanyl, sufentanil, alfentanil, remifentanil and meperidine/, morphinans /levorphanol/), mild to moderate agonists (phenanthrenes /codeine, oxycodone, dihydrocodeine and hydrocodone/, phenylheptylamines /propoxyphene/, phenylpiperidines /loperamide, diphenoxylate and its metabolite, difenoxin/), opioids with mixed receptor actions (phenanthrenes /nalbuphine, buprenorphine/, morphinans /butorphanol/, benzomorphans /pentazocine/), miscellaneous (tramadol), antitussives agents (dextromethorphan, codeine, levopropoxyphene), the pure opioid antagonist drugs (naloxone, naltrexone and nalmefene). Drugs of abuse. Dependence versus addiction. Addictive drugs increase the level of dopamine: reinforcement. The dopamine hypothesis of addiction. Nonaddictive drugs of abuse. Opioids. Cannabinoids (endogenous cannabinoids and exogenous cannabinoids). Gamma-hydroxybutyric acid. Hallucinogens (LSD, mescaline and psilocybin). Drugs that mediate their effects via ionotropic receptors: nicotine, benzodiazepines (barbiturates), alcohol

		(ethanol), ketamine and phencyclidine. Drugs that bind to transponters of biogenic amines: cocaine, amphetamines, ecstasy (methylenedioxymethamphetamine). Antipsychotic (neuroleptic) agents. History aspects, terminology. Nature of psychosis and schizophrenia. Dopamine hypothesis for schizophrenia. Chemical types of antipsychotic (neuroleptic) drugs. First generation antipsychotics: butyrophenones (haloperidol, droperidol), phenothiazine derivatives (chlorpromazine, fluphenazine, perphenazine, prochlorperazine, thioridazine, trifluoperazine, mesoridazine, promazine, triflupromazine, levomepromazine, promethazine, pimozide), thioxanthenes (chlorprothixene, flupenthixol, thiothixene, zuclopenthixol). Second generation antipsychotics: clozapine (clozaril), olanzapine (zyprexa), risperidone (risperdal), quetiapine (seroquel), ziprasidone (geodon), amisulpride (solian), asenapine, paliperidone (invega). Third generation antipsychotics: aripiprazole (abilify), bifeprunox, norclozapine. Other options: tetrabenazine, cannabidiol. Drug action. Structural formulas of some older antipsychotic drugs. Structural formulas of some newer antipsychotic drugs. Structural effects. Pharmacodynamics and central effects. Peripheral effects. Efficacy. Prevalence of use. Dosage and administration. Off-label and controversial uses. Side effects. Overdoses. Typical versus atypical. Drug interactions. Drug combinations. Tolerance and withdrawal. Lithium carbonate and other mood-stabilizing drugs. Nature of bipolar affective (manic-depressive) disorder. Pharmacologic characteristic of lithium carbonate: mechanism of action, pharmacokinetic properties, pharmacodynamics (effects on electrolytes and ion transport, effects on neurotransmitters, effects on second

		messengers /effect of lithium on the IP_3 and DAG second-messenger system/). Clinical use: bipolar affective disorder, other applications (recurrent endogenous depression). Monitoring treatment. Maintenance treatment. Drug interactions. Harmful effects of lithium and complications: neurologic and psychiatric adverse effects, decreased thyroid function, nephrogenic diabetes insipidus and other renal adverse effects, edema, cardiac adverse effects, use during pregnancy, miscellaneous adverse effects. Therapeutic overdoses. Other drugs: valproic acid (valproate), carbamazepine. Antidepressant agents. The pathogenesis of major depression: the amine hypothesis and subsequent developments. Chemical structure. Structural relationships between various tricyclic antidepressants. Pharmacologic classification and characteristic (types of antidepressants). Selective serotonin reuptake inhibitors (SSRIs): citalopram, escitalopram, fluoxetine (Prozac), fluvoxamine (Luvox), paroxetine (Paxil), sertraline (Zoloft). Serotonin-norepinephrine reuptake inhibitors (SNRIs): desvenlafaxine, duloxetine, milnacipram, venlafaxine. Noradrenergic and specific serotonergic antidepressants (NaSSAs): mianserin, mirtazapine. Norepinephrine (noradrenaline) reuptake inhibitors (NRIs): atomoxetine, mazindol, reboxetine, viloxazine. Norepinephrine-dopamine reuptake inhibitors (NDRIs): bupropion. Tricyclic antidepressants (TCAs): tertiary amine tricyclic antidepressants (amitriptyline, clomipramine, doxepin, imipramine, trimipramine), secondary amine tricyclic antidepressants (desipramine, nortriptyline, protriptyline). Monoamine oxidase inhibitor (MAOIs): isocarboxazid (Marplan), moclobemide, phenelzine, selegiline, tranylcypromine. Augmenter drugs: buspirone, gepirone, nefazodone,

		tandospirone, trazodone. Mechanisms of antidepressive pharmacologic action, anti-inflammatory and immunomodulation, clinical indications, therapeutic efficacy, long-term use, medication failure, withdrawal symptoms, side effects (general, sexual dysfunction, weight gain, thymoanesthesia, effects on REM sleep), overdoses, unresponsive patients, controversy, drug interactions. Basic pharmacology of alcohol. Ethanol. Pharmacokinetics (alcohol absorbtion, metabolism /metabolism of ethanol by alcohol dehydrogenase and the microsomal ethanol-oxidizing system/, elimination), pharmacodynamics of acute ethanol consumption (central nervous system effects, heart effects and other system effects). Consequences of chronic alcohol consumption: liver and gastrointestinal tract (pathogenesis of alcoholic liver disease), nervous system (tolerance and physical dependence, neurotoxicity), cardiovascular system (cardiomyopathy and heart failure, arrhythmias, hypertension, coronary heart disease), blood changes, endocrine system and electrolyte balance, fetal alcohol syndrome, effects of alcohol on the immune system, increased risk of cancer. Alcohol-drug interactions (interactions between ethanol and other drugs, pharmacokinetic and pharmacodynamic alcohol interactions). Management of acute alcohol intoxication. Management of alcohol withdrawal syndrome. Treatment of alcoholism (treatment of alcohol dependence). Basic pharmacology of other alcohols: methanol (methyl alcohol, wood alcohol), ethylene glycol. Antiseizure drugs (anticonvulsant, antiepileptic drugs). International classification of epileptic seizures. Chemistry (barbiturates, hydantoins, oxazolidinediones, succinimides and

		acetylureas), pharmacokinetic properties. Drugs used in partial seizures: phenytoin, carbamazepine, oxcarbazepine, phenobarbital, primidone (2-desoxyphenobarbital), vigabatrin, lamotrigine, felbamate, gabapentin, pregabalin, levetiracetam, tiagabine, topiramate, zonisamide. Drugs used in generalized seizures: ethosuximide, phensuximide and methsuximide, valproic acid and sodium valproate, oxazolidinediones. Treatment of infantile spasms. Management of status epilepticus. Pharmacology of general anesthetics. Description of the stages of anesthesia. Classification of general anesthetics (intravenous anesthetics, inhaled anesthetics - mode of administration). Method of action: lipid theory (Overton and Meyer), ion channels and other. Pharmacology of inhaled anesthetics: pharmacokinetics (solubility, anesthetic concentration in the inspired air, pulmonary ventilation, pulmonary blood flow, anesthetic concentration gradient between arterial and mixed venous blood, elimination /clearance of inhaled anesthetics via the lungs/), pharmacodynamics (mechanism of action, dose-response characteristics: the concept of minimum alveolar anesthetic concentration; organ system effects of inhaled anesthetics: effects on the cardiovascular system, effects on the respiratory system, effects on the brain, effects on the kidney, effects on the liver, effect on uterine musculature), toxicity (hepatotoxicity, nephrotoxicity, malignant hyperthermia), chronic toxicity (mutagenicity, carcinogenicity, effects on reproductive organs, hematotoxicity), clinical use of inhaled anesthetics. Pharmacologic characteristic of ethers class (diethyl ether, methoxypropane, vinyl ether, halogenated ethers (desflurane, enflurane, isoflurane, methoxyflurane, sevoflurane), haloalkanes (chloroform, halothane,

		trichloroethylene), others (cyclopropane, ethylene, nitrous oxide, xenon). Intravenous anesthetics: pharmacology of the barbiturates (hexobarbital, methohexital, narcobarbital, thiopental), benzodiazepines (diazepam, lorazepam and midazolam), opioid analgesics – neuroleptanesthesia (alfentanil, anileridine, fentanyl, phenoperidine, remifentanil, sufentanil), propofol (2,6-diisopropylphenol), group of neuroactive steroids (alfaxalone, minaxolone). Conscious sedation, dissociative anesthetic state, deep sedation. Pharmacologic management of parkinsonism (paralysis agitans) and other movement disorders. Classification of parkinsonism, main signs and symptoms, pathophysiologic changes. Pharmacologic characteristic of L-dopa (levodopa), dopa decarboxylase inhibitors (carbidopa and benserazide), COMT enzyme inhibitors (tolcapone, entacapone), dopamine agonists (bromocriptine, pergolide, pramipexole, ropinirole, cabergoline, apomorphine, and lisuride). Neurorehabilitation, prognosis. Research directions: gene therapy, neuroprotective treatments, complementary therapies. Nootropic drugs. Availability and prevalence. Hazards. Nootropics and racetams. Piracetam group: pharmacologic effects, mechanisms of action, approval and usage, dosage, side effects, contraindications. Pharmacology of vinpocetine (cavinton): mechanism of action, possible nootropic properties, use as a vasodilator, negative effects, dosage. Pharmacology of stimulants: amphetamines (amphetamine, methamphetamine, methylphenidate, pemoline), eugeroics /"wakefulness enhancers"/ (adrafinil, armodafinil, modafinil), xanthines (caffeine, theophylline).

		Pharmacology of local anesthetics. Pharmacology of topical anesthesia (surface), infiltration, plexus block, epidural (extradural) block, spinal anesthesia (subarachnoid block). Chemistry characteristic, classification. Pharmacokinetic properties (local and systemic absorption, distribution, metabolism and elimination), pharmacodynamics (primary mechanism of action of local anesthetics, pharmacologic effects), undesired effects - toxicity (systemic effects following absorption /general adverse effects/, direct neurotoxicity, hypersensitivity and allergy, localized adverse effects, causes of localized symptoms), therapeutic applications, unwanted effects and their preventive maintenance, drug interactions. Private pharmacology of local anesthetics. Local anesthetics in clinical use: esters (benzocaine, chloroprocaine, cocaine, cyclomethycaine, dimethocaine /larocaine/, propoxycaine, procaine /novocaine/, proparacaine, tetracaine /amethocaine/), amides group (articaine, bupivacaine, carticaine, cinchocaine /dibucaine/, etidocaine, levobupivacaine, lidocaine /lignocaine/, mepivacaine, piperocaine, prilocaine, ropivacaine, trimecaine), combinations (lidocaine / prilocaine), natural local anesthetics (saxitoxin, tetrodotoxin). Drugs used in heart failure. Types of heart failure (systolic failure, diastolic failure) and their characteristic. Control of normal cardiac contractility (sensitivity of the contractile proteins to calcium, the amount of calcium released from the sarcoplasmic reticulum, the amount of calcium stored in the sarcoplasmic reticulum, the amount of trigger calcium, activity of the sodium-calcium exchanger, intracellular sodium concentration and activity of Na^+/K^+ ATPase). Pathophysiology of heart failure. Compensatory responses that occur during congestive heart failure. Basic

		pharmacology of drugs used in heart failure. Cardiac glycosides group. Chemistry, pharmacokinetics (absorbtion and distribution, metabolism and excretion). Pharmacodynamics (molecular mechanisms of action; cardiac effects (mechanical effects, electrical effects), effects on other organs; side-effects and their prevention and treatment, drug interactions. Other positive inotropic drugs used in heart failure (general pharmacology): inhibitors of phosphodiesterases (bipyridines inamrinone and milrinone), group of beta-adrenoceptor stimulants (the selective β_1-agonists - dobutamine). Drugs without positive inotropic effect used in heart failure: diuretics, angiotensin-converting enzyme inhibitors, angiotensin AT_1-receptor-blockers drugs, vasodilators (hydralazine, isosorbide dinitrate, synthetic form of the endogenous peptide brain natriuretic peptide – nesiritide, inhibitor of endothelin - bosentan), beta-adrenoblockers drugs. Principles of management of acute heart failure. Antiarrhythmic drugs - agents used in cardiac arrhythmias. Electrophysiology of normal cardiac rhythm, phases of the cardiac action, potential ionic basis of membrane electrical activity, mechanisms of arrhythmias, disturbances of impulse formation (ectopic pacemaker activity), disturbances of impulse conduction (block, reentry /"circus movement"/). Antiarrhythmic drugs. Pharmacologic classification and characteristic (the Vaughan Williams classification (Vaughan Williams' Oxford group), introduced in 1970): class I agents interfere with the sodium channel (IA - Na^+ channel block (intermediate association/dissociation), IB - Na^+ channel block (fast association/dissociation), IC - Na^+ channel block (slow association/dissociation)), class II agents are anti-sympathetic nervous system agents,

		class III agents affect potassium (K^+) efflux, class IV agents affect calcium channels and the AV node (but not dihydropyridines). Cardiac effects, extracardiac effects, toxicity, drug interactions. Medicine applicable under atrial fibrillation, atrial flutter, ventricular tachycardia, and ventricular fibrillation. Antianginal drugs. Pathophysiology of angina, causes of angina pectoris, determinants of myocardial oxygen demand, determinants of coronary blood flow and myocardial oxygen supply, determinants of vascular tone. Classification of IHD: myocardial ischemia: myocardial infarction, classic angina (atherosclerotic angina), vasospastic angina (variant angina or Prinzmetal's angina), acute coronary syndrome (unstable angina, myocardial infarction). Basic pharmacology of drugs used to treat angina and myocardial infarction. Drug groups use in angina (organic nitrates, calcium channel blockers, and beta-adrenoblockers drugs). Pharmacologic characteristic of organic nitrates: classifications, pharmacological actions, their pharmacologic characteristic (chemistry, pharmacokinetic properties, organ system effects /cardiac and peripheral/, therapeutic applications, unwanted effects /acute toxicities, tolerance, tachyphylaxis/ and their preventive maintenance), drug interactions. Pharmacologic characteristic of calcium channel-blocking drugs: classifications (chemical groups), mechanisms of the action, pharmacologic characteristic (chemistry, pharmacokinetic properties, organ system effects /cardiac and peripheral/, therapeutic applications, unwanted effects and their preventive maintenance), drug interactions. Pharmacologic characteristic of beta-adrenoblockers drugs: classifications (selective and nonselective), mechanisms of the action, pharmacologic characteristic (chemistry, pharmacokinetic properties,

		organ system effects /cardiac and peripheral/, therapeutic applications, unwanted effects and their preventive maintenance), drug interactions. Management of the myocardial infarction: thrombolytic and antiplatelet drugs, opioids, beta-adrenoceptor antagonists, angiotensin-converting enzyme inhibitors. Pharmacologic characteristic of cardioprotective drugs (trimetazidine). Antihypertensive drugs. Systemic hypertension and regulation of blood pressure. Etiology of hypertension. Normal regulation of blood pressure. Basic pharmacology of antihypertensive drugs. Diuretics as a antihypertensive agents: their pharmacologic characteristic. Sympathoplegic agents: their pharmacologic characteristic. Agents that block production or action of angiotensin (angiotensin-converting enzyme inhibitors). Physiologic characteristic of renin-angiotensin-aldosterone system. Classification of angiotensin-converting enzyme inhibitors: sulfhydryl-containing agents (captopril, zofenopril), dicarboxylate-containing agents (enalapril, ramipril, quinapril, perindopril, lisinopril, benazepril), phosphonate-containing agents (fosinopril) and their pharmacologic characteristic. Angiotensin II receptor antagonists: losartan, valsartan, candesartan, eprosartan, irbesartan, telmisartan. Ganglion blockers: their pharmacologic characteristic. Adrenergic neuron-blocking drugs (guanethidine, guanadrel, bethanidine, debrisoquin, reserpine) their pharmacologic characteristic. Centrally acting sympathoplegic drugs (methyldopa, clonidine, guanabenz and guanfacine): mechanisms and sites of action, pharmacokinetic characteristics, dosage, undesirable effects, contraindications to use, drug interactions.

		Adrenoceptor antagonists: α- and β-adrenoceptor blockers drugs as a antihypertensive agents. Calcium channel blockers drugs as a antihypertensive agents: pharmacologic classification (chemical classes), pharmacological actions, pharmacokinetic aspects and side-effects, contraindications to use, drug interactions. Principles of the management of hypertensive emergencies. Drugs used in pulmonary hypertension: oral anticoagulants, diuretics, calcium channel blockers, epoprostenol, prostanoid analogues (iloprost, treprostinil, beraprost), phosphodiesterase V inhibitor (sildenafil), cardiac glycosides, activators of soluble guanylate cyclase (cinaciguat and riociguat). Diuretic agents. Renal tubule transport mechanisms: proximal tubule (proximal convoluted tubule), loop of henle, distal convoluted tubule, collecting tubule. Basic pharmacology of diuretic agents. Carbonic anhydrase inhibitors (acetazolamide): pharmacokinetics, pharmacodynamics, clinical Indications (reduction of aqueous humor formation, urinary alkalization, metabolic alkalosis, acute mountain sickness) and dosage, toxicity (hyperchloremic metabolic acidosis, renal stones, renal potassium wasting), contraindications. Group of loop diuretics (furosemide and ethacrynic acid): chemistry characteristic, pharmacokinetic properties, aspects of pharmacodynamic, clinical Indications and dosage, toxicity, contraindications. Thiazide diuretics: pharmacologic characteristic of hydrochlorothiazide (chemistry, pharmacokinetics, mechanism of the action, pharmacologic effects, clinical efficacy, therapeutic applications, unwanted effects and dangers, contraindications). Group of potassium-sparing diuretics: spironolactone, eplerenone, amiloride, triamterene (chemical

		structures, pharmacokinetics, mechanism of the action, pharmacodynamic effects, clinical indications and dosage, side effects, contraindications. Agents that alter water excretion. Group of osmotic diuretics: pharmacologic characteristic of mannitol. Antidiuretic hormone (ADH) agonists: pharmacologic characteristic of vasopressin and desmopressin. Antidiuretic hormone antagonists: pharmacology of conivaptan (pharmacokinetics, mechanism of the action, pharmacodynamic effects, clinical indications and dosage, side effects, contraindications). Diuretic combinations. Atherosclerosis and lipoprotein metabolism. Normal lipoprotein metabolism: synthesis and catabolism. Atheromatous disease, modifiable risk factors for atheromatous disease. Pathophysiology of hyperlipoproteinaemia: atherogenesis, lipoprotein transport in the blood. Dyslipidaemia, Frederickson / World Health Organization classification of hyperlipoproteinaemia. The main agents used clinically: statins (3-hydroxy-3-methylglutaryl-coenzyme A reductase inhibitors - lovastatin, atorvastatin, fluvastatin, pravastatin, simvastatin, rosuvastatin), fibric acid derivatives (gemfibrozil, fenofibrate, bezafibrate), inhibitors of cholesterol absorption /bile acid-binding resins/ (colestyramine, colestipol, colesevelam), inhibitors of intestinal sretol absorption (ezetimibe), nicotinic acid or its derivatives, fish oil derivatives: pharmacological actions, pharmacokinetic aspects and side-effects, contraindications to use. Principals of combined drug therapy of hyperlipoproteinaemia (fibric acid derivatives and bile acid-binding resins, HMG-CoA reductase inhibitors and bile acid-binding resins, niacin and bile acid-binding resins, niacin and reductase inhibitors, reductase inhibitors and

		ezetimibe, reductase inhibitors and fibrates). Dietary management of hyperlipoproteinaemia (general principals). Drugs used in disorders of coagulation. Mechanisms of blood coagulation, blood coagulation cascade (fibrin formation), initiation of clotting: the tissue factor-VIIa complex. Fibrinolysis. Characteristic of the fibrinolytic system. Pharmacologic classification of the drugs used in disorders of coagulation. Pharmacology of the anticoagulant drugs. The indirect thrombin inhibitors (heparin and low-molecular-weight heparins /enoxaparin, dalteparin, fondaparinux/): chemistry (subunit structure of heparin) and mechanism of action, administration, dosage, drug interactions, laboratory monitoring of heparin effect, toxicity, contraindications. The direct thrombin inhibitors: chemistry, mechanism of action, administration, dosage, drug interactions, laboratory monitoring, toxicity, contraindications. Pharmacology of the fibrinolytic drugs (streptokinase, urokinase, anistreplase, alteplase, reteplase, tenecteplase, duteplase): chemistry, mechanism of action, administration, dosage, drug interactions, laboratory monitoring, toxicity, contraindications. Pharmacology of the antiplatelet drugs (clopidogrel, ticlopidine, aspirin, dipyridamole): chemistry, mechanism of action, administration, dosage, drug interactions, laboratory monitoring, adverse effects, contraindications. Pharmacology of the platelet glycoprotein IIb/IIIa receptors inhibitors (abciximab, eptifibatide, tirofiban): mechanism of action, administration, dosage, drug interactions, negative effects, contraindications. Pharmacology of the drugs used in bleeding disorders. vitamin K: sources and preparations, administration and pharmacokinetic aspects, clinical uses. Pharmacology of the inhibitors of

		fibrinolysis - aminocaproic acid. Pharmacologic characteristic of the serine protease inhibitors – aprotinin. Agents used in anemias. Hematopoiesis, the main components of the haemopoietic system, types of anaemia. Iron (iron salts): pharmacokinetics (absorbtion, transport, distribution of iron in the body, storage, elimination, iron turnover and balance), indications for the use of iron, treatment (oral iron therapy, parenteral iron therapy), clinical toxicity (acute and chronic iron toxicity), drug interactions, contraindications. The treatment of acute and chronic iron toxicity. Vitamin B_{12}: their biochemical actions, the role of vitamin B_{12} in the synthesis of folate polyglutamate, chemistry, pharmacokinetics, pharmacodynamics, clinical uses (megaloblastic anemia, pernicious anemia). Pharmacologic characteristic of the folic acid (pteroylglutamic acid): chemistry, pharmacokinetics, pharmacodynamics, clinical applications. Pharmacology of the hematopoietic growth factors and colony-stimulating factors: erythropoietin (epoetin alfa), granulocyte colony-stimulating factor (G-CSF), granulocyte-macrophage colony-stimulating factor (GM-CSF), and interleukin-11 (IL-11), pegfilgrastim, sargramostim, darbopoietin, lenograstim. Pharmacology of respiratory system disorders. Basic aspects of the physiology of the respiratory system. Pathogenesis of the bronchial asthma and “aspirin-sensitive” asthma, chronic obstructive pulmonary disease. Categories of antiasthma drugs: bronchodilators (β_2-adrenoceptor agonists, methylxanthines, muscarinic receptor antagonists /ipratropium, thiotropium/) /short- and long-acting inhaled bronchodilators/ and anti-inflammatory (cysteinyl leukotriene receptor antagonists, glucocorticoids, cromoglicate and nedocromil, anti-IgE - monoclonal

		antibodies treatment /omalizumab/) agents their pharmacological characteristic. Management of the severe acute asthma (status asthmaticus). Chronic obstructive pulmonary disease: pathogenesis, principles of treatment, specific aspects of treatment. Pulmonary surfactants drugs their pharmacological characteristic. Drugs used in the treatment of gastrointestinal diseases. Drugs used in the acid-peptic diseases. Agents that reduce intragastric activity. Physiology of acid secretion (physiologic control of hydrogen ion secretion by the gastric parietal cell. ECL cell, enterochromaffin-like cell; G (CCK-B), gastrin-cholecystokinin-B receptor; H, histamine; H_2, histamine H_2 receptor; M_1, M_3, muscarinic receptors; ST_2, somatostatin-2 receptor; ATPase, H^+/K^+ ATPase proton pump). Role of *H. pylori* in ulcer disease. Antacids: chemistry, pharmacokinetic properties, effects, therapeutic applications, unwanted effects and their preventive maintenance, drug interactions. H_2-receptor antagonists (H_2-receptor-blocking drugs): chemistry, pharmacokinetics, effects, clinical uses, unwanted effects (mental status changes, endocrine effects, pregnancy and nursing mothers) and their preventive maintenance, drug interactions. Group of the proton pump inhibitors: chemistry (molecular structure of the proton pump inhibitors), pharmacokinetic properties, effects, therapeutic applications, unwanted effects and their preventive maintenance, drug interactions. Mucosal protective agents: mucosal prostaglandin analogs (misoprostol), sucralfate, colloidal bismuth compounds (bismuth subsalicylate, bismuth subcitrate and bismuth dinitrate). Drugs stimulating gastrointestinal motility - drugs that selectively stimulate gut motor function (prokinetic agents): physiology of the enteric nervous system; 5-HT_3-receptor antagonists and 5-HT_4-receptor agonists, cholinomimetic

		agonists (bethanechol, neostigmine), D_2 receptor antagonists (metoclopramide and domperidone). Laxatives: classification (bulk-forming laxatives, stool surfactant agents /softeners/, osmotic laxatives, stimulant laxatives /cathartics/, serotonin 5-HT_4 receptors agonists), chemistry, pharmacokinetic properties, effects, therapeutic applications, unwanted effects and their preventive maintenance, drug interactions. Pharmacology of the antidiarrheal agents: opioid agonists, colloidal bismuth compounds, bile salt-binding resins (cholestyramine, colestipol), octreotide (somatostatin). Drugs used in the treatment of irritable bowel syndrome (directions of the pharmacologic therapies for irritable bowel syndrome): antispasmodics (anticholinergics), serotonin 5-HT_3 receptors antagonists (blockers of central 5-HT_3 receptors)/ ondansetron, granisetron, dolasetron, and alosetron; and the 5-HT_4 partial agonist tegaserod/, serotonin 5-HT_4 receptors antagonists. Antiemetic agents: selective serotonin 5-HT_3-receptor antagonists, neurokinin 1 (NK_1) receptor antagonists, phenothiazines, butyrophenones, substituted benzamides (metoclopramide and trimethobenzamide), anticholinergic agents, H_1-receptor antagonists, benzodiazepines, cannabinoids (dronabinol, nabilone). Drugs used to treat inflammatory bowel disease: Drugs that contain 5-aminosalicylic acid - aminosalicylates - (sulfasalazine, olsalazine, balsalazide, and various forms of mesalamine), glucocorticoids, purine analogs (azathioprine and 6-mercaptopurine), methotrexate, anti-tumor necrosis factor therapy (infliximab, adalimumab, certolizumab). Pancreatic enzyme supplements. Pharmacologic characteristic of the creon, pancrease, ultrase. Bile acid therapy for gallstones: pharmacologic characteristic of the ursodiol (ursodeoxycholic acid).

		Obesity treatment. The homeostatic mechanisms controlling energy balance: the role of leptin, insulin and hypothalamic peptides in the regulation of energy balance and fat stores, integration of information and effect on energy balance, regulation of food intake and energy expenditure. The pathophysiology of human obesity: obesity as a disorder of homeostatic control of energy balance, genetic factors and obesity, food intake and obesity, physical exercise and obesity. Pharmacological approaches to the problem of obesity. Pharmacologic characteristic of 'anorectic' (e.g. appetite suppressant) agents: amphetamines, fenfluramine, sibutramine and orlistat (mechanism of action, pharmacologic effects, pharmacokinetic aspects, clinical efficacy, unwanted effects). Pharmacology of hypothalamic and pituitary hormones. Physiology of hypothalamic-pituitary endocrine system. Anterior pituitary hormones and their hypothalamic regulators. Growth hormone (somatotropin): chemistry and pharmacokinetics, pharmacodynamics, uses of growth hormone, toxicity and contraindications. Growth hormone antagonists: pharmacologic characteristic of somatostatin, octreotide and pegvisomant. The gonadotropins (follicle-stimulating hormone, luteinizing hormone and human chorionic gonadotropin): chemistry and pharmacokinetics, pharmacodynamics, therapeutic applications, unwanted effects and their preventive maintenance, drug interactions. Gonadotropin-releasing hormone and its synthetic analogs (goserelin, histrelin, leuprolide, nafarelin, and triptorelin): chemistry, pharmacokinetics, pharmacodynamics, therapeutic applications, unwanted effects. GnRH (gonadotropin-releasing hormone) receptor antagonists (ganirelix and cetrorelix): pharmacologic characteristic. Pharmacologic characteristic

		of prolactin. Dopamine agonists (bromocriptine, cabergoline, pergolide and quinagolide): chemistry, pharmacokinetics, pharmacodynamics, clinical uses, clinical toxicity, contraindications. Pharmacologic characteristic of posterior pituitary hormones: vasopressin and oxytocin (antidiuretic hormon). Vasopressin antagonists: conivaptan and tolvaptan. Pharmacology of pancreatic hormones and antidiabetic drugs. The endocrine pancreas; categories of diabetes mellitus (the current classification of diabetes mellitus): type 1, insulin-dependent diabetes; type 2, noninsulin-dependent diabetes; type 3, other; and type 4, gestational diabetes mellitus (Expert Committee, 2003). Insulin: chemistry, insulin secretion, insulin degradation, circulating insulin, the insulin receptor, effects of insulin on its targets. Characteristics of available insulin preparations (commercial insulin preparations): rapid-acting, with very fast onset and short duration; short-acting, with rapid onset of action; intermediate-acting; and long-acting, with slow onset of action. Insulin analogs by recombinant DNA techniques. Insulin delivery systems: portable pen-sized injectors, continuous subcutaneous insulin infusion devices, inhaled insulin preparation. Treatment with insulin, benefit of glycemic control in diabetes mellitus. Complications of insulin therapy: hypoglycemic reactions (mechanisms and diagnosis, treatment of hypoglycemia), immunopathology of insulin therapy (insulin allergy, immune insulin resistance), lipodystrophy at injection sites. The oral antidiabetic agents. Insulin secretagogues. Sulfonylureas: mechanism of action, efficacy and safety of the sulfonylureas, first-generation sulfonylureas (tolbutamide, chlorpropamide, tolazamide), second-generation sulfonylureas (glyburide, glipizide, and glimepiride), secondary failure

		and tachyphylaxis to sulfonylureas. Meglitinides: mechanism of action, efficacy and safety. D-phenylalanine derivative: mechanism of action, efficacy and safety of the nateglinide. Biguanides: mechanisms of action, metabolism and excretion, clinical use, toxic effects, contraindications. Thiazolidinediones: mechanisms of action, pharmacologic characteristic of the pioglitazone and rosiglitazone. Alpha-glucosidase inhibitors: pharmacologic characteristic of the acarbose and miglitol. Pharmacologic characteristic of the pramlintide, exenatide, sitagliptin. Principles of the combination therapy with oral antidiabetic agents and injectable medication. Pharmacology of glucagon: chemistry characteristic and metabolism, "Gut Glucagon", pharmacologic effects of glucagon (metabolic effects, cardiac effects, effects on smooth muscle), therapeutic applications (severe hypoglycemic reactions, diagnose endocrine disorders, beta-blocker poisoning, radiology of the bowel), adverse reactions. Pharmacology of thyroid and antithyroid drugs. Basic thyroid physiology: iodide metabolism, biosynthesis of thyroid hormones, peripheral metabolism of thyroxine, transport of thyroid hormones, evaluation of thyroid function (thyroid-pituitary relationships, autoregulation of the thyroid gland, abnormal thyroid stimulators). Pharmacology of thyroid drugs. Thyroid hormones: chemistry (the structural formulas of thyroxine and triiodothyronine), pharmacokinetic properties, mechanism of action, model of the interaction of T3 with the T3 receptor, pharmacologic effects of thyroid hormones, thyroid preparations, drug interactions, laboratory monitoring, adverse effects, contraindications. Pharmacology of antithyroid drugs. Thioamides (methimazole and propylthiouracil): chemical structures, pharmacokinetics, mechanisms,

		pharmacodynamics, adverse reactions to the thioamides. Anion inhibitors: pharmacologic characteristic. Iodides: pharmacodynamics, clinical use of iodide, adverse reactions to iodine (iodism). Radioactive iodine, adrenoceptor-blocking agents. Principles of the management of hypothyroidism: special problems in management of hypothyroidism (myxedema coma, hypothyroidism and pregnamcy, subclinical hypothyroidism, drug-induced hypothyroidism). Principles of the management of hyperthyroidism: Graves' disease (antithyroid drug therapy, radioiodine therapy, adjuncts to atntithyroid therapy). Toxic uninodular goiter and toxic multinodular goiter, subacute thyroiditis, special problems (thyroid storm, ophthalmopathy, dermopathy or pretibial myxedema, thyrotoxicosis during pregnancy, neonatal Graves' disease, subclinical hyperthyroidism, amiodarone-induced thyrotoxicosis, nontoxic goiter, thyroid neoplasms). Preparations available: thyroid agents (Levothyroxine [T4], Liothyronine [T3], Liotrix, Thyroid desiccated [USP]), antithyroid drugs (Diatrizoate sodium, Iodide (131I) sodium, Iohexol, Methimazole, Potassium iodide, Propylthiouracil, Thyrotropin; recombinant human TSH). Pharmacology of adrenocorticosteroids and adrenocortical antagonists. Pharmacologic classification. The naturally occurring glucocorticoids, cortisol (hydrocotisone): pharmacokinetic characteristics, pharmacodynamic properties (mechanism of glucocorticoid action, basic pharmacologic effects, metabolic effects, catabolic and antianabolic effects, anti-inflammatory and immunosuppressive effects). Synthetic corticosteroids: pharmacokinetics (source, disposition), pharmacodynamic properties (the actions of the synthetic steroids, glucocorticoid to mineralocorticoid potency). Therapeutic applications: adrenocortical insufficiency (chronic (Addison's disease),

		acute adrenocortical insufficiency), adrenocortical hypo- and hyperfunction (congenital adrenal hyperplasia, Cushing's syndrome, primary aldosteronism, secondary aldosteronism), use of glucocorticoids for diagnostic purposes (dexamethasone suppression test), toxicity (metabolic effects, peptic ulcers, growth-suppressing potency, adrenal suppression), contraindications and cautions (special precautions, contraindications), selection of drug and dosage schedule (acth versus adrenocortical steroids, dosage regimen, special dosage forms /topical preparations for skin disease, ophthalmic forms for eye disease, intra-articular injections for joint disease, inhaled steroids for asthma/). Pharmacology of mineralocorticoid (aldosterone, deoxycorticosterone, fludrocortisone): physiologic and pharmacologic effects, metabolism (pharmacokinetic properties). Antagonists of adrenocortical agents. Synthesis inhibitors and glucocorticoid antagonists (metyrapone, aminoglutethimide, ketoconazole, mifepristone, mitotane, trilostane). Mineralocorticoid antagonists: spironolactone, eplerenone, drospirenone (pharmacologic characteristic). Preparations available. Glucocorticoids: betamethasone, dexamethasone, dexamethasone acetate, dexamethasone sodium phosphate, hydrocortisone, hydrocortisone acetate, hydrocortisone cypionate, methylprednisolone, methylprednisolone acetate, prednisolone, prednisolone sodium phosphate, triamcinolone. Mineralocorticoids: fludrocortisone acetate. Mineralocorticoid antagonists: aminoglutethimide, ketoconazole, mifepristone, mitotane. Pharmacology of gonadal hormones and inhibitors. The ovary (estrogens, progestins, other ovarian hormones, oral contraceptives, inhibitors and antagonists, ovulation-

		inducing agents). The menstrual cycle, plasma levels of pituitary and ovarian hormones and histologic changes, disturbances in ovarian function. The estrogens. Natural Estrogens: estradiol (estradiol-17b, E2), estrone (E1), and estriol (E3), biosynthesis and metabolism. Synthetic estrogens: chemical compounds with estrogenic activity, pharmacokinetics, mechanism of action, female maturation, endometrial effects, metabolic and cardiovascular effects, effects on blood coagulation, clinical uses (primary hypogonadism, postmenopausal hormonal therapy, intractable dysmenorrhea, hirsutism and amenorrhea), unwanted effects and dangers (postmenopausal uterine bleeding, cancer), contraindications, preparations and dosages (diethylstilbestrol diphosphate, estradiol cypionate in oil, estradiol, estradiol valerate in oil, estrone). The progestins. Natural progestins: progesterone (its characteristis). Synthetic progestins: chemistry characteristics, pharmacokinetic properties, mechanism of action, spectrum of pharmacologic effects, clinical uses of progestins (hormone replacement therapy, hormonal contraception, diagnostic uses), contraindications, cautions and adverse effects. Hormonal contraception (oral, parenteral and implanted contraceptives). Pharmacologic classification (monophasic, biphasic and triphasic forms), mechanism of action, spectrum of pharmacologic effects (effects on the ovary, effects on the uterus, effects on the breast, effects on the central nervous system, effects on endocrine function, effects on blood, effects on the liver, effects on lipid metabolism, effects on carbohydrate metabolism, effects on the cardiovascular system, effects on the skin), therapeutic applications (oral contraception, treatment of endometriosis, prevents the periodic breakdown of the endometrial tissue, endometrial fibrosis), adverse effects (mild, moderate adverse effects, severe

		adverse effects), contraindications and cautions, contraception with progestins alone, postcoital contraceptives, beneficial effects of oral contraceptives, hormonal preparations (hydroxyprogesterone caproate, levonorgestrel, medroxyprogesterone acetate, megestrol acetate, norethindrone acetate, norgestrel, progesterone). Estrogen and progesterone inhibitors and antagonists. Tamoxifen and related partial agonist estrogens its pharmacologic characteristic. Pharmacology of mifepristone, danazol. Ovulation-inducing drugs (clomiphene citrate): mechanism of action, pharmacologic effects, clinical use, side-effects, contraindications and cautions. Androgens and anabolic steroids: metabolism, synthetic steroids with androgenic and anabolic action, mechanisms of action, pharmacologic effects, clinical uses (androgen replacement therapy in men, gynecologic disorders, use as protein anabolic agents, anemias, osteoporosis, stimulate growth, anabolic steroid and androgen abuse in sports, aging), adverse effects of these compounds, contraindications. Pharmacology of antiandrogens: steroid synthesis inhibitors, conversion of steroid precursors to androgens, receptor inhibitors. Oral contraceptive for men (Gossypol). Agents that affect bone mineral homeostasis. Mechanisms contributing to bone mineral homeostasis. The hormonal interactions controlling bone mineral homeostasis. Principal hormonal regulators of bone mineral homeostasis (parathyroid hormone, vitamin D, glucocorticoid hormones, estrogens). Pharmacologic characteristic of vitamin D, metabolites and analogs (calcitriol, cholecalciferol [D3], doxercalciferol, ergocalciferol [D2] (vitamin D2, calciferol), paricalcitol), calcium preparations, phosphate.

		Chemotherapeutic drugs. Pharmacology of antimicrobial agents. General principles of antimicrobial therapy. Antibiotic: definition, main characteristics (properties), pharmacologic groups. Gram-positive and Gram-negative bacteria: biological organization. Minimum inhibitory concentration (definition). History of antibiotics: role of Louis Pasteur, Robert Koch, Alexander Fleming, Ernst Chain, Howard Florey and Paul Ehrlich. Characteristic of bactericidal or bacteriostatic effects. "Narrow-spectrum" and broad-spectrum antibiotics: definition, examples. Classification of antibiotics (mechanism of action, production (sources). Negative effects of antibiotic drugs and their prophylactic. Antibiotic resistance: definition, tapes, molecular mechanisms. Empiric antimicrobial therapy, approach to empiric therapy, choice of antimicrobial agent, principles of antimicrobial therapy of infections with known etiology, interpretation of culture results, guiding antimicrobial therapy of established infections, susceptibility testing, definition of minimal inhibitory concentration and minimal bactericidal concentration, specialized assay methods, monitoring therapeutic response, clinical failure of antimicrobial therapy, bacteriostatic versus bactericidal activity (concentration-dependent killing, time-dependent killing), postantibiotic effect, pharmacokinetic considerations (route of administration, conditions that alter antimicrobial pharmacokinetics, drug concentrations in body fluids, monitoring serum concentrations of antimicrobial agents), management of antimicrobial drug toxicity, antimicrobial drug combinations (rationale for combination antimicrobial therapy, synergism and antagonism, mechanisms of synergistic action, mechanisms of antagonistic action), antimicrobial prophylaxis (surgical prophylaxis).

		Beta-lactam and other cell wall- and membrane-active antibiotics. Chemical characteristic of beta-lactam compounds. Pharmacologic characteristic of penicillins. Basic chemical structure, classifications, mechanism of action, resistance to penicillins and other β-lactams (general mechanisms). The private pharmacology of penicillins: Benzylpenicillin, Procaine benzylpenicillin, Phenoxymethylpenicillin, Oxacillin sodium, Cloxacillin, Dicloxacillin, Flucloxacillin, Meticillin, Nafcillin sodium, aminopenicillins, carboxypenicillins, ureidopenicillins. Beta-lactamase inhibitors: examples, chemical structure, pharmacologic role. Group of cephalosporin: history, chemical structure, mode of action, clinical indications, adverse effects, pharmacologic classification (generation and their characteristic – spectrum of antibiotic activities). Monobactams: chemical structure, mechanism of action, spectrum of activities, common adverse effects. Carbapenem class: chemical structure, examples of the preparations (drugs), spectrum of antibacterial activities, clinical uses. Pharmacology of aminoglycosides: generic names, common uses, possible side effects, mechanism of action. The private pharmacology of aminoglycosides: amikacin, gentamicin. Glycopeptide antibiotic: mechanism, therapeutic applications, administration. Pharmacologic characteristic of vancomycin, teicoplanin. Pharmacology of tetracycline antibiotics: mechanism of action, mechanism and resistance, indication, administration, cautions, contraindications, side effects, pharmacologic classification (according to source, according to duration of action). Macrolides: definition (chemical characteristic), common antibiotic macrolides, uses (spectrum of antibacterial activity), mechanism of action,

		pharmacodynamics, resistance, unwanted effects. Lincosamides class: definition, history and uses, resistance, formulation. Streptogramins group: general pharmacologic characteristic, examples. Oxazolidinone (initiation inhibitors) class: pharmacology of linezolid. Steroid antibacterials (prokaryotic elongation factors): pharmacology of fusidic acid. Polypeptide antibiotics: pharmacologic characteristic of polymyxin B and actinomycin. Quinolones group: history, pharmacology, mechanism of the action, adverse effects, contraindications, scripting abuse and bacterial resistance, generations. Chloramphenicol: dosage, dose monitoring, chloramphenicol and the liver, chloramphenicol and the kidneys, uses (spectrum of antibacterial activity), adverse effects, mechanism and resistance. Dihydropteroate synthetase inhibitors (group sulfonamide): chemistry, classification and characteristic. Antifungal drugs. Classification of human fungal infections. Classes: polyene antifungals, imidazole, triazole and thiazole antifungals, imidazoles, triazoles, thiazoles, allylamines, echinocandins, others. Systemic antifungal drugs for systemic infections. Pharmacologic characteristic of Amphotericin B: chemistry properties, pharmacokinetics, mechanism of action, resistance to amphotericin B, antifungal activity, clinical use (for treatment of systemic fungal disease, local administration), adverse reactions (infusion-related reactions, cumulative toxicity). Pharmacology of flucytosine. Azoles class (ketoconazole, itraconazole, fluconazole, voriconazole): antifungal activity (mechanism of action), the spectrum of action of azole, resistance to azoles, adverse effects, drug interactions. Pharmacology of

		group echinocandins (caspofungin, micafungin and anidulafungin): pharmacologic properties, pharmacological actions, unwanted effects and dangers. Systemic antifungal drugs for mucocutaneous infections: pharmacologic characteristic of griseofulvin and terbinafine. Topical antifungal drugs: nystatin, topical azoles. Antiviral drugs. Classification of viral infections, virus life cycle. Inadequacy of vaccines. Anti-viral targeting technique. Approaches by life cycle stage: before cell entry, entry inhibitor, uncoating inhibitor, during viral synthesis, reverse transcription, integrase, transcription, translation / antisense, translation / ribozymes, protease inhibitors, assembly, release phase. Agents to treat herpes simplex virus and varicella-zoster virus infections: acyclovir, valacyclovir, famciclovir, penciclovir, docosanol, trifluridine (trifluorothymidine). Agents to treat cytomegalovirus infections: ganciclovir, valganciclovir, foscarnet (phosphonoformic acid), cidofovir. Antiretroviral therapy: treatment of HIV-infected individuals, nucleoside and nucleotide reverse transcriptase inhibitors (life cycle of HIV, pharmacologic characteristic of abacavir, didanosine, emtricitabine, lamivudine, stavudine, tenofovir, zalcitabine, zidovudine (azidothymidine; AZT), nonnucleoside reverse transcriptase inhibitors (delavirdine, efavirenz, nevirapine), protease inhibitors (amprenavir, atazanavir, fosamprenavir, indinavir, lopinavir-100 / ritonavir-400, nelfinavir, ritonavir, saquinavir, tipranavir), fusion inhibitors (enfuvirtide). Antihepatitis drugs: pharmacologic characteristic of group interferons, treatment of hepatitis B virus infection (lamivudine, adefovir dipivoxil, entecavir), treatment of hepatitis C virus infection (ribavirin). Anti-influenza drugs:

		pharmacology of amantadine, rimantadine, zanamivir and oseltamivir. Miscellaneous antimicrobial agents; disinfectants, antiseptics and sterilants. Pharmacologic characteristic of metronidazole, mupirocin (pseudomonic acid), group of polymyxins (polymyxin B and polymyxin E (colistin)), urinary antiseptics (nitrofurantoin, methenamine mandelate). Disinfectants: alcohols, chlorhexidine, halogens (iodine, iodophors, chlorine), phenolics, quaternary ammonium compounds ("quats"), aldehydes (formaldehyde and glutaraldehyde), superoxidized water, peroxygen compounds (hydrogen peroxide and peracetic acid), heavy metals (thimerosal, silver nitrate, silver sulfadiazine), boric acid, calcium hypochlorite. Antiparasitic chemotherapy. Targets of chemotherapy. Antiprotozoal drugs. Treatment of malaria. Species of plasmodium cause human malaria, parasite life cycle, drug classification, pharmacologic characteristic of Cchloroquine, amodiaquine, quinine and quinidine, mefloquine, primaquine, atovaquone (chemistry and pharmacokinetics, antimalarial action, pharmacological actions, resistance, therapeutic applications, unwanted effects and dangers, contraindications and cautions), inhibitors of folate synthesis (pyrimethamine, proguanil, fansidar), antibiotics (halofantrine hydrochloride, lumefantrine, artemisinin (qinghaosu)). Treatment of amebiasis: pharmacologic classification of the drugs, pharmacologic characteristic of metronidazole, iodoquinol (diiodohydroxyquin), paromomycin sulfate, emetine and dehydroemetine. Other antiprotozoal drugs: pentamidine, sodium stibogluconate, nitazoxanide, suramin, melarsoprol, eflornithine

		(difluoromethylornithine), nifurtimox, benznidazole, miltefosine. Pharmacology of the anthelmintic drugs. Chemotherapy of helminthic infections: pharmaceutical classes, anthelmintic resistance, development of resistance. Pharmacologic characteristic of albendazole, bithionol, diethylcarbamazine citrate, doxycycline, ivermectin, mebendazole, metrifonate, niclosamide, oxamniquine, piperazine, praziquantel, pyrantel pamoate, thiabendazole (anthelmintic actions, clinical uses, adverse reactions, contraindications, cautions). Cancer chemotherapy. Causes of cancer, history of cancer chemotherapy, cancer therapeutic modalities, anticancer drug development, importance of neoplastic cell burden, importance of cell cycle kinetics (cell cycle-specific and cell cycle-nonspecific drugs), resistance to cytotoxic drugs (P-glycoprotein, multidrug resistance protein 1). Combination chemotherapy. Adjuvant therapy. Supportive care during chemotherapy. The private pharmacology. Polyfunctional alkylating agents: chemical structures of major classes of alkylating agents, mechanism of action (mechanism of alkylation of DNA guanine), mechanism of acquired resistance, pharmacologic effects. The nitrosoureas group. Related drugs acting as alkylating agents: procarbazine, dacarbazine, altretamine (hexamethylmelamine), platinum analogs. Antimetabolites: mechanisms of action, pharmacology of methotrexate (action, uses, dosage and toxicity, resistance to methotrexate), pemetrexed. Pharmacologic characteristic of purine antagonists: 6-Thiopurines (6-Mercaptopurine, 6-Thioguanine), fludarabine, cladribine (2-chlorodeoxyadenosine). Pyrimidine antagonists group: 5-Fluorouracil, capecitabine, cytarabine (cytosine

		arabinoside, ara-C), gemcitabine. Plant alcaloids group: vinblastine, vincristine, vinorelbine. Epipodophyllotoxins: etoposide, teniposide. Camptothecins: topotecan, irinotecan. Taxanes: paclitaxel, docetaxel. Antitumor antibiotics: anthracycline antibiotics (doxorubicin, daunorubicin, idarubicin, epirubicin), mitoxantrone (dihydroxyanthracenedione), dactinomycin, mitomycin (mitomycin C), bleomycin. Hormonal agents: estrogen and androgen inhibitors (tamoxifen, flutamide and bicalutamide). Gonadotropin-releasing hormone antagonists: leuprolide and goserelin. Aromatase inhibitors: aminoglutethimide, anastrozole, letrozole, exemestane. Miscellaneous anticancer drugs: imatinib, dasatinib (sprycel), growth factor receptor inhibitors (cetuximab, gefitinib and erlotinib). Asparaginase (L-asparagine amidohydrolase). Hydroxyurea. All-trans-retinoic acid (tretinoin). Arsenic trioxide (AS_2O_3). Monoclonal antibodies (rituximab). Immunopharmacology. Normal immune responses. The innate immune system, Role of complement in innate immunity. The adaptive immune system. Abnormal immune responses: classification of hypersensitivity (types), autoimmunity, immunodeficiency diseases. Pharmacology of immunosuppressive agents (immunodepressants): glucocorticoids (corticosteroids), immunophilin ligands (cyclosporine (cyclosporin A), tacrolimus, sirolimus (rapamycin)). Cytotoxic drugs: azathioprine, cyclophosphamide, leflunomide, hydroxychloroquine, other cytotoxic agents (vincristine, methotrexate, and cytarabine). Immunosuppressive antibodies: pharmacology of antilymphocyte and antithymocyte antibodies, muromonab-CD3, immune globulin intravenous (IGIV), Rho(D) immune globulin micro-dose, hyperimmune immunoglobulins. Monoclonal antibodies: antitumor

		monoclonal antibodies (alemtuzumab, bevacizumab, cetuximab, gemtuzumab, rituximab, trastuzumab), antitumor monoclonal antibodies used to deliver isotopes to tumors (arcitumomab, capromab pendetide, ibritumomab tiuxetan, nofetumomab, tositumomab), monoclonal antibodies used as immunosuppressants and anti-inflammatory agents (pharmacologic characteristic of adalimumab, etanercept, infliximab, abatacept, alefacept, basiliximab, daclizumab, efalizumab, omalizumab), other monoclonal antibodies (abciximab, palivizumab). Immunologic reactions to drugs and drug allergy. Immediate type I drug allergy. Drug treatment of immediate allergy. Desensitization to drugs. Autoimmune (type II) reactions to drugs. Serum sickness and vasculitic (type III) reactions. Drugs acting on immunophilins: ciclosporin, tacrolimus, sirolimus, interferons, TNF binding proteins, mycophenolic acid. Introduction to toxicology: occupational and environmental. Occupational toxicology. Environmental toxicology. Ecotoxicology. Carbon monoxide: mechanism of action, clinical effects (CO intoxication), treatment. Sulfur dioxide (SO_2): mechanism of action, clinical effects and treatment. Nitrogen dioxide (NO_2): mechanism of action, clinical effects and treatment. Ozone (O_3): mechanism of action, clinical effects and treatment. Solvents: halogenated aliphatic hydrocarbons (mechanism of action, clinical effects and treatment), aromatic hydrocarbons (benzene, toluene (methylbenzene)). Insecticides: organochlorine insecticides (human toxicology /the acute toxic properties of the organochlorine insecticides/, environmental toxicology), organophosphorus insecticides (human toxicology, environmental toxicology), carbamate insecticides, botanical insecticides (nicotine, rotenone,

		and pyrethrum). Herbicides: chlorophenoxy herbicides (dioxins), bipyridyl herbicides (paraquat). Pharmacology of vaccines, immune globulins and other complex biologic products. Principles of active immunization, passive immunization. Legal liability for untoward reactions. Pharmacology of botanicals (herbal medications) and nutritional supplements. Clinical aspects of the use of botanicals. Botanical substances. Echinacea (Echinacea purpurea): chemistry characteristic, pharmacologic effects, clinical trials, adverse effects, drug interactions and precautions, dosage. Garlic (Allium sativum): chemistry, pharmacologic effects, adverse effects, drug interactions and precautions, dosage. Ginkgo (Ginkgo biloba): chemistry, pharmacologic effects, adverse effects, drug interactions and precautions, dosage. Ginseng: chemistry characteristic, pharmacologic effects, clinical trials, adverse effects, drug interactions and precautions, dosage. Milk thistle (Silybum marianum): chemistry characteristic, pharmacologic effects, clinical trials, adverse effects, drug interactions and precautions, dosage. St. John's wort (hypericum): chemistry characteristic, pharmacologic effects, clinical trials, adverse effects, drug interactions and precautions, dosage. Saw palmetto: chemistry characteristic, pharmacologic effects, clinical trials, adverse effects, drug interactions and precautions, dosage. Pharmacology of purified nutritional supplements (chemistry characteristic, pharmacologic effects, clinical trials, adverse effects, drug interactions and precautions, dosage): coenzyme Q10, glucosamine, melatonin.

5.2. Sections and types of studies

No.	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
1	The Section I. The General pharmacology.	6		6				12	24
2	The Section II. The Private (systems) pharmacology.	32		66				130	228

6. Interactive forms of studies

Active and interactive forms of work used in the educational process: individualization and flexibility of elective through outside of class, independent work, computer simulations, business and role-playing, brainstorming, discussion, case method (analysis of situations), simulation (role-playing game design - construction, development of methodological or technical solutions), small group work, case studies, psychological and other trainings, creative tasks, case studies with the standards of responses, multimedia training.

Methods based on the latest achievements of science and information technology in education are used in the process of teaching. They are aimed to improve the quality of training through the development of students' creativity and self-reliance. For this purpose are used:

• interactive forms of holding seminars and clinical dissections
• training form of practical training
• lectures on telemedicine (or on CD ROM), the country's leading experts.

No	Name of the course section	Interactive forms of studies	Duration (hours)
1	Module I BASIC PRINCIPLES OF PHARMACOLOGY	Business and role-playing, case studies, psychological or other training, situational problems with the standards of answers. The method of small groups. Discussion on employment. Analysis of specific clinical situations.	2
2	Module II AUTONOMIC DRUGS	Business and role-playing, case studies, psychological or other training, situational problems with the standards of answers. The method of small groups. Discussion on employment. Analysis of specific clinical situations.	2
3	Module III	Business and role-playing, case	3

	DRUGS USED TO TREAT INFLAMMATION	studies, psychological or other training, situational problems with the standards of answers. The method of small groups. Discussion on employment. Analysis of specific clinical situations.	
4	Module IV DRUGS THAT ACT IN THE CENTRAL NERVOUS SYSTEM	Business and role-playing, case studies, psychological or other training, situational problems with the standards of answers. The method of small groups. Discussion on employment. Analysis of specific clinical situations.	4
5	Module V CARDIOVASCULAR-RENAL DRUGS	Business and role-playing, case studies, psychological or other training, situational problems with the standards of answers. The method of small groups. Discussion on employment. Analysis of specific clinical situations.	1
6	Module VI DRUGS USED TO TREAT DISEASES OF THE BLOOD	Business and role-playing, case studies, psychological or other training, situational problems with the standards of answers. The method of small groups. Discussion on employment. Analysis of specific clinical situations.	2
7	Module VII ENDOCRINE DRUGS	Business and role-playing, case studies, psychological or other training, situational problems with the standards of answers. The method of small groups. Discussion on employment. Analysis of specific clinical situations.	2
8	Module VIII CHEMOTHERAPEUTIC DRUGS	Business and role-playing, case studies, psychological or other training, situational problems with the standards of answers. The method of small groups. Discussion on employment.	2

		Analysis of specific clinical situations.	
			Total (hours) 16
			Total (% of the class activities) 12%

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

The list of questions and topics, intended for self-studing study, refer to guidelines for teachers on discipline traumatology and orthopedics, subparagraph "The organization and the control of independent work of students."

No	Name of the course section	Types of self-studies	Forms of control
1	Module I BASIC PRINCIPLES OF PHARMACOLOGY	The study of educational material for primary and secondary literature, lecture material. Preparation of a report with a presentation on "Pharmacokynetics".	Discussion LMS Moodle
2	Module II AUTONOMIC DRUGS	Preparation of a report with a presentation on "Adrenoblocking agents"	Discussion LMS Moodle
3	Module III DRUGS USED TO TREAT INFLAMMATION	Preparation of a report with a presentation on "*D*isease-modifying antirheumatic drugs "	Discussion LMS Moodle
4	Module IV DRUGS THAT ACT IN THE CENTRAL NERVOUS SYSTEM	Preparation of a report with a presentation on " Pharmacologic management of parkinsonism"	Discussion LMS Moodle
5	Module V CARDIOVASCULAR-RENAL DRUGS	Preparation of a report with a presentation on " Agents used in hyperlipidemia"	Discussion LMS Moodle
6	Module VI DRUGS USED TO TREAT DISEASES OF THE BLOOD	Preparation of a report with a presentation on " Hematopoietic growth factors"	Discussion LMS Moodle
7	Module VII ENDOCRINE DRUGS	Preparation of a report with a presentation on	Discussion

		"Adrenocorticosteroids and adrenocortical antagonists"	LMS Moodle
8	Module VIII CHEMOTHERAPEUTIC DRUGS	Preparation of a report with a presentation on "Sulfonamides"	Discussion LMS Moodle

8. Forms of control

8.1. Forms of current control

- Oral: recitation on topic sesions, interview, assessment of the report, analysis of multimedia presentations and slideshows;
- Written: test control on paper, essays, summaries, writing abstracts on the topics of missed practical lessons, solving clinical case studies, verification of educational histories.

A 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'.

8.2. Forms of interim attestation: the intermediate pass/fail test with the evaluation "passed" in the discipline, which goes to the next semester, at the end of the lecture and practical cycles of the semester.

Stages of pass/fail test

1. Stage – Prescribtion of the drugs;
2. Stage - The test control;
3. Stage – Interview

Stages of examination

1. Stage - control of knowledge - testing;
2. Stage - demonstration of practical skills (Prescribtion of the drugs);
3. Stage - interview on the ticket and the decision

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'.

9. Library and information materials of the course

9.1. Compulsory literature

1. Tripathi KD. Essentials of Medical Pharmacology [Text] / K. D. Tripathi. - 7th ed. - New Delhi ; London ; Philadelphia : Jaypee brothers medical publishers (P) LTD, 2013. - 1002 p. : ил. - Index: p. 977-1002. - ISBN 978-93-5025-937-5 (в пер.)

2. Kharkevitch D. A. Pharmacology [Электронный ресурс] / D. A. Kharkevitch . - 2-е изд., испр. и доп. - М. : GEOTAR-Media, 2017. - 680 p. - URL: http://www.studentlibrary.ru/book/ISBN9785970438831.html

3. Luellmann H. Color Atlas of Pharmacology. [Электронный ресурс] / H. Luellmann, K. Mohr, L. Hein. - 5th ed. - [Б. м.] : Thieme, 2017. - URL: https://medone-education.thieme.com/ebooks/2129838?fromSearch=true#/ebook_2129838_SL81461794

4. Simmons M. Pharmacology-An Illustrated Review. [Электронный ресурс] / M. Simmons. - 1st ed. - [Б. м.] : Thieme, 2011. - URL: https://medone-education.thieme.com/ebooks/2146880?fromSearch=true#/ebook_2146880_SL81922334

5. Simmons M. Pharmacology: An Essential Textbook[Электронный ресурс]/ M. Simmons. -2st ed.: Thieme, 2020. – URL: https://medone-education.thieme.com/ebooks/cs_13052599#/ebook_cs_13052599_cs29

6. Reichl F. Illustrated Handbook of Toxicology. [Электронный ресурс] / F. Reichl, L. Ritter. - 1st ed. - [Б. м.] : Thieme, 2010. - URL: https://medone-education.thieme.com/ebooks/2122982?fromSearch=true#/ebook_2122982_SL81315095

7. Pharmacology. Illustrated textbook [Электронный ресурс]/ ed. R. N. Alyautdin. -Moscow: GEOTAR-Media, 2020. -312 c.- URL: https://www.studentlibrary.ru/ru/book/ISBN9785970456651.html

9.2. Supplementary literature

1. Babbini M. Pharmacology Test Prep. 1500 USMLE-Style Questions & Answers. [Электронный ресурс] / M. Babbini, M. Thomas. - 1st ed. - [Б. м.] : Thieme, 2014. - URL: https://medone-education.thieme.com/ebooks/2135012?fromSearch=true#/ebook_2135012_SL81653618

2. Reichl F. Illustrated Handbook of Toxicology. [Электронный ресурс] / F. Reichl L. Ritter. - 1st ed. - [Б. м.] : Thieme, 2010. - URL: https://medone-education.thieme.com/ebooks/2122982?fromSearch=true#/ebook_2122982_SL81315095

3. Венгеровский Александр Исаакович. Фармакология. Курс лекций [Электронный ресурс] : учеб. пособие / А. И. Венгеровский. - 4-е изд., перераб. и доп. - Москва : ГЭОТАР-Медиа, 2015. - 736 с. - URL: http://www.studentlibrary.ru/book/ISBN9785970433225.html

4. Фармакология [Электронный ресурс] : учебник / ред. Р. Н. Аляутдин. - 5-е изд., перераб. и доп. - Москва : ГЭОТАР-Медиа, 2016. - 1104 с. - URL: http://www.studmedlib.ru/book/ISBN9785970437339.html

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

1) http://grls.rosminzdrav.ru/default.aspx

2) http://www.roszdravnadzor.ru/drugs/monitpringlp?from_subheader_menu=1

3) http://www.roszdravnadzor.ru/drugs/qualitycontrol?from_subheader_menu=1

4) http://www.roszdravnadzor.ru/drugs/monitoringzhnvlp?from_subheader_menu=1

5) http://www.roszdravnadzor.ru/medactivities/statecontrol/standards?from_subheader_menu=1

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

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

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа № 2102 имени Н.П. Бычихина административный учебный корпус, 1 этаж *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* проектор, моноблок, экран, колонки *в) перечень учебно-наглядных пособий:*	163000, г. Архангельск, просп. Троицкий, д. 51

таблицы, схемы *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 1349 главный учебный корпус, 3 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 31 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины. Схемы по темам занятий, доска информационная. *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение№1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 1314 главный учебный корпус, 3 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 23 места. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины. Схемы по темам занятий, доска информационная. *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 1344а главный учебный корпус, 3 этаж *а) перечень основного оборудования:*	163000, г. Архангельск, просп. Троицкий, д. 51

Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 21 место. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины. Схемы по темам занятий, доска д/фломастеров, доска информационная *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	

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 26th2020

SYLLABUSOF THE DISCIPLINE

Discipline**Intensive Care**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI/ 11**
Form of the interim assessment**Credit**
Department**of Anesthesiology and Intensive Care**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No.
June 12th2020
Head of the department
M.Y. Kirov

Author and compiler:
Smetkin Alexey Anatolievich, Assistant Professor of the Department of Anesthesiology and Intensive Care, Candidate of Medical Sciences

Arkhangelsk, 2020

1. Purpose and objectives of the course

Goal of the discipline	The goal of the discipline is to develop knowledge and skills on the prevention, diagnosis and provision of the first and qualified medical care to patients who are in critical conditions and provision of the perioperative patient protection.
Tasks of the discipline	-to update knowledge of pathogenesis of critical diseases and homeostatic irregularities related to surgery; - to get knowledge of modern methods of prophylaxis of critical illness; - to acquire knowledge of modern methods (clinical, laboratory and instrumental) for diagnosis of critical diseases; - to demonstrate skills to deliver the first aid and advanced medical care during critical illness by means of new drugs and equipment; - to get updated knowledge of modern drugs and equipment used for prophylaxis and treatment of homeostatic abnormalities during surgery.

2. Location of the course within the educational program (EP)
Block 1. Variative part. Elective disciplines.

Anesthesiologyand intensive care medicine is the part of professional rotations. In order to understand the principles of current subject, the student should have thorough knowledge of human anatomy, normal and pathological physiology, histology and pathological anatomy. The knowledge and skills acquired during this subject are required to understand other professional rotations like surgery, medicine and infection diseases and etc.

3. The list of planned learning outcomes on the discipline, correlated with the results of the planned development of an educational program
Competences formed as a result of the course mastering:

Codes of developed competences	**Competences**		
	Know	**Be able to (can)**	**Master (be a master in)**
PC -№	**Professional competences**		
PC-1 the ability and readiness to implement a set of measures aimed at maintaining and strengthening health and including the formation of a healthy lifestyle,	The methods to protect the patient from surgical stress.	Prophylaxis of complications related to surgery and anesthesia Prophylaxis, recognition of sudden cardiac arrest and protocols of cardiopulmonary resuscitation (basic and advanced life support	Post cardiopulmonary resuscitation care

preventing the occurrence and spread of diseases, their early diagnosis, identifying the causes and conditions of their occurrence and development, as well as aimed at eliminating harmful the impact of environmental factors on human health			

4. Volume of the course and types of academic work:

Total workload of the course is **3**credits.

	Type of the academic work	**Total hours**	**Term**
Discipline workload (in academic hours)	Lectures (L)		
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	54	11
	Laboratory-based practicals (LBP)		
	Simulation-based practicals(SBP)		
	Preparation for the examination (PE)		
	Preparation for the credit (PC)		
	Exam consultations (EC)		
	Coursework (CW)		
	Unsupervised work (UW) (total)	54	11
	Examination control (EC)		
	Total course workload	**108**	**11**

5. Course content:

5.1. Content of the course sections

No	**Name of the course section**	**Content of the section**
1	Anesthesiology	In this section following topicsare discussed: - The methods to protect the patient from surgical stress. - Prophylaxis of complications related to surgery and anesthesia.
2	Resuscitation	In this section following topics are discussed: - Prophylaxis, recognition of sudden cardiac arrest and protocols of cardiopulmonary resuscitation (basic and advanced life support) - Post cardiopulmonary resuscitation care.
3	Intensive care	In this section following topics are discussed: Prophylaxis, diagnosis and treatment of critical conditions.

5.2. Course sections and types of studies

No	Name of the course section	L	P	S	LBP	CP	Self-studies	Total hours
1	Anesthesiology					20	6	26
2	Resuscitation					5		5
3	Intensive care					25	16	41

6. Interactive forms of studies

No	Name of the course section	Interactive forms of studies	Duration (hours)
1	Anesthesiology	Simulation, role-playing games,discussion of clinical cases (in Moodle)	4
2	Resuscitation	Simulation, role-playinggames.	2
3	Intensive care	Simulation,role-playing games, discussion of specific situations (in Moodle)	6
Total (hours)			12
Total (% of in-class learning)			24

7. Extracurricular self-studies of students

No	Name of the course section	Types of self-studies	Forms of control
1	Anesthesiology	Reading recommended literature, Solving tasks on computer	PowerPoint presentation, Discussion
2	Resuscitation	Doing homework and prepare for class, Reading recommended literature, Solving tasks on computer.	PowerPoint presentation, Discussion Solving MCQs.
3	Intensive care medicine	Doing homework and prepare for class, Reading recommended literature, Solving tasks on computer.	PowerPoint presentation, Discussion Solving MCQs.

8. Forms of control

8.1. Current forms of control
- Oral (discussion, presentation)
- Written (MCQs, PowerPoint Presentation, Solving clinical cases)

8.2. Forms of interim attestation – Not applicable

9. Maintenance of the course

9.1. Compulsory course literature

1. Основы интенсивной терапии и анестезиологии в схемах и таблицах [Электронный ресурс] : учебное пособие / М. Ю. Киров [и др.] ; [ред.: М. Ю. Киров, В. В. Кузьков]. – Архангельск : Изд-во Северного государственного медицинского университета, 2018. – 256 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/%D0%9E-75-310174

2. Учайкин В.Ф. Неотложные состояния в педиатрии [Электронный ресурс]: практическое руководство/ В. Ф. Учайкин, В. П. Молочный. -М.: ГЭОТАР-Медиа, 2013. -256 с. – Режим доступа: http://www.studentlibrary.ru/book/ISBN9785970427392.html

9.2. Supplementarycourseliterature

1. Анестезиология и интенсивная терапия [Электронный ресурс] : практ. Рук./ под ред. Б. Р. Гельфанда. -2-е изд., испр. И доп.. -Москва: Литтерра, 2012. -640 с. – Режим доступа: http://www.studentlibrary.ru/book/ISBN9785423500467.html

2. Анестезиология, реаниматология и интенсивная терапия у детей [Электронный ресурс] : учеб. Для мед. Вузов/ под ред. С. М. Степаненко. -Москва: ГЭОТАР-Медиа, 2016. -235 с.: ил. – Режим доступа: http://www.studentlibrary.ru/book/ISBN9785970439371.html

3. Алгоритмы действий при критических состояниях в анестезиологии WFSA [Электронный ресурс] : научное издание / Под ред. Э. В. Недашковского, В. В. Кузькова. – 2-е изд., перераб. И доп. – Архангельск : Северодвинская типография, 2014. – 120 с. – URL: http://oa.lib.nsmu.ru/view_docs.php?id_doc=421

4. Тараканов А.В. Лекарственные препараты для оказания скорой медицинской помощи [Электронный ресурс]/ А. В. Тараканов. -Москва: ГЭОТАР-Медиа, 2014 – Режим доступа: http://www.studentlibrary.ru/book/06-COS-2393.html

9.3. Software and Internet resources

http://www.critical.ru/
http://www.medmir.com/
http://www.far.org.ru/
http://www.anesth.ru/
http://rusanesth.com/
http://arsgmu.ru/

9.4. The list of information technologies used for the implementation of the educational process on discipline, including software reference list and information systems

- educational video on the manipulation of emergency and intensive care, developed by New England Journal of Medicine;
- videos presented at the YouTube information resource, demonstrating the assistance in case of emergency.

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 43, 2 этаж	163001 Архангельская область г. Архангельск, пр. Троицкий, д. 143 корп. 1

Договор № 710 от 26.09.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Первая городская клиническая больница им. Е.Е. Волосевич». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *А) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *Б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, манекен «взрослый» для отработки основных приемов базовой реанимационной помощи, набор интубационных трубок с проводниками, ларингоскоп с набором клинков *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номерлицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Симуляционный класс № 412 учебный корпус, 4 этаж: Кабинет основ реаниматологии для отработки навыков. *Перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, кровати функциональные кфз-01-мск, кушетка медицинская, столик туалетно-пеленальный разборный стпр510м-«мск», стул, робот-симулятор vi уровня реалистичности, робот-симулятор взрослого для оказания неотложной помощи, с комплектом(ноутбук и имитатор прикроватного монитора), фантом головы»лари» для интубации на подставке, фантом головы для отработки интубации, на подставке , фантом головы и плеч ребёнка для отработки навыков интубации до 6лет, набор д/интубации kawe	163001, г. Архангельск, просп. Троицкий, д. 180
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 411 учебный корпус, 4 этаж (кабинет для дебрифинга) *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 16 мест. *Б) наборы демонстрационного оборудования* ноутбук, проектор, телевизор, доска маркерная *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины	163001, г. Архангельск, просп. Троицкий, д. 180

г) используемое программное обеспечение: KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номерлицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	

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 26th2020

SYLLABUS OF THE DISCIPLINE

Discipline**Current Problems in Gynecology**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI/ 11**
Form of the interim assessment **Credit**
Department **of Obstetrics and Gynecology**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No.
June 24th2020
Head of the department
A.N. Baranov

Authors and compilers:
Istomina Natalya Georgievna, Associate Professor of the Department of Obstetrics and Gynecology, Candidate of Medical Sciences; Usynin Maxim Vadimovich, Associate Professor of the Department of Obstetrics and Gynecology, Candidate of Medical Sciences

Arkhangelsk, 2020

1. Goal and tasks of the mastering of the course

Goal of the discipline	The goal of the discipline is to get additional knowledge about female reproductive health physiology in different age periods and main gynecological diseases in order to be able provide diagnosis and primary emergency care for a gynecological patient.
Tasks of the discipline	- to consolidate and get additional knowledge in gynecological care organization principles; - to consolidate and get additional knowledge in general principles of gynecological examination; - to get and to analyze the data on patient medical history and specific functions of the female organism; - to train in history-taking, examination of gynecological patients on the basis of ethics and deontology, depending on the diagnosed pathology and special features of patients; - to consolidate and get additional knowledge on physiology and pathology of menstrual function; - to organize proper epidemiological environment; - to consolidate and get additional knowledge on the most common gynecological diseases, their epidemiology, risk factors, classification, clinical signs and diagnostic methods, prevention methods, impact on reproductive abilities of the female patient; - to master the principles and methods of primary emergency care in severe gynecological cases; - to consolidate and get additional knowledge on methods of contraception and family planning; - to consolidate and get additional knowledge on the principles of treatment and rehabilitation of a gynecological patient; - to train students how to make medical documentation filling-in (stationary or outpatient case history, disability certificates, statistical charts); - to provide regular medical check-up of children of different ages in order to prevent severe diseases and their complications; - to support healthy lifestyle in families; - to assess the efficiency of medical service.

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

The program is developed following the requirements of Federal State Education Standard

(FSES) for higher education in the field of 31.05.01«General medicine».

Block 1. Variative part. Elective disciplines.

For the mastering of Obstetrics and Gynecology knowledge in the following disciplines is required:

- Human, social and economic cycle (the Latin language, foreign language, pedagogy and psychology, public health, health-care organization, health economics);
- Mathematics and Natural sciences cycle (Biology, Anatomy, Biochemistry, Anatomy, Normal physiology, Microbiology, Immunology, Pathological physiology, Pathological anatomy, Hygiene and ecology, Introduction to the internal diseases, General surgery and Topographical Anatomy, Radiology, Medical rehabilitation, Infectious diseases, Perinatology and Neonatology, Genetics, Intensive care, Phthisiatry, Clinical pharmacology).

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

Codes of the formed competences	**Competences**		
	a student has knowledge of	**a student is able to**	**a student masters**
	Professional competences		
PC-1 ability and readiness to implement a set of measures to preserve and promote health, including healthy lifestyle, prevent the onset and/or spread of diseases, their early detection, identification of causes and circumstances of their emergence and development, as well as measures to eliminate harmful effects of environmental factors on human health	Definitions, Epidemiology, Etiology, Pathogenesis, Classification, Symptoms. Methods of Diagnostics.	Treatment. Prevention. Rehabilitation of reproductive function	The concept of family planning. Methods of contraception.

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

Total workload of the course is**3** credits.

Discipline workload (in academic hours)	**Type of the academic work**	**Total hours**	**Term**
	Lectures (L)		
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinicalpracticals(CP)	54	11

	Laboratory-based practicals (LBP)		
	Simulation-based practicals(SBP)		
	Preparation for the examination (PE)		
	Preparation for the credit (PC)		
	Exam consultations (EC)		
	Coursework (CW)		
	Unsupervised work (UW) (total)	54	11
	Examination control (EC)		
	Total course workload	**108**	**11**

5. Contents of the course:

5.1. Contents of the sections of the course

No	Name of the course section	Contentofthesection
1	2	3
1	Abnormal Uterine Bleeding. Dysfunctional Uterine Bleeding (DUB). Endometrial Hyperplasia.	Definitions, Epidemiology, Etiology, Pathogenesis, Classification, Symptoms. Methods of Diagnostics. Treatment. Prevention. Rehabilitation of reproductive function.
2	UterineFibroid (Leyomyoma).	Definitions, Epidemiology, Etiology, Pathogenesis, Classification, Symptoms. Methods of Diagnostics. Treatment. Prevention. Rehabilitation of reproductive function.
3	Gynecological Oncology (Malignant Tumors of Uterine Cervix, Uterine Corpus, Ovaries and Fallopian Tubes)	Epidemiology of Female Reproductive Organs Malignant Tumors, Socio-Medical Significance. Cervical Cancer: Epidemiology, Etiology&Pathogenesis, Risk Factors, Classifications, Pre-Cancerous Conditions, Clinical Signs, Methods of Diagnostics, Differential Diagnostics,Staging, Methods of Treatment, Recurrence and Survival Rates, Prevention. Uterine Corpus Carcinoma: Epidemiology, Etiology&Pathogenesis, Risk Factors, Classifications, Pre-Cancerous Conditions, Clinical Signs, Methods of Diagnostics, Differential Diagnostics,Staging, Methods of Treatment, Recurrence and Survival Rates, Prevention. Ovarian and Fallopian Tubes Cancer: Epidemiology, Etiology&Pathogenesis, Risk Factors, Classifications, Pre-Cancerous Conditions, Clinical Signs, Methods of Diagnostics, Differential Diagnostics,Staging, Methods of

		Treatment, Recurrence and Survival Rates, Prevention.
4	Endometriosis. Adenomyosis.	Definitions, Epidemiology, Etiology, Pathogenesis, Classification, Symptoms. Methods of Diagnostics. Treatment. Prevention. Rehabilitationofreproductivefunction.
5	Pelvic Floor Disorders. Pelvic Organ Prolapse. Urinary Incontinence in Women.	The Subject of Perineology Science. Pelvic Organ Prolapse: Definitions, Epidemiology, Etiology&Pathogenesis, Classification, Symptoms. Methods of Diagnostics. Treatment. Prevention. Urinary Incontinence in Women: Definitions, Epidemiology, Etiology & Pathogenesis, Classification, Symptoms. Methods of Diagnostics. Treatment. Prevention.
6	Physiology and Pathology of Climacteric Period.	Definitions, Epidemiology, Etiology and Pathogenesis of Climacteric Disorders, Classification of Menopausal Disorders, Symptoms. Methods of Diagnostics. Treatment. Menopausal Replacement Therapy (MRT), Indications, Pre-Prescription Investigations, Contraindications, Additional Benefits of MRT. Life-style Modification, Non-Hormonal Treatment of Menopausal Disorders. Prevention.
7	Neuro-Endocrine Disorders in Gynecology:Polycystic Ovary Syndrome (PCOS), Premature Ovarian Insufficiency (POI), Hyperprolactinemia.	PCOS: Definitions, Epidemiology, Etiology, Pathogenesis, Classification, Symptoms. Methods of Diagnostics. Treatment. Prevention. Rehabilitation of reproductive function. POI: Definitions, Epidemiology, Etiology, Pathogenesis, Classification, Symptoms. Methods of Diagnostics. Treatment. Menopausal Replacement Therapy (MRT), Indications, Pre-Prescription Investigations, Contraindications, Additional Benefits of MRT. Life-style Modification, Non-Hormonal Treatment of Menopausal Disorders.Prevention. Rehabilitation of reproductive function. Hyperprolactinemia: Definitions, Epidemiology, Etiology, Pathogenesis, Classification, Symptoms. Methods of Diagnostics. Treatment. Prevention. Rehabilitation of reproductive function.
8	Pediatric, Adolescent, & Young Adult Gynecology. Juvenile Abnormal Uterine Bleeding. Disorders of Puberty.	Physiology of Puberty. Juvenile Abnormal Uterine Bleeding:Definitions, Epidemiology, Etiology, Pathogenesis, Classification,

		Symptoms. Methods of Diagnostics. Treatment. Prevention. Rehabilitation of reproductive function.Disorders of Puberty(Delayed and Premature Puberty):Definitions, Epidemiology, Etiology, Pathogenesis, Classification, Symptoms. Methods of Diagnostics. Treatment. Prevention. Rehabilitation of reproductive function.
9	Hormonal Contraception.	The concept of family planning. Methods of contraception. History of Hormonal Contraception. Classifications. Therapeutic effects of hormonal contraceptives. Principles of contraceptive action. Pearl index. Pre-Prescription Investigations. Contraindications in different age-groups. Non-contraceptive benefits.
10	Artificial Abortion.	Definitions. Epidemiology.Legislation on Abortion in Russia and Other Countries. Methods of Termination of Pregnancy. Pre-Abortion Investigations. Indications and Contraindications. Complications and Prevention of Complications. Long-Term Sequela.

5.2. Course sections and types of studies

No	Name of the course section	L	P	S	LBP	CP	Self-studies	Totalhours
1	2	3	4	5	6	7	8	9
1.	Abnormal Uterine Bleeding. Dysfunctional Uterine Bleeding (DUB). Endometrial Hyperplasia.		5				6	
2.	UterineFibroid (Leyomyoma).		6				6	
3.	Gynecological Oncology (Malignant Tumors of Uterine Cervix, Uterine Corpus, Ovaries and Fallopian Tubes)		6				6	
4.	Endometriosis. Adenomyosis.		6				6	
5	Pelvic Floor Disorders. Pelvic Organ Prolapse. Urinary Incontinence in Women.		5				5	
6	Physiology and Pathology of Climacteric Period.		5				5	
7	Neuro-Endocrine Disorders in Gynecology:Polycystic Ovary Syndrome (PCOS), Premature Ovarian Insufficiency (POI), Hyperprolactinemia.		5				5	

8	Pediatric, Adolescent, & Young Adult Gynecology. Juvenile Abnormal Uterine Bleeding. Disorders of Puberty.		5				5	
9	Hormonal Contraception.		5				5	
10	Artificial Abortion.		5				5	7
	Total:		**54**				**54**	**108**

6.Interactive forms of studies

No	Name of the course section	Interactive forms of studies	Duration
1-3	Abnormal Uterine Bleeding. Dysfunctional Uterine Bleeding (DUB). Endometrial Hyperplasia. Endometriosis. Adenomyosis. Pelvic Floor Disorders. Pelvic Organ Prolapse. Urinary Incontinence in Women.	Interactive testing (in Moodle)	5
6	Gynecological Oncology (Malignant Tumors of Uterine Cervix, Uterine Corpus, Ovaries and Fallopian Tubes)	Case-learning in small groups	5
10	Contraception	Short presentations and discussion in groups	5
		Total (hours)	15
		Total (% of in-class learning)	30

7. Extracurricular self-studies of students

No	Name of the course section	Typesofself-studies	Formsofcontrol
1.	Abnormal Uterine Bleeding. Dysfunctional Uterine Bleeding (DUB). Endometrial Hyperplasia.	Essay	Oral
2.	UterineFibroid (Leyomyoma).	Report	Oral
3.	Gynecological Oncology (Malignant Tumors of Uterine Cervix, Uterine Corpus, Ovaries and Fallopian Tubes)	Report	Oral
4.	Endometriosis. Adenomyosis.	Control test	Written
5.	Pelvic Floor Disorders. Pelvic Organ Prolapse. Urinary Incontinence in Women.	Control test	Written
6.	Physiology and Pathology of Climacteric Period.	Report	Oral
7.	Neuro-Endocrine Disorders in Gynecology:Polycystic Ovary Syndrome (PCOS), Premature Ovarian Insufficiency (POI),	Report	Oral

	Hyperprolactinemia.		
8.	Pediatric, Adolescent, & Young Adult Gynecology. Juvenile Abnormal Uterine Bleeding. Disorders of Puberty.	Essay	Oral
9.	Hormonal Contraception.	Report	Oral
10.	Artificial Abortion.	Report	Oral

8. Forms of control

8.1. Current forms of control

- oral (an interview, a credit)
- technical means (training tests, certification tests)
- written (tests, essays, abstracts, practice report).

A subject list of abstracts, reports, essays, tests, term papers, test collections and cases are shown at the section «Assessment tools».

8.2. Forms of interim attestation

Intermediate control - credit
Final control - examination

9. Library and information materials of the course

9.1. Compulsory course literature

(*available in/via the library of NSMU***)**

1. CDC Dutta's textbook of Obstetrics including Perinatology and Contraception/ Dutta D.C. - 7th ed. - 2013. - 692 p.
2. Gynaecology by Ten Teachers/ ed. Ash Monga. -18 th. ed.. -London: Edward Arnold (Publishers) Ltd, 2006. -245 p.
3. Акушерство[Электронный ресурс] : учебник/ Г. М. Савельева [и др.]. -Москва: ГЭОТАР-Медиа, 2010. -651,[1] с: ил., цв.ил. - Режим доступа: http://www.studmedlib.ru/
4. Баисова Б.И., Гинекология / Б. И. Баисова [и др.] - М. : ГЭОТАР-Медиа, 2018. - 432 с. - ISBN 978-5-9704-4309-5 - Текст : электронный // ЭБС "Консультант студента" : [сайт]. - URL : http://www.studentlibrary.ru/book/ISBN9785970443095.html
5. Gynecology [Электронный ресурс] : textbook/ ed.: V. E. Radzinskiy, A. M. Fuks. - Москва: ГЭОТАР-Медиа, 2020. -896 с.- URL: https://www.studentlibrary.ru/ru/book/ISBN9785970457993.html
6. Essentials of Clinical Examination Handbook. [Электронный ресурс]/ Y. Shi [и др.]. -8th ed.: Thieme, 2018- URL: https://medone-education.thieme.com/ebooks/2251929#/ebook_2251929_SL84831974

9.2. Supplementary course literature

(available in/via the library of NSMU)

1. Krukemeyer M. Introductory Guide to Medical Training. From Basic Sciences to Medical Specialties [Электронныйресурс]/ M. Krukemeyer. -1st ed.: Thieme, 2015 - URL: https://medone-education.thieme.com/ebooks/2093828?%20fromSearch=true#/ebook_2093828_SL80527499
2. Block B. Color Atlas of Ultrasound Anatomy. [Электронный ресурс]/ B. Block. -2nd ed.: Thieme, 2011 - URL: https://medone-

education.thieme.com/ebooks/1403673#/ebook_1403673_SL59557355
3. Радзинский В.Е., Гинекология / под ред. В.Е. Радзинского, А. М. Фукса - М. : ГЭОТАР-Медиа, 2016. - 1000 с. - ISBN 978-5-9704-4249-4 - Текст : электронный // ЭБС "Консультант студента" : [сайт]. - URL : http://www.studentlibrary.ru/book/ISBN9785970442494.html
4. Радзинский В.Е., Руководство по амбулаторно-поликлинической помощи в акушерстве и гинекологии / под ред. В. Е. Радзинского. - 2-е изд., перераб. и доп. - М. : ГЭОТАР-Медиа, 2014. - 944 с. - ISBN 978-5-9704-2896-2 - Текст : электронный // ЭБС "Консультант студента" : [сайт]. - URL : http://www.studentlibrary.ru/book/ISBN9785970428962.html
5. Кира Е.Ф., Thebasicquestionsofoncogynecology Основные вопросы онкогинекологии : учебник на английском и русском языках / Кира Е.Ф. [и др.]. - М. : ГЭОТАР-Медиа, 2018. - 288 с. - ISBN 978-5-9704-4565-5 - Текст : электронный // ЭБС "Консультант студента" : [сайт]. - URL : https://www.studentlibrary.ru/book/ISBN9785970445655.html
6. Obstetrics [Электронный ресурс] : учебное пособие/ ред.: В. Е. Радзинский, А. М. Фукс, Ч. Г. Гагаев. -Москва: ГЭОТАР-Медиа, 2019- URL: http://www.studentlibrary.ru/book/ISBN9785970446836.html

9.3. List of Internet resources required for mastering of the discipline (module)

1. WHO official site for maternal and perinatal health: http://www.who.int/reproductivehealth/publications/maternal_perinatal_health/en/
2. CochraneSummaries: http://www.cochrane.org/evidence
3. The Royal College of Obstetricians and Gynaecologists (RCOG) official site: https://www.rcog.org.uk/guidelines
4. Society of Obstetricians and Gynaecologists of Canada (SOGC) official site: http://sogc.org/clinical-practice-guidelines/
5. American College of Obstetricians and Gynecologists (ACOG) official site: http://www.acog.org/
6. The International Federation of Gynecology and Obstetrics (FIGO) official site: http://www.figo.org/publications-resources
7. Centers for disease control and prevention (CDC): http://www.cdc.gov/

9.4. List of the information technologies used in the educational process of the course (module)
- software: certified, license programs of general and educational assignment, information & reference systems – Garant, Consultant and etc.

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций,	163045 Архангельская область г. Архангельск, пр. Ломоносова, д. 292

текущего контроля и промежуточной аттестации № 26, 1 этаж акушерско-гинекологический корпус Договор № 550 от 05.07.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская областная клиническая больница». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. Наглядные пособия, раздаточный материал к практическим *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* занятиям по всем темам дисциплины, муляжи, табличные и справочные материалы, тонометр GammaG7, стетоскоп, фонендоскоп, термометры, весы электронные, ростомер, муляж гинекологический *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номерлицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Симуляционный класс № 426 учебный корпус, 4 этаж: родильный зал для отработки навыков. *перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, столик манипуляционный МСК-549-02-МСК, кровать для родовспоможения с матрацом, ширма, шкаф, система реанимационная открытая для ухода за новорожденными Ampla 2085, модель таза женщины для демонстрации движения плода на подставке, расширенная версия гинекологического фантома родов, робот-симулятор для отработки навыков родовспоможения женщине "Люсина", монитор фетальный Овертон 6900, система "ВиртуЭЛЬ" для отработки навыков родовспоможения и оказания приемов неотложной помощи в акушерской практике, модель демонстрации родового канала женщины на подставке, симулятор гибридный для обучения бимануальному гинекологическому исследованию, фантом гинекологический, манекен "ВиртуБОРН" новорожденного для отработки расширенных лечебно-реанимационных действий в неонатологии,полная комплектация с ЭКГ	163001, г. Архангельск, просп. Троицкий, д. 180
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 425 учебный корпус, 4 этаж (кабинет для дебрифинга) *а) перечень основного оборудования:*	163001, г. Архангельск, просп. Троицкий, д. 180

Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 12 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор, телевизор, маркерная доска *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номерлицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	

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 26th 2020

SYLLABUS OF THE DISCIPLINE

Discipline **Human Ecology**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI / 11**
Form of the interim assessment **Credit**
Department **of Hygiene and Medical Ecology**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No.
June 11th 2020
Head of the department

A.B. Gudkov

Authors and compilers:
Fedotov Denis Mikhailovich, Vice-Dean of the Faculty of Preventive Medicine and Medical Biochemistry, Associate Professor of the Department of the Hygiene and Medical Ecology, Candidate of Medical Sciences; Smolina Viktoria Sergeevna, Associate Professor of the Department of the Hygiene and Medical Ecology, Candidate of Medical Sciences

Arkhangelsk, 2020

1. Goal and tasks of the mastering of the course

Goal of the discipline	The goal of the discipline is to form students' ecological mentality and the ability of appreciating their professional activities for the biosphere security.
Tasks of the discipline	- to form a thorough knowledge in the super system "MEBE": "A Man - Economics - Biota - Environment"; - to acquaint students with global ecologic problems and prognosis of mankind's development in connection with the today's ecological crisis; - to master the work with normative legislative documents on nature security.

2. 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: 31.05.01 General Medicine.

Block 1. Variative part. Elective disciplines.

The program is a part of the Professional cycle Variable part and is compulsory for the studying. This course is based on the basic knowledge of biology, chemistry, physiology, biochemistry, hygiene.

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

Codes of the formed competences	**Competences**		
	a student has knowledge of	**a student is able to**	**a student masters**
PC –No.	**Professional competences**		
PC-1	- main concepts and laws of general ecology; - ecologic factors , their influence on the environment ; - kinds of natural resources, peculiarities of resource nature management , the environment security; - man-made pollution of natural environment (atmosphere, hydrosphere and lithosphere).	- properly analyze and evaluate the ecologic situation in the world and in Russia; - identify risk factors for the main human diseases, connected with the environment pollution.	- skills in working with regulatory documents in the field of ecology

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

Total workload of the course is **3** credits.

	Type of the academic work	**Total hours**	**Term**
Discipline workload (in academic hours)	Lectures (L)		
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	54	11
	Laboratory-based practicals (LBP)		
	Simulation-based practicals (SBP)		
	Preparation for the examination (PE)		
	Preparation for the credit (PC)		
	Exam consultations (EC)		
	Coursework (CW)		
	Unsupervised work (UW) (total)	54	11
	Examination control (EC)		
	Total course workload	**108**	**11**

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	Conceptual basics of Human ecology	Topic 1. Ecology as a field of scientific. knowledge. The basic concepts of human ecology. Ecosystem is the main functional unit of ecology. Topic 2. V.I. Vernadsky's doctrine of biosphere and nooshere.
2	The main kinds of anthropogenic influence on biosphere.	Topic 3. The main pollution sources of the natural environment. Physical pollution of the environment. Topic 4. Biological, radioactive and chemical pollution of the environment.
3	Basics of the environment protection.	Topic 5. Anthropogenious influence on atmosphere. Atmosphere protection. Topic 6. Anthropogenious influence on hydrosphere. Hydrosphere protection. Topic 7. Anthropogenious influence on lithosphere. Lithosphere protection. Topic 8. Anthropogenious influence on the biota. The biota protection. Topic 9. Ecological projects. Topic 10. Credit test.

5.2. Sections and types of studies

No.	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
1	Conceptual basics of ecology			10				4	14
2	The main kinds of anthropogenic influence on biosphere.			10				4	14
3	Basics of the environment protection.			30				14	44

6. Interactive forms of studies

No.	Name of the course section	Interactive forms of studies	Duration (hours)
1	Conceptual basics of Human ecology.	training «The main concepts of Human ecology. Ecosystem as the main functional unit in Ecology».	2
2	The main kinds of anthropogenious influence on biosphere.	- Role-playing game «The main sources of environment polluction»)	4
		Total (hours)	6
		Total (% of the class activities)	8.3

7. 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	The main kinds of anthropologic influence on the biosphere.	Write report's on the topics: 1. « The influence of the environmental state on people's health». 2. «The Chernobyl APS accident (1986)».	Oral interview.

8. Forms of control

8.1. Current forms of control

- oral (an interview, report's)
- written (test)

A theme list of reports and test collections are shown at the section 'Evaluation tools'.

8.2. Forms of the interim assessment - pass/fail test

Stages of the interim assessment

1. Stage 1- the multiple choice format of test
2. Stage 2 - practical part: ecological project

Questions for a pass/fail test, topics of ecological project are shown at the section 'Set of the evaluation tools for the current control and interim assessment of students'.

9. Library and information materials of the course

9.1. Compulsory literature

1. Raitskaya L.K., English. A Course of Ecology English: Level B2: Textbook allowance for ecology / Raitskaya L.K. - M.: MGIMO, 2016. - 222 ISBN 978-5-9228-1562-8 - Text: electronic // ELS "Student Consultant": [site]. - URL: http://www.studentlibrary.ru/book/ISBN9785922815628.html

9.2. Supplementary literature

1. Pivovarov Y. P. et al. Short textbook of Hygiene and ecology : For foreign students / Y. P. Pivovarov, A. A. Al-Sabounchi ; Russian state medical university. Departament of hygiene and basis of man ecology. - 3rd ed. - M : IKAR Publisher, 2006. - 343,[1] p. : il. - References: p.343. - ISBN 5-7974-0053-7
2. Экология человека [Электронный ресурс] : учеб. для вузов/ А.И. Григорьев [и др.] ; под ред. А.И. Григорьева. -Москва: ГЭОТАР-Медиа, 2016. -240 с.- URL: http://www.studentlibrary.ru/book/ISBN9785970437476.html

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

http://www.ncbi.nlm.nih.gov/omin
http://www.elibrery.ru

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

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа №2403 Морской медицины, административный учебный корпус, 4 этаж *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, экран *в) перечень учебно-наглядных пособий:* схемы, таблицы *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51

Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 1308, 3 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 25 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплин, схемы по темам занятий, анализатор углекислого газа, барометр-анероид, шумомер портативный, высокоточечный термометр с черной сферой *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 1357, главный учебный корпус, 3 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 19 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины,схемы по темам занятий, дозиметр-радиометр, измеритель вибрации. *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51

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 26th 2020

SYLLABUS OF THE DISCIPLINE

Discipline **Health Promotion**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI / 11**
Form of the interim assessment **Credit**
Department **of Public Health, Healthcare and Social Work**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No.
June 21th 2020
Head of the department
E.A. Mordovsky

Author and compiler:
Varakina Zhanna Leonidovna, Dean of the Faculty of General Medicine, Associate Professor of the Department of Public Health, Healthcare and Social Work, Doctor of Medical Sciences;
Postoev Vitaly Alexandrovich, Vice-Dean of the International Faculty of General Practitioner, Head of Arkhangelsk International School of Public Health, Assistant Professor of the Department of Public Health, Healthcare and Social Work

Arkhangelsk, 2020

1. Goal and tasks of the mastering of the course

Goal of the discipline	preparation of students to the practical work in the areas of evidence-based health promotion and disease prevention in different populations.
Tasks of the discipline	1. providing knowledge on theoretical models, methods and principles of health monitoring and promotion. 2. providing ability to organize and carry out an assessment of the populational health, planning and implementation of the measures for its improvement. 3. formation of the skills in the field of planning and practical implementation of medical and social programs in the field of disease prevention and health promotion.

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

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

This discipline refers to the Unit I, variable part ("Disciplines") of the Study Unit, it is an elective discipline.

Previous courses: Public health, health care, health economics.

Subsequent courses: Evidence-based medicine

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

Codes of formed competences	**Competences**		
competences	**a student has knowledge of**	**a student is able to**	**a student masters**
PC-1 ability and readiness to implement a set of measures to preserve and promote health, including healthy lifestyle, prevent the onset and/or spread of diseases, their early detection, identification of causes and circumstances of their emergence and development, as well as measures to eliminate harmful effects of environmental factors on human health	- health determinantis, their determination and distribution in populations - know principles and methods of health consulting	- to detect main health determinants - to apply evidence-based principles and recommendations for developing disease prevention and health promotion strategies	to use innovative strategies and technologies and manage health promotion and disease prevention projects

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

Total workload of the course is 108 hours, 3 credits.

	Type of academic work	Total hours	Term
Discipline workload (in academic hours)	Lectures (L)		
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	54	11
	Laboratory-based practicals (LBP)		
	Simulation-based practicals (SBP)		
	Preparation for the examination (PE)		
	Preparation for the credit (PC)		
	Exam consultations (EC)		
	Coursework (CW)		
	Unsupervised work (UW) (total)	54	11
	Examination control (EC)		
	Total course workload	**108**	**11**

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.	**Theory of health promotion**	Introduction to health promotion Main principles, models and theories in health promotion. Health determinants. Planning health promotion programm Role of WHO in health promotion. International documents in the field of disease prevention and health promotion. Lifestyle as a health determinant. Behavioural risk factors. Risk factors of non-communicable disease Enviromental health
2.	**Health promotion practices: programs and its applications**	Legislation in disease prevention and health promotion. Medical prevention, types of medical prevention. Medical check-ups as a method of prevention Prevention of non-communicable diseases Hralth promotion programs in children and maternal health Injury prevention and safety promotion

5.2. Course sections and types of studies

No	Name of the course section	L	P	S	LBP	CP	Self-studies	Total hours
1	2	3	4	5	6	7	8	9
1	**Theory of health promotion**			19			19	38
2	**Health promotion practices: programs and its applications**			35			35	70

Total (hours)			54			54	108

6. Interactive forms of studies

No	Name of the course section	Interactive forms of studies	Duration (hours)
1	**Theory of health promotion**	Discussions Role play	5
2	**Health promotion practices: programs and its applications**	Discussions Project presentations	10
		Total (hours)	15
		Total (% of in-class learning)	27%

7. 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 self-studies	Forms of control
1	**Theory of health promotion**	Mandatory reading Work with problem-based situations Preparation of reports and presentations	In-class discussion and their evaluation Student presentations and their evaluation Evaluation of presentations
2	**Health promotion practices: programs and its applications**	Assessment of health promotion programs Group project	Evaluation of students' assessment Ecaluation of presentation content

8. Forms of control

8.1. Current forms of control

- verball (an interview, in-class discussion)
- written (tests, assignments).

8.2. Form of interim attestation: pass/fail test

Stages of pass/fail test:

1. Stage - multiple choice test (30 multiple choice questions)
2. Stage – presentation of group project

Questions for the assignment are listed at the section 'Set of the evaluation tools for the current control and interim assessment of students'.

9. Library and information materials of the course

1. Health Promotion. Disciplines, diversity, and developments/ ed. R. Bunton, G. Macdonald. -2th. ed. -London; New York: Routledge, 2004. -325 p.

2. Nutbeam D. Theory in a Nutshell: a practical guide to health promotion theories [Текст]/ D. Nutbeam, E. Harris. -2th. ed. -Sydney: The McGraw-Hill, 2007. -81 p.

9.1. Compulsory literature

1. Planning health promotion programms: An intervention Mapping Approach [Текст]/ L. K. Bartholomew [et al.]. -2th. ed. -San Francisco: A Wiley Imprint, 2006. -767 p.

2. Russian Healthcare System in Transition [Электронный ресурс] : учеб. пособие/ L. I. Menshikova [и др.]. -Архангельск: Изд-во Северного государственного медицинского университета, 2019. -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/R95-984884.

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

1. www.pubmed.com
2. www.who.int
3. http://www.ecsocman.edu.ru/ db/msg/128181.html
4. http://www.mednet.ru/
5. http://en.unesco.org/
6. http://www.undp.org/
7. http://www.unicef.org/
8. http://www.healthpromotionjournal.com/
9. http://www.journals.elsevier.com/public-health/
10. http://lib.nsmu.ru/lib/

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

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

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа № 2102 имени Н.П.Бычихина, административный учебный корпус, 1 этаж *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* проектор, моноблок, экран, колонки *в) перечень учебно-наглядных пособий:* таблицы, стенд *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 2451, административный учебный корпус, 4 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 44 места. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины. Схемы по темам занятий *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 2442 административный учебный корпус, 4 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихсяна 30 мест.	163000, г. Архангельск, просп. Троицкий, д. 51

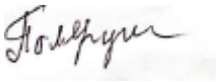
б) наборы демонстрационного оборудования ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Компьютерный класс № 2440 административный учебный корпус, 4 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 11 мест. *б) наборы демонстрационного оборудования* 12 компьютеров, принтер, мультимедийный проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51

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 26th2020

SYLLABUSOF THE DISCIPLINE

Discipline **Problems Difficult to Diagnose in Internal Medicine**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI/ 11**
Form of the interim assessment**Credit**
Department**of Hospital Internal Medicine and Endocrinology**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No.
June 20th2020
Head of the department
 N.A. Polyarush

Author and compiler:
Krivonkin Konstantin Yurievich, Associate Professor of the Department of Hospital Internal Medicine and Endocrinology, Candidate of Medical Sciences

Arkhangelsk, 2020

1. Goalsand objectives of the course

Goal of the discipline	The goal of the discipline is to teach students to provide medical care to patients with diseases of internal organs.
Tasks of the discipline	Formation of knowledge and skills on diagnostics, treatment and prevention of diseases of internal organs for medical care.

2. Location of the course within the educational program

The program has been developed following the requirements of State Education Standard for higher professional education (*ФГОС ВО, в редакции 2016 г.*) in the field of 31.05.01 'General medicine'.

Block 1. Variative part. Elective disciplines.
The discipline takes a higher undergraduate place, together with Endocrinology,Hospital Internal Medicine, andOutpatientInternal Medicine. The program relates to most academic and all clinical disciplines, including Introduction to Internal Medicine, Surgery, Obstetrics, and Faculty Internal Medicine.

3. List of planned learning outcomes of the discipline in connection to the planned outcomes at completion of the educational program

Codes of the formed competences	**Competences**		
	a student has knowledge of	**a student is able to**	**a student masters**
	Professional competences		
PC-1 ability and readiness to implement a set of measures to preserve and promote health, including healthy lifestyle, prevent the onset and/or spread of diseases, their early detection, identification of causes and circumstances	Definitions, Epidemiology, Etiology, Pathogenesis, Classification, Symptoms.	Methods of Diagnostics Treatment. Prevention.	History taking and communication with patients

of their emergence and development, as well as measures to eliminate harmful effects of environmental factors on human health			

4. Volume of the elective course and types of academic work:

Total workload of the course is **3** credits.

	Type of the academic work	**Total hours**	**Term**
Discipline workload (in academic hours)	Lectures (L)		
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	54	11
	Laboratory-based practicals (LBP)		
	Simulation-based practicals (SBP)		
	Preparation for the examination (PE)		
	Preparation for the credit (PC)		
	Exam consultations (EC)		
	Coursework (CW)		
	Unsupervised work (UW) (total)	54	11
	Examination control (EC)		
	Total course workload	**108**	**11**

5. Course content:

5.1. Contents of the elective course modules

No	Name of course module	Contents of course module
1	2	3
1	Pulmonology	Respiratory failure: types, pathophysiology, causes, management of acute respiratory failure, oxygen therapy, respiratory support (mechanical ventilation); chronic and 'acute on chronic' type II respiratory failure: pathophysiology, causes, assessment, management, respiratory support (invasive mechanical ventilation, non-invasive mechanical ventilation [NIV]), home ventilation for chronic respiratory failure. Asthma: epidemiology, pathophysiology,

		clinical features, diagnosis, management, a stepwise approach to the management, prognosis; exacerbations, pathophysiology, clinical features, diagnosis, management of mild-moderate exacerbations, management of acute severe asthma, prognosis. Chronic obstructive pulmonary disease (COPD): epidemiology, etiology, pathophysiology, clinical features, investigations, management, long-term domiciliary oxygen therapy (LTOT), surgical intervention, prognosis, BODE index; acute exacerbations, management of acute exacerbations, respiratory support (non-invasive ventilation [NIV]) in exacerbations, discharge, prognosis. Bronchiectasis: etiology, pathogenesis, pathology, clinical features, investigations, management, prognosis. Pneumonia: classifications, community-acquired pneumonia (CAP), clinical features, investigations, assessment of disease severity, the CURB-65 scoring system, management, prognosis, discharge, follow-up, prevention; complications, prevention; hospital-acquired pneumonia (HAP), etiology, clinical features, investigations, management, prevention. Suppurative pneumonia and pulmonary abscess: etiology, pathogenesis, clinical features, investigations, management. Idiopathic pulmonary fibrosis: etiology, pathology, clinical features, investigations, management. Sarcoidosis: etiology, pathology, clinical features, investigations, stages, managment. Hypersensitivity pneumonitis (extrinsic allergic alveolitis): pathogenesis and pathology, clinical features, investigations, management. Pleural effusion and empyema: etiology, clinical features, investigations, management.
2	Rheumatology	Osteoarthritis: pathogenesis, clinical features, investigations, management. Rheumatoid arthritis: classification, pathophysiology, clinical features, investigations, management. Management of musculoskeletal disorders: pharmacological options for direct symptom control, analgesia, disease-modifying antirheumatic drugs (DMARDs), biologic disease-modifying antirheumatic drugs,

		corticosteroids. Seronegative spondyloarthritis: pathogenesis, ankylosing spondylitis, Reiter's syndrome, psoriatic arthritis, clinical features, investigations, management. Systemic lupus erythematosus : pathophysiology, clinical features, investigations, management. Systemic sclerosis: pathophysiology, clinical features, investigations, management. Polymyositis and dermatomyositis: pathophysiology, clinical features, investigations, management. Systemic vasculitis: classification, pathophysiology, Takayasu's arteritis, polyarteritis nodosa (PAN), Wegener's granulomatosis (WG), Churg-Strauss syndrome (CSS), Henoch-Schonlein purpura (HSP), clinical features, investigations, management. Antiphospholipid syndrome, pathogenesis, clinical features, investigations, management. Gout: etiology, classification, clinical features, classification, investigations, management.
3	Hematology	Iron deficiency anemia: causes, clinical features, investigations, management. Megaloblastic anemia: classification, causes, pernicious anemia, clinical features, investigations, management. Hemolytic anemia: hemolysis, types, diagnosis of hemolysis, causes of hemolytic anemia, classification; hereditary spherocytosis, glucose-6-phosphate dehydrogenase (G6PD) deficiency, sickle-cell disease, thalassemias, pathogenesis, clinical features, investigations, management. Autoimmune hemolytic anemia: classification, pathogenesis, clinical features, investigations, management. Non-immune hemolytic anemia: causes, pathogenesis, clinical features, investigations, management. Acute leukemia: epidemiology, etiology, risk factors for leukemia, classification, acute lymphoblastic leukemia, acute myeloid leukemia, pathogenesis, clinical features, investigations, management, prognosis. Chronic myeloid leukemia: pathogenesis, natural history (three phases), clinical features, investigations, management, prognosis.

		Chronic lymphocytic leukemia: pathogenesis, clinical features, investigations, staging, management, prognosis. Paraproteinemias: multiple myeloma, classification, pathogenesis, clinical features, investigations, management, prognosis. Aplastic anemia: classification, pathogenesis, clinical features, investigations, management, prognosis. Myeloproliferative disorders: polycythemia rubra vera, pathogenesis, clinical features, investigations, management, prognosis. Thrombocytopenia: idiopathic thrombocytopenic purpura (ITP), pathogenesis, clinical features, investigations, management, prognosis. Hemophilia: genetics, pathogenesis, clinical features, investigations, severity of hemophilia, management, prognosis.

5.2. Course modules and types of studies

No	Name of course module	L	P	S	LBP	CP	Self-studies	Total hrs
1	2	3	4	5	6	7	8	9
1	Pulmonology					15	7	22
2	Rheumatology					15	7	22
3	Hematology					20	8	28

6. Interactive forms of studies

No	Name of the course section	Interactive forms of studies	Duration (hours)
1	Pulmonology (in Moodle)	case study	2
2	Rheumatology (in Moodle)	case study	2
3	Hematology (in Moodle)	case study	2
		Total (hours)	6
		Total (% of in-class learning)	12%

7. Extracurricular self-studies of students

No	Name of course module	Types of self-studies	Forms of control
1	Problems difficult to diagnose in internal medicine	note-taking of primary data sources and other academic literature; elaboration of educational materials (using lecture notes on the educational and scientific literature) and preparation	a report / a colloquium / defense of a project / essay / abstract /

		of reports for presentation on seminars and practical classes; search and review of scientific publications, electronic sources of information, preparation of conclusions on the review; execution of practical tasks, creative project-type assignments, individual and group course projects; problem solving and exercises; writing of abstracts and essays; work with tests and questions for the self-assessment.	checking a workbook / solving of practical tasks / preparation of a case history

8. Forms of control

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

A subject list of tests, term papers, test collections and cases are shown at the section «Assessment tools».

8.2. Forms of interim attestation (pass/fail test)
Stages of the pass/fail test:
1st Stage –case (name of the stage)

The questions for the pass/fail test are listed at the section «Assessment tools».

9.Maintenance of the course

9.1. Compulsory course literature

8. Davidson`s principles and practice of medicine / ed. N. A. Boon [et al.]. - 21st ed.-Edinburgh: ELSEVIER, 2010. -1381 p.

9.2. Supplementary course literature

6. Harrison's Principles of internal medicine [Text] Vol. I: учебное пособие/ ed. D. L. Longo. -18th ed. -New York: McGraw Hill : Medical, 2012. - 1796 p.-ISBN 978-0-07-163244-7.-ISBN 978-0-07-174889-6, Б.ц
7. Harrison's Principles of internal medicine [Text] Vol. II: учебное пособие/ ed. D. L. Longo. -18th ed. -New York: McGraw Hill : Medical, 2012. - 3610 p.-ISBN 978-0-07-174887-2.-ISBN 978-0-07-174889-6, Б.ц

9.3. List of Internet resources required for mastering of the discipline

31. www.studentconsult.com (a copy of Davidson`s Principles and practice of medicine has a special code for access);

32. www.medicalstudent.com/
33. www.merckmanuals.com/
34. WWW.MEDSCAPE.COM/MEDICALSTUDENTS
35. www.mednet.ucla.edu/
36. HARDINMD.LIB.UIOWA.EDU/INDEX.HTML
37. www.healthline.com/
38. www.youtube.com/user/ClevelandClinic
39. www.youtube.com/user/emedtv
40. www.escardio.org/
41. my.americanheart.org/professional/StatementsGuidelines/ByTopic/TopicsA-C/ACCAHA-Joint-Guidelines_UCM_321694_Article.jsp
42. www.linksmedicus.com
43. http://www.rmj.ru
44. http://www.consilium-medicum.com
45. http://www.pulmonology.ru
46. http://www.cardiosite.ru
47. http://www.rheumatolog.ru
48. http://www.m-vesti.ru/rggk/rggk-rules.shtml
49. http://medpulse.h1.ru
50. http://www.medlinks.ru
51. http://www.OSSN.ru
52. http://www.therapy.narod.ru
53. http://mzdravrt.kazan.ru/rmbic/update/uws.htm
54. http://sci-lib.com
55. http://www.jrheum.com
56. http://scholar.google.com
57. http://www.medscape.com
58. http://www.nlm.nih.gov
59. http://www.guideline.gov
60. http://www.rmj.ru

9.4. List of information technologies used in the educational process within the discipline, including software and referral systems

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск)

основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 34, 2 этаж главного корпуса терапевтическое отделение № 1 Договор № 550 от 05.07.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская областная клиническая больница». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, учебные наборы электрокардиограмм, рентгенограмм с патологией сердечно-сосудистой системы, набор бланков с указанием лабораторных показателей острофазового воспаления и наличия стрептококковой инфекции, кардиоспецифических ферментов, набор рентгенограмм и спирограмм с патологией органов дыхания, набор анализов желудочного сока, желчи, рентгенограмм с патологией органов пищеварения, бланков с указанием лабораторных показателей, характерных для заболеваний органов пищеварения, набор анализов крови и исследований костного мозга с патологией системы кроветворения, набор анализов мочи с патологией мочевыделительной системы, муляжи, наглядные пособия, таблицы *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163045 Архангельская область г. Архангельск, пр. Ломоносова, д. 292
Учебная аудитория для занятий семинарного типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 209, учебный корпус, 2 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихсяна 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор	163001, г. Архангельск, просп. Троицкий, д. 180

в) перечень учебно-наглядных пособий: Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, муляжи *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	

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 26th 2020

SYLLABUSOF THE DISCIPLINE

Discipline**Current Problems in Obstetrics**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI / 12**
Form of the interim assessment **Credit**
Department **of Obstetrics and Gynecology**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No. 11
June 10th 2020
Head of the department

A.N. Baranov

Authors and compilers:
Istomina Natalya Georgievna, Associate Professor of the Department of Obstetrics and Gynecology, Candidate of Medical Sciences;
Usynin Maxim Vadimovich, Associate Professor of the Department of Obstetrics and Gynecology, Candidate of Medical Sciences

Arkhangelsk, 2020

1. Goal and tasks of the mastering of the course

Goal of the discipline	The goal of the discipline is to acquire knowledge about changes in the body of a pregnant woman, master general principles of pregnancy and childbirth management, the ability to analyze the obstetric situation, to take into account the impact of pregnancy on the occurrence of dental diseases in women, the importance of odontogenic infection in the development of purulent-septic complications among pregnant women and women in labor.
Tasks of the discipline	- training a doctor to make a correct preliminary diagnosis, to refer a woman for examination; - providing emergency care for pregnant women and women in labor, treatment of dental diseases, taking into account concomitant obstetric and gynecological pathologies.

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

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

Block 1. Variative part. Elective disciplines.

Cycle of the educational program, to which this discipline applies - professional. Disciplines, on which knowledge of Obstetrics and Gynecology is based: Human Anatomy and Morbid Anatomy, Normal and Pathological Physiology, Microbiology and Immunology, Pharmacology, Operative Surgery and Topographic Anatomy, General Surgery, Neurology, Anesthesiology and Resuscitation, X-ray Diagnostics, Public Health and Health Organization, Emergency Medicine, Medical rehabilitation, Infectious diseases, Perinatology and Neonatology, Genetics, Intensive care, Phthisiology, Clinical pharmacology).

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

Codes of the formed competences	**Competences**		
	a student has knowledge of	**a student is able to**	**a student masters**
	Professional competences		
PC-8 ability to decide on management of patients with various nosological forms	how to collect and analyze patient complaints, data of its history, examination results, laboratory, instrumental, and other studies in order	examine pregnant women and gynecological patients, to formulatepreliminary diagnosis, make a planexamination and treatment.	the algorithm for performing the mainmedical diagnostic and therapeutic measuresto provide specialized assistance for pregnant women, gynecological patients andfirst aid for emergency andlife-threatening conditions based

			on standards of the medical care

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

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

	Type of the academic work	**Total hours**	**Term**
Discipline workload (in academic hours)	Lectures (L)		
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinicalpracticals(CP)	54	12
	Laboratory-based practicals (LBP)		
	Simulation-based practicals(SBP)		
	Preparation for the examination (PE)		
	Preparation for the credit (PC)		
	Exam consultations (EC)		
	Coursework (CW)		
	Unsupervised work (UW) (total)	54	12
	Examination control (EC)		
	Total course workload	**108**	**12**

5. Contents of the course:

5.1. Contents of the sections of the course

No	Name of the course section	Contentofthesection
1	2	3
1	Regulatory framework for providing obstetric and gynecological care in the Russian Federation.	Russian legislation in obstetrics and gynecology Clinical guidelines of the Ministry of Health of Russia Benefits for pregnant women and mothers.
2	Management of the preterm birth	Definition of preterm birth Preterm birth rate trends Preterm newborn morbidity Causes of preterm birth Contributing factors Diagnosis Preterm birth prevention Management of preterm premature rupture of Membranes Management of preterm labor with intact membranes
3	Individual approach to the choice of contraception. Therapeutic effect of contraceptives	Intrauterine devices Progestin implants Progestin-only contraceptives Hormonal contraceptives Barrier methods Fertility awareness-based methods Spermicides Emergency contraception

		Puerperal contraception
4	Periconceptional multivitamin supplementation	Preconseption care Medical conditions during pregnancy Prenatal infections prophylaxis Vaccination Supplemetation strategies before consumption Fetal malformation prophylaxis
5	Obstetric bleeding	General considerations Uterine atony Uterine inversion Injuries to the birth canal Puerperal hematomas Uterine rupture Placental abruption Placenta previa Morbidly adherent placenta Obstetrical coagulopathies Management of hemorrhage Adjunctivesurgicalprocedures
6	Benign and malignant neoplasms in pregnancy	Oncogynecologycal screening programs Medical indication for pregnancy termination Management in cases with cervical dysplasia and cervical cancer in pregnancy Management in cases with ovarian benign and malignant tumors in pregnancy Management of myometrial fibroids in pregnancy
7	Modern diagnostic methods in obstetrics	Methods of fetal well-being evaluation CTG Doppler ultrasound MRI Intranatal invasive tests for fetal hypoxia (pH, lactate, BE)
8	Problems of perinatology: fetal growth retardation, fetal hypoxia, isoserological incompatibility	Fetal growth Fetal-growth restriction Risk factors and etiologies Fetal-growth restriction recognition Management Fetal overgrowth Riskfactors Management
9	Purulent-inflammatory diseases and sepsis in obstetrics	Puerperal fever Uterine infection Abdominal incisional infections Adnexal abscesses and peritonitis Parametrial phlegmon Septic pelvic thrombophlebitis Perineal infections Toxic shock syndrome Breastinfections
10	Deliveryoperationsinobstetrics.	Labor induction Preinduction cervical ripening Pharmacological techniques Mechanical techniques Methods of induction and augmentation

		Prostaglandin E1 Oxytocin Amniotomy for induction and augmentation

5.2. Course sections and types of studies

No	Name of the course section	L	P	S	LBP	CP	Self-studies	Totalhours
1	2	3	4	5	6	7	8	9
1.	Regulatory framework for providing obstetric and gynecological care in the Russian Federation.		5				5	
2.	Management of the preterm birth		5				5	
3.	Individual approach to the choice of contraception. Therapeutic effect of contraceptives		5				5	
4.	Periconceptional multivitamin supplementation		5				5	
5	Obstetric bleeding		6				6	
6	Benign and malignant neoplasms in pregnancy		6				6	
7	Modern diagnostic methods in obstetrics		6				6	
8	Problems of perinatology: fetal growth retardation, fetal hypoxia, isoserological incompatibility		6				6	
9	Puerperal infections and sepsis in obstetrics		5				5	
10	Deliveryoperationsinobstetrics.		5				5	
	Bcero:		54				54	108

6. Interactive forms of studies (in Moodle)

Active and interactive forms of work used in the educational process: individualization and flexibility of elective through outside of class, independent work, surgical simulations, business and role-playing, brainstorming, discussion, case method (analysis of situations), small group work, case studies, psychological and other trainings, creative tasks, case studies with the standards of responses, multimedia training.

Methods basedon the latest achievementsof science and informationtechnology in educationare usedin the processof teaching. Theyare aimed to improvethe quality of trainingthrough the development ofstudents'creativity andself-reliance.For this purposeare used:

•interactive formsof holding seminarsand clinical dissections

• training form of practical training

No	Name of the course section	Interactive forms of studies	Duration
2	Management of the preterm birth	Interactive testing	5
5	Obstetric bleeding	Case-learning in small groups	5
9	Puerperal infections and sepsis in obstetrics	Short presentations and discussion in groups	5
		Total (hours)	15
		Total (% of in-class learning)	

7. Extracurricular self-studies for students

No	Name of the course section	Typesofself-studies	Formsofcontrol
1.	Regulatory framework for providing obstetric and gynecological care in the Russian Federation.	Essay	Oral
2.	Management of the preterm birth	Report	Oral
3.	Puerperal infections and sepsis in obstetrics	Report	Oral
4.	Deliveryoperationsinobstetrics.	Report	Oral

8. Forms of control

8.1. Current forms of control

Intermediate control
- Oral: interview report, the review of the medical case history, PPT presentation with short report;
- Technical means (training tests,solvingclinicalcase tasks)

8.2. Final control
- technical means (training tests, final test for the course tests)
- written (a clinical case question with the answer in a form of essay)

A subject list of abstracts, reports, essays, tests, term papers, test collections and cases are shown at the section «Assessment tools».

9.Maintenance of the course

9.1. The basic literature
1. Obstetrics [Электронныйресурс] : учебноепособие/ ред.: В. Е. Радзинский, А. М. Фукс, Ч. Г. Гагаев. -Москва: ГЭОТАР-Медиа, 2019- URL: http://www.studentlibrary.ru/book/ISBN9785970446836.html

9.2. Supplementary literature(available in/via the library of NSMU)
7. Krukemeyer M. Introductory Guide to Medical Training. From Basic Sciences to Medical Specialties [Электронныйресурс]/ M. Krukemeyer. -1st ed.: Thieme, 2015 - URL: https://medone-education.thieme.com/ebooks/2093828? fromSearch=true#/ebook_2093828_SL80527499. Эл.изд.

8. Obstetrics [Электронный ресурс] : учебное пособие/ ред.: В. Е.Радзинский, А. М. Фукс, Ч. Г. Гагаев. -Москва: ГЭОТАР-Медиа,2019 - URL:http://www.studentlibrary.ru/book/ISBN9785970446836.html.Эл.изд.

9. Block B. Color Atlas of Ultrasound Anatomy. [Электронныйресурс]/ B. Block. - 2nded.: Thieme, 2011 - URL: https://medone-education.thieme.com/ebooks/1403673#/ebook_1403673_SL59557355. Эл.изд.

10. Thebasicquestionsofoncogynecology = Основные вопросыонкогинекологии [Электронный ресурс] : учебник на английском ирусском языках / Е. Ф. Кира [и др.]. -Москва: ГЭОТАР-Медиа, 2018.-288 с. - URL:
11. http://www.studentlibrary.ru/book/ISBN9785970445655.html.

9.3. List of Internet resources required for mastering of the discipline (module)

8. WHO official site for maternal and perinatal health: http://www.who.int/reproductivehealth/publications/maternal_perinatal_health/en/
9. Cochrane Summaries: http://www.cochrane.org/evidence
10. The Royal College of Obstetricians and Gynaecologists (RCOG) official site: https://www.rcog.org.uk/guidelines
11. Society of Obstetricians and Gynaecologists of Canada (SOGC) official site: http://sogc.org/clinical-practice-guidelines/
12. American Congress of Obstetricians and Gynecologists (ACOG) official site: http://www.acog.org/
13. The International Federation of Gynecology and Obstetrics (FIGO) official site: http://www.figo.org/publications-resources
14. Centers for disease control and prevention (CDC):
15. http://www.cdc.gov/

9.4 List of information technologies used in the educational process within the discipline (module), including software and referral systems

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

№	Наименование учебного кабинета	Месторасположение учебного кабинета	Перечень основного оборудования учебного кабинета
1	Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 26, 1 этаж акушерско-гинекологический корпус Договор № 550 от 05.07.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская областная клиническая больница». Срок действия Договора – 5 лет. Оборудование согласно	163045 Архангельская область г. Архангельск, пр. Ломоносова, д. 292	*а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, муляжи, табличные и справочные материалы, тонометр GammaG7, стетоскоп, фонендоскоп, термометры, весы электронные, ростомер, муляж гинекологический

	Приложению № 3 к Договору.		
2	Симуляционный класс № 426 учебный корпус, 4 этаж: родильный зал для отработки навыков.	163001, г. Архангельск, просп. Троицкий, д. 180	*перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины Столик манипуляционный МСК-549-02-МСК, кровать для родовспоможения с матрацом, ширма, шкаф, система реанимационная открытая для ухода за новорожденными Ampla 2085, модель таза женщины для демонстрации движения плода на подставке, расширенная версия гинекологического фантома родов, робот-симулятор для отработки навыков родовспоможения женщине "Люсина", монитор фетальный Овертон 6900, система "ВиртуЭЛЬ" для отработки навыков родовспоможения и оказания приемов неотложной помощи в акушерской практике, модель демонстрации родового канала женщины на подставке, симулятор гибридный для обучения бимануальному гинекологическому исследованию, фантом гинекологический, манекен "ВиртуБОРН" новорожденного для отработки расширенных лечебно-реанимационных действий в неонатологии,полная комплектация с ЭКГ
3	Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 425 учебный корпус, 4 этаж (кабинет для дебрифинга)	163001, г. Архангельск, просп. Троицкий, д. 180	*а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 12 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор, телевизор, маркерная доска *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины

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 26th2020

SYLLABUSOF THE DISCIPLINE

Discipline **Functional Assessment in Cardiology. Clinical Electrocardiography and Echocardiography**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI / 12**
Form of the interim assessment**Credit**
Department**of Hospital Internal Medicine and Endocrinology**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No.
June 24th2020
Head of the department
N.A. Polyarush

Author and compiler:
Krivonkin Konstantin Yurievich, Associate Professor of the Department of Hospital Internal Medicine and Endocrinology, Candidate of Medical Sciences

Arkhangelsk, 2020

1. Goals and objectives of the course

Goal of the discipline	The goal of the discipline is to provide medical care to patients with diseases of internal organs.
Tasks of the discipline	Formation of knowledge and skills on diagnostics, treatment and prevention of diseases of internal organs for medical care.

2. Location of the course within the educational program

The program has been developed following the requirements of State Education Standard for higher professional education (*ФГОС ВО, в редакции 2016 г.*) in the field of 31.05.01 'General medicine'.

Block 1. Variative part. Elective disciplines.

The discipline takes the final undergraduate place, after all training cycles, together with Hospital Surgery, Hospital Internal Medicine, and OutpatientInternal Medicine. The program relates to most academic and all clinical disciplines including Introduction to Internal Medicine, Endocrinology, and Faculty Internal Medicine.

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

PC-8 (ability to decide on management of patients with various nosological forms)
Therapeutic decision-making in cardiology
Rationale: Internists are responsible for directing and coordinating the therapeutic management of patients with a wide variety of problems, including critically ill patients with complex medical problems and the chronically ill. To manage patients effectively, physicians need basic therapeutic decision-making skills that incorporate both pathophysiologic reasoning and evidence-based knowledge.
Specific learning objectives:
A. Knowledge: Students should be able to define, describe, and discuss:

7. Information resources for determining medical and surgical treatment options for patients with common and uncommon medical problems.
8. How to use critical pathways and clinical practice guidelines to help guide therapeutic decision making.
9. Factors that frequently alter the effects of medications, including drug interactions and compliance problems.
10. Factors to consider in selecting a medication from within a class of medications.
11. Factors to consider in monitoring a patient's response to treatment, including potential adverse effects.
12. Methods of monitoring therapy and how to communicate them in both written

and oral form.

B. Skills: Students should be able to demonstrate specific skills, including:

6. Formulating an initial therapeutic plan.
7. Accessing and utilizing, when appropriate, information resources to help develop an appropriate and timely therapeutic plan.
8. Writing prescriptions and inpatient orders safely and accurately.
9. Counseling patients about how to take their medications and what to expect when doing so, including beneficial outcomes and potential adverse effects.
10. Monitoring response to therapy.

C. Attitudes and professional behaviors: Students should be able to:

4. Involve the patient in the decision-making process, explaining the risks and benefits of treatment.
5. Respect patient's informed choices, including the right to refuse treatment.
6. Recognize the importance of and demonstrate a commitment to the utilization of other healthcare professionals in therapeutic decision making.

4. Volume of the elective course and types of academic work:

Total workload of the course is 3 credits.

	Type of the academic work	**Total hours**	**Term**
Discipline workload (in academic hours)	Lectures (L)		
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	54	12
	Laboratory-based practicals (LBP)		
	Simulation-based practicals (SBP)		
	Preparation for the examination (PE)		
	Preparation for the credit (PC)		
	Exam consultations (EC)		
	Coursework (CW)		
	Unsupervised work (UW) (total)	54	12
	Examination control (EC)		
	Total course workload	**108**	**12**

5. Course content:

5.1. Contents of the elective course

No	Name of course	Contents of course
1	2	3
1	Functional assessment in cardiology: Clinical electrocardiography and echocardiography	Heart failure: etiology, pathophysiology, types, clinical assessment, complications, investigations; management of acute

		pulmonary edema; management of chronic heart failure, general measures, drug therapy, implantable cardiac defibrillators and resynchronisation therapy (CRT), coronary revascularization, heart transplantation, ventricular assist devices; prognosis. Cardiac arrest and sudden cardiac death: causes of sudden death, etiology of cardiac arrest, management of cardiac arrest, adult basic life support. Disorders of heart rate, rhythm and conduction: main mechanisms, sinus tachycardia, causes, diagnosis, management; atrial tachyarrhythmias, atrial ectopic beats (extrasystoles, premature beats), atrial tachycardia, atrial flutter, diagnosis, management; atrial fibrillation (AF), classification, causes, clinical assessment, diagnosis, management, options for treating persistent AF, prevention of thromboembolism; 'supraventricular' tachycardias, Wolff-Parkinson-White syndrome and atrioventricular re-entrant tachycardia, atrioventricular nodal re-entrant tachycardia (AVNRT), diagnosis, management; ventricular tachyarrhythmias, ventricular ectopic beats (extrasystoles, premature beats), ventricular ectopic beats in otherwise healthy subjects, ventricular ectopic beats associated with heart, ventricular tachycardia (VT), torsades de pointes, causes of long QT interval and torsades de pointes, diagnosis, management; sinoatrial disease (sick sinus syndrome), classification, diagnosis, management; atrioventricular and bundle branch block, AV block, Stokes-Adams attacks, diagnosis, management; anti-arrhythmic drug therapy, the classification of anti-arrhythmic drugs; therapeutic procedures, external defibrillation and cardioversion, catheter ablation; pacemakers, classification; implantable cardiac defibrillators (ICDs), indications, usage. Rheumatic heart disease: acute rheumatic fever, pathogenesis, clinical features, investigations, jones criteria, management, prognosis; chronic rheumatic heart disease, pathology, pathophysiology, main clinical manifestations (presentations), investigations, prognosis. Mitral valve disease: mitral stenosis, etiology, pathophysiology, classification, clinical features, investigations,

		management, valve replacement surgery, prognosis; mitral regurgitation, etiology, pathophysiology, classification, clinical features, investigations, management, valve replacement surgery, prognosis. Aortic valve disease: aortic stenosis, etiology, pathophysiology, classification, clinical features, investigations, management, valve replacement surgery, prognosis; aortic regurgitation, etiology, pathophysiology, classification, clinical features, investigations, management, valve replacement surgery, prognosis. Tricuspid valve disease: tricuspid stenosis, tricuspid regurgitation, etiology, pathophysiology, classification, clinical features, investigations, management, valve replacement surgery, prognosis. Pulmonary valve disease: pulmonary stenosis, pulmonary regurgitation, etiology, pathophysiology, classification, clinical features, investigations, management, valve replacement surgery, prognosis. Infective endocarditis: pathophysiology, classification, clinical features, investigations, major criteria, management, prevention, valve replacement surgery, prognosis. Congenital heart disease in the adult: etiology, incidence, classification, intracardiac hemodynamics, clinical features; persistent ductus arteriosus, etiology, intracardiac hemodynamics, clinical features, investigations, management; coarctation of the aorta, etiology, intracardiac hemodynamics, clinical features, investigations, management; atrial septal defect, etiology, intracardiac hemodynamics, clinical features, investigations, management; ventricular septal defect, etiology, intracardiac hemodynamics, clinical features, investigations, management; pulmonary hypertension and Eisenmenger's syndrome. Myocarditis: etiology, pathogenesis, clinical features, investigations, management. Cardiomyopathy: definition, functional classification, dilated cardiomyopathy, hypertrophic cardiomyopathy, obliterative cardiomyopathy and restrictive cardiomyopathy, hemodynamics, clinical features, investigations, management. Specific diseases of heart muscle: definition,

		etiological classification, clinical features, investigations, management. Venous thromboembolism: etiology, clinical features, investigations, management, prognosis.

6. Interactive forms of studies

No	Name of the course	Interactive forms of studies	Duration (hours)
1	Functional assessment in cardiology: Clinical electrocardiography and echocardiography	case study (in Moodle)	4
		Total (hours)	4
		Total (% of in-class learning)	8%

7. Extracurricular self-studies of students

No	Name of course	Types of self-studies	Forms of control
1	Functional assessment in cardiology: Clinical electrocardiography and echocardiography	note-taking of primary data sources and other academic literature; elaboration of educational materials (using lecture notes on the educational and scientific literature) and preparation of reports for presentation on seminars and practical classes; search and review of scientific publications, electronic sources of information, preparation of conclusions on the review; execution of practical tasks, creative project-type assignments, individual and group course projects; problem solving and exercises; writing of abstracts and essays; work with tests and questions for the self-assessment.	a report / a colloquium / defense of a project / essay / abstract / checking a workbook / solving of practical tasks / preparation of a case history

8. Forms of control

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

A subject list of tests, term papers, test collections and cases are shown at the section «Assessment tools».

8.2. Forms of interim attestation (pass/fail test)
Stages of the pass/fail test:
1stStage –case (name of the stage)

The questions for the pass/fail test are listed at the section «Assessment tools».

9.Maintenance of the course

9.1. Compulsory course literature

9. Davidson`s principles and practice of medicine / ed. N. A. Boon [et al.]. - 21st ed.-Edinburgh: ELSEVIER, 2010. -1381 p.

9.2. Supplementary course literature

8. Harrison's Principles of internal medicine [Text] Vol. I: учебное пособие/ ed. D. L. Longo. -18th ed. -New York: McGraw Hill : Medical, 2012. - 1796 p.-ISBN 978-0-07-163244-7.-ISBN 978-0-07-174889-6, Б.ц
9. Harrison's Principles of internal medicine [Text] Vol. II: учебное пособие/ ed. D. L. Longo. -18th ed. -New York: McGraw Hill : Medical, 2012. - 3610 p.-ISBN 978-0-07-174887-2.-ISBN 978-0-07-174889-6, Б.ц

9.3. List of Internet resources required for mastering of the discipline

61. www.studentconsult.com (a copy of Davidson`s Principles and practice of medicine has a special code for access);
62. www.medicalstudent.com/
63. www.merckmanuals.com/
64. WWW.MEDSCAPE.COM/MEDICALSTUDENTS
65. www.mednet.ucla.edu/
66. HARDINMD.LIB.UIOWA.EDU/INDEX.HTML
67. www.healthline.com/
68. www.youtube.com/user/ClevelandClinic
69. www.youtube.com/user/emedtv
70. www.escardio.org/
71. my.americanheart.org/professional/StatementsGuidelines/ByTopic/TopicsA-C/ACCAHA-Joint-Guidelines_UCM_321694_Article.jsp
72. www.linksmedicus.com
73. http://www.rmj.ru
74. http://www.consilium-medicum.com
75. http://www.pulmonology.ru
76. http://www.cardiosite.ru
77. http://www.rheumatolog.ru
78. http://www.m-vesti.ru/rggk/rggk-rules.shtml
79. http://medpulse.h1.ru
80. http://www.medlinks.ru

81.http://www.OSSN.ru
82.http://www.therapy.narod.ru
83.http://mzdravrt.kazan.ru/rmbic/update/uws.htm
84.http://sci-lib.com
85.http://www.jrheum.com
86.http://scholar.google.com
87.http://www.medscape.com
88.http://www.nlm.nih.gov
89.http://www.guideline.gov
90.http://www.rmj.ru

9.4. List of information technologies used in the educational process within the discipline, including software and referral systems

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 34, 2 этаж главного корпуса терапевтическое отделение № 1 Договор № 550 от 05.07.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская областная клиническая больница». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины, учебные наборы электрокардиограмм,	163045 Архангельская область г. Архангельск, пр. Ломоносова, д. 292

рентгенограмм с патологией сердечно-сосудистой системы, муляжи, наглядные пособия, таблицы. *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Учебная аудитория для занятий семинарного типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации№ 209, учебный корпус 2 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихсяна 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163001, г. Архангельск, просп. Троицкий, д. 180

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 26th 2020

SYLLABUSOF THE DISCIPLINE

Discipline**Critical Care Medicine**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI / 12**
Form of the interim assessment **Credit**
Department **of Anesthesiology and Intensive Care**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No.
June 24th 2020
Head of the department
M. Y. Kirov

Authors and compilers:
Smetkin Alexey Anatolievich, Assistant Professor of the Department of Anesthesiology and Intensive Care, Candidate of Medical Sciences; Hussain Ayyaz, Assistant Professor of the Department of Anesthesiology and Intensive Care, Candidate of Medical Sciences;

Arkhangelsk, 2020

1. Purpose and objectives of the course

Goal of the discipline	The goal of the discipline is toobtain knowledge and skills on the prevention, diagnosis and providing first and qualified medical care to patients who are in critical condition and providing perioperative patient protection.
Tasks of the discipline	- obtainment of modern knowledge of the pathogenesis of critical conditions and lesions of homeostasis related to the surgery; - development of modern means and methods of prevention of critical conditions; - development of modern means and methods of clinical, laboratory and instrumental diagnostics of critical states; - development of modern pharmacology, equipment and methods for providing first and qualified medical care to patients in critical condition; - development of modern pharmacology and equipment and methods for the prevention and treatment of disorders of perioperative homeostasis.

2. Location of the course within the educational program (EP)

The program was drawn up in accordance with the requirements of the Federal State Educational Standard of Higher Professional Education in the direction of training 31.05.01 General Medicine.

Block 1. Variative part. Elective disciplines.

The discipline "Critical care medicine" is included in the variable part of the main educational program and is an optional discipline. To study the discipline, students must have the basic knowledge of human anatomy, normal and pathological physiology, histology and pathological anatomy, pharmacology. The knowledge and skills acquired by students in the study of anesthesiology, resuscitation and intensive care will be in demand in the study of disciplines of the professional cycle, such as surgery, internal medicine, infectious diseases, etc.

3. The list of planned learning outcomes on the discipline, correlated with the results of the planned development of an educational program

Codes of developed competences	**Competences**		
	Know	**Be able to (can)**	**Master (be a master in)**
PC -No	**Professionalcompetences**		
PC-8 ability to decide on management of patients with various nosological forms	The issues of protecting a patient with various comorbidities from surgical aggression are considered	The issues of critical conditions and methods of intensive care are considered.	The issues of prevention, diagnosis of critical conditions and modern direction

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
Discipline workload (in academic hours)	Lectures (L)		
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	54	12
	Laboratory-based practicals (LBP)		
	Simulation-based practicals(SBP)		
	Preparation for the examination (PE)		
	Preparation for the credit (PC)		
	Exam consultations (EC)		
	Coursework (CW)		
	Unsupervised work (UW) (total)	54	12
	Examination control (EC)		
	Total course workload	**108**	**12**

5. Course content:

5.1. Content of the course sections

No	Name of the course section	Content of the section
1	Anesthesiology	The issues of protecting a patient with various comorbidities from surgical aggression are considered.
2	Intensive care	The issues of prevention, diagnosis of critical conditions and modern directions and methods of intensive care are considered.

5.2. Sections of disciplines and types of classes

#	Name of the course section	L	S	P	CP	LS	SP	CPC	Totalhours
1	Anesthesiology				20			8	28
2	Intensivecare				30			14	44

6. Interactive forms of studies (in Moodle)

No	Name of the course section	Interactive forms of studies	Duration (hours)
1	Anesthesiology	Simulation, role-playing games, case studies	4
2	Intensivetherapy	Simulation, role-playing games, case studies	8
Total (hours)			12
Total (% of in-class learning)			24

7. Extracurricular self-studies of students

No	Name of the course section	Types of self-studies	Forms of control
1	Anesthesiology	Working with recommended reading, completing assignments using a computer	PowerPoint presentation, Discussion
2	Intensivetherapy	Doing homework and preparing for current classroom studies, working with recommended reading, completing assignments using a computer	PowerPoint presentation, Discussion Solving MCQs.

8. Forms of control

8.1. Current forms of control
- Oral (discussion, presentation)
- Written (MCQs, PowerPoint Presentation)

8.2. Forms of interim attestation - Solving clinical cases

9. Maintenance of the course

9.1. Compulsory course literature

1 Основы интенсивной терапии и анестезиологии в схемах и таблицах [Электронный ресурс] : учебное пособие / М. Ю. Киров [и др.] ; [ред.: М. Ю. Киров, В. В. Кузьков]. - Архангельск : Изд-во Северного государственного медицинского университета, 2018. - 256 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/%D0%9E-75-310174

9.2. Supplementarycourseliterature

1. Алгоритмы действий при критических состояниях в анестезиологии WFSA [Электронный ресурс] : научное издание / Под ред. Э. В. Недашковского, В. В. Кузькова. - 2-е изд., перераб. и доп. - Архангельск : Северодвинская типография, 2014. - 120 с. - URL: http://oa.lib.nsmu.ru/view_docs.php?id_doc=421

2. Транспульмональнаятермодилюция и волюметрический мониторинг [Электронный ресурс] : научное издание / М. Ю. Киров [и др.] // Кровообращение и анестезия / под ред. К. М. Лебединского. - СПб. : Человек, 2015. - Т.3, Гл. 9. - С. 340-354 - 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/%D0%A2%2065-878682

9.3. SoftwareandInternetresources

http://www.critical.ru/
http://www.medmir.com/
http://www.far.org.ru/
http://www.anesth.ru/
http://rusanesth.com/
http://arsgmu.ru/

9.4. The list of information technologies used to implement the educational process in the discipline, including the list of software and information reference systems

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 43, 2 этаж Договор № 710 от 26.09.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Первая городская клиническая больница им. Е.Е. Волосевич». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 14 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины. манекен «взрослый» для отработки основных приемов базовой реанимационной помощи, набор интубационных трубок с проводниками, ларингоскоп с набором клинков *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403.	163001 Архангельская область г. Архангельск, пр. Троицкий, д. 143 корп. 1

MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номерлицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Симуляционный класс № 412, учебный корпус, 4 этаж: Кабинет основ реаниматологии для отработки навыков. *перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины кровати функциональные кфз-01-мск, кушетка медицинская, тумбочки прикроватные, столик туалетно-пеленальный разборный стпр510м-"мск", стол (1шт.), стул, робот-симулятор vi уровня реалистичности, робот-симулятор взрослого для оказания неотложной помощи, с комплектом(ноутбук и имитатор прикроватного монитора), фантом головы"лари" для интубации на подставке, фантом головы для отработки интубации, на подставке , фантом головы и плеч ребёнка для отработки навыков интубации до 6лет, набор д/интубации kawe	163001, г. Архангельск, просп. Троицкий, д. 180
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 411 учебный корпус, 4 этаж (кабинет для дебрифинга) *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 16 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор, телевизор, доска маркерная *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номерлицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163001, г. Архангельск, просп. Троицкий, д. 180

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 26th2020

SYLLABUSOF THE DISCIPLINE

Discipline**Prevention of Sexually-Transmitted Diseases**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI / 12**
Form of the interim assessment**Credit**
Department**of Skin and Venereal Diseases**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No.
June 16th2020
Head of the department

S. L. Kashutin

Authors and compilers:

Kashutin Sergey Leonidovich, Head of the Department of Skin and Venereal Diseases, Associate Professor of the Department of Skin and Venereal Diseases, Doctor of Medical Sciences; Pukhova Ksenia Gennadievna, Assistant Professor of the Department of Skin and Venereal Diseases; Korolev Konstantin Kirillovich, Assistant Professor of the Department of Skin and Venereal Diseases

Arkhangelsk, 2020

1. Purpose and objectives of the course:

Goal of the discipline	The goal of the discipline is to develop students' skills in diagnosis, prevention and treatment of venereal diseases.
Tasks of the discipline	- to teach students to carry out activities to form a motivated attitude of the population to preserve and strengthen their health and the health of others in a tense epidemic situation with infectious skin and venereal diseases; - to know the organization of preventive and anti-epidemic measures aimed at preventing the occurrence and spread of infectious skin and venereal diseases; - to acquaint students with the prevalence, etiology, pathogenesis, clinical signs, principles of treatment of skin and sexually transmitted diseases; - to form students' skills in diagnostics and provision of urgent dermatological care; - to teach students how to use herbal medicine, the main resort factors in patients with skin diseases in need of rehabilitation.

2. Location of the course within the educational program (EP)

The discipline of "Dermatology" is studied in the 12 semester, refers to the cycle of professional disciplines of the educational standard of higher professional medical education "Generalmedicine".

Block 1. Variative part. Elective disciplines.

The basic knowledge required for the study of the discipline is studied:

- on the cycle of humanitarian disciplines (philosophy, bioethics, education, psychology, law, history of medicine, economics, Latin, foreign language);
- on the cycle of mathematical, scientific, medical and biological disciplines (mathematics, physics, chemistry, biochemistry, biology, medical science, anatomy and topographic anatomy, microbiology, virology, immunology, histology, cytology, normal physiology, pathological anatomy, pathophysiology, physiology, pharmacology);
- on the cycle of professional disciplines (general hygiene, public health monitoring, clinical laboratory diagnostics, propaedeutics internal medicine, internal medicine, general physiotherapy, endocrinology, professional diseases, general surgery, Intensive Care and anesthesiology, surgical diseases, urology, radiodiagnosis, disaster medicine, life safety, medical rehabilitation, medical genetics).

Teaching of the discipline must be carried out on the basis of the Arkhangelsk regional dermatology and venearology clinic. The training material on the subject "Dermatology" is mastered by the students systemically, with the teaching of the common issues of diagnosis and treatment precedes teaching the basics of private pathology. The focus is on clinical signs of skin and venereal diseases, modern methods of instrumental and laboratory diagnosis using knowledge of the latest concepts of etiology and pathogenesis of diseases, as well as new methods of treatment and rehabilitation.

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

Codes of developed competences	**Competences**		
	Know	Be able to (can)	Master (be a master in)
PC -№	**Professional competencies**		
PC-8 ability to decide on management of patients with various nosological forms	- morphological, physiological state and pathological processes in the human body -urgent conditions in venereal diseases -principles and methods of treatment of skin and venereal diseases;	to assess morphological, physiological state and pathological processes in venereal diseases.	algorithm, perform basic diagnostic and therapeutic measures on venereal diseases.

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

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

Discipline workload (in academic hours)	**Type of the academic work**	**Total hours**	**Term**
	Lectures (L)		
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinical practicals (CP)	54	12
	Laboratory-based practicals (LBP)		
	Simulation-based practicals (SBP)		
	Preparation for the examination (PE)		
	Preparation for the credit (PC)		
	Exam consultations (EC)		
	Coursework (CW)		
	Unsupervised work (UW) (total)	54	12
	Examination control (EC)		
	Total course workload	**108**	**12**

5. Course content:

5.1. Content of the course sections

№ п/п	**Name of the course section**	**Content of the section**

1.	General dermatology.	**The structure of the skin and sex organs.** The epidermis, derma, subcutaneous fat, blood and lymphatic network, innervation of the epidermis, dermis, subcutaneous tissue. Skin appendages: sweat and sebaceous glands, nails, muscles of the skin. Neuro-receptor apparatus. **The physiology of the skin and sex organs.** Functions of the skin: protection thermoregulation, reception, secretion, resorption, respiration, metabolism, reflection, immune. The relationship between the skin and the vital functions of the body in health and disease. **Morphological elements.** Primary and secondary elements, the relative position of the elements of the eruption (isolated elements, merging, grouping, erythroderma). Monomorphic and polymorphic rash, symmetrical and asymmetrical arrangement of the eruption, localization of the eruption. The meaning of skin biopsy for diagnosis. **Examination of ureters of the patient.** Methods of examination, used in dermatology: clinical, histological, microbiological, physiological, biochemical, immunological.The techniques of dermatological clinical examination of the patient: determining the sensitivity and permeability of the skin., dermographism evaluation, checking of the muscle-hair reflex, the pharmacodynamic tests., hydrophilicity samples, symptoms of the pinch and the harness, chemical agents tests, iodine samples, layered scratchboard, diascopy, test with bellied probe, Besnier-Meshchersky symptom, Nikolsky sign, identification of scabies moves, luminescence, taking pathological material (hair, nails, scales). The main biochemical and serological tests used in dermatological practice. **Principles of prevention of veneral patients.** Formulations. Formulation in venerology. Anyibiotics. Fizoterapiya. Diet therapy.
2.	Prevention of syphilis.	Development stages of Venereology. Social aspects of sexually transmitted diseases. Methods of examination of patients with sexually transmitted diseases. Questions of ethics. Etiology, epidemiology. The immunity for the general classification.

		Etiology and pathogenesis of syphilis. The causative agent, differencies between Treponema pallidum and saprophytic treponemes, the incubation period, epidemiology, general course of syphilis. Clinic of syphilis. **Primary period of syphilis and his prevention.** Clinical manifestations. Clinical characteristics of the chancre (a kind of chancre, diagnostic features). Characteristics of regional lymphadenitis. Complications chancre, differential diagnosis. **The secondary period of syphilis and his prevention.** Feature vysypnyh elements in the secondary period (spotted, papular, pustular syphilides), secondary fresh and secondary recurrent syphilis lesion of the oral mucosa, alopecia, leucoderma differential diagnosis. **Tertiary syphilis and his prevention**(tertiary active and tertiary hidden), the main clinical forms Bugorkova gumoznogo and syphilis. Differential diagnosis. **Congenital syphilis and his prevention.** Classification. Clinical manifestations in various stages of congenital syphilis. **Diagnosis of syphilis.** Research on pale treponemu. Research on Treponema pallidum in the dark field. **Treatment and prevention of syphilis**. Logistical support, types of treatment (preventive, specific, prophylactic trial, epidemiological), treatment methods of preventive treatment, sptsificheskogo treatment of primary, secondary, tertiary, and congenital syphilis. Alternative treatment regimens. Treatment of pregnant women. Treatment of children, the calculation of the dosage of drugs
3.	Prevention of sexually transmitted infections.	**Gonorrhea and his prevention.** Characteristics of the pathogen. Epidemiology. Gonorrhea in men, classification. Complications. Laboratory diagnosis. Principles of treatment of gonorrhea. The criteria for cure gonorrhea. Prevention of gonorrhea. **Trichomoniasis and his prevention.** Pathogen. Epidemiology. Clinic trichomoniasis in men. Laboratory diagnosis. Principles of treatment. The criteria for cure trichomoniasis. Prevention. **Chlamydia and his prevention** Etiology, epidemiology, general pathology, pathogenesis.

		Clinic of urogenital chlamydia. Extragenital manifestations of infection. Chlamydia and sterility. The methodology of the survey. Modern methods of laboratory diagnostics. Reiter's syndrome. Principles of treatment of chlamydia and its complications. The criteria for cure chlamydia. Prevention. **Mycoplasmosis and his prevention.** Epidemiology, etiology, clinical features, diagnosis, complications. Principles of treatment. The criteria for cure. Prevention. **Genital herpes and his prevention.** Pathogen. Epidemiology. The clinical picture. Principles of treatment, prevention. **Anogenital warts and his prevention.** Pathogen. Epidemiology. The clinical picture. Principles of treatment, prevention.

5.2. Course sections and types of studies

No.	Name of the course section	L	S	PC	CP	LBP	SBP	UW	Total hours
1	General dermatology			5				2	7
4	Prevention of syphilis.			30				10	40
5	Prevention of sexually transmitted infections.			15				10	25
	Total (hours)			50				22	72

5.2.1. Clinical practical training

№	Practicals topics	Volume
		12th
1	General dermatology.	5
2	Social aspects of sexually transmitted diseases. Etiology and pathogenesis of syphilis.	5
3	Primary period of syphilis and his prevention.	5
4	The secondary period of syphilis and his prevention.	5

5	Tertiary and congenital syphilis and his prevention.	6
6	Diagnosis of syphilis.	6
7	Treatment and prevention of syphilis.	6
8	Gonorrhea, trichomoniasis and their prevention.	6
9	Chlamydia, mycoplasmosis and their prevention.	5
10	Genital herpes, anogenital warts and their prevention.	5
Total		54

6. Interactive forms of studies (in Moodle)

№	Name of the course section	Interactive forms of studies	Duration (hours)
1.	General dermatology.	**1.1. Discussion on the DVD-movie "Selection of the topical therapy"** **1.2. Clinical analysis of patients**	1 hour 1 hour
2.	Prevention of syphilis.	**4.1. Discussion on the DVD-movie** « Syphilis » **4.2. Solution of case studies by topics:** 4.2.1. The causative agent of syphilis (test on treponema pallidum). Primary syphilis. Secondary syphilis and its differential diagnosis. 4.2.2. Tertiary syphilis. Congenital syphilis and its prevention. Serological diagnosis of syphilis. Principles of treatment of syphilis. Deontology in Venereology. **4.3. Clinical analysis of patients**	1 hour 1 hour 1 hour
3.	Prevention of sexually transmitted infections.	**5.1. Discussion on the DVD-movies** 5.1.1.« Gonorrhea », « Trichomoniasis » **5.2. Solution of case studies by topics:** 5.2.1. Gonorrhea in men and its complications.	1 hour 1 hour

		Treatment of gonorrhea. 5.2.2. Non- gonorrhea urethrites (trichomoniasis, chlamydia, mycoplasmosis). Genital herpes. Anogenital warts. **5.3. Clinical analysis of patients**	1 hour
Total hours for 5 -hour lesson			6 (12%)
Total (% of classroomlessons)			6 (12%)

7. Listofteaching materials forthecourse unsupervised workofstudents (including the use of e - learning opportunities, distance learning technologies (Moodle))

№	Name of the course section	Type of the unsupervised work	Forms of control
1.	General dermatology.	Computer testing. Preparation of abstracts	Checking the abstracts
2.	Prevention of syphilis.	Computer testing. Preparation of abstracts	Checking the abstracts
3.	Prevention of sexually transmitted infections.	Computer testing. Preparation of abstracts	Checking the abstracts

8. Forms of control

8.1. **Forms of current control**
8.1.1. Computer testing.
8.1.2. Checking the abstracts
8.1.3. Checkingthemedicalhistories

8.2. **Forms of intermediate control**(pass/fail test, exams)
Stages of the examination (pass/fail test)

1. Stage - computer testing

2. Stage – Practical skills

3. Stage - interview

9. Maintenance of the course:

9.1 Compulsory course literature

1. Davidson`s Principles and Practice of Medicine [Текст]/ ed. N. A. Boon [et al.]. -20th. ed.. -Edinburgh: ELSEVIER, 2008. -1381 p.: il.
2. Khanna N. Illustrated Synopsis of Dermatology and Sexually Transmitted Diseases [Text]: учебное пособие/ N. Khanna. -4 th ed. -Б.м., 2011. - 427 p..-ISBN 978-81-312-2802-9, Б.ц

3. Skripkin J.K. Skin and venereal diseases [Text]: the textbook / Y.K. Skripkin A.A. Kubanova, V.G. Akimov. - Moscow: GEOTAR Media, 2009. - 538, [1] with color illustrations.
4. Skripkin J.K. Skin and venereal diseases [Text]: studies. for students / J.K. Skripkin, A.A. Kubanova, V.G. Akimov. - Moscow: GEOTAR Media, 2007. – 543 with color illustrations.
5. Dermatology [electronic resource]: the textbook for students of higher educational institutions / V.V. Chebotarev [et al.]. - Moscow: GEOTAR Media, 2013. - 584 p .: ill. - Access: http://www.studmedlib.ru/.
6. Владимиров В.В. Кожные и венерические болезни [Электронный ресурс] : атлас: учебное пособие/ В. В. Владимиров. -Москва: ГЭОТАР-Медиа, 2016. -232 с.- URL: http://www.studentlibrary.ru/book/ISBN9785970435465.html
7. Кашутин С. Л. Дерматовенерология [Электронный ресурс] : учебное пособие/ С. Л. Кашутин. -Архангельск: Изд-во Северного государственного медицинского университета, 2015. -138 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/K%2031-892310

9.2 Supplementary course literature

1. Butler L.I. Interdisciplinary clinical issues [electronic resource]: a collection / L.I. Butler. - Moscow: GEOTAR-Media, 2012 - Access: http://www.studmedlib.ru/.
2. Skin lesions in diseases of the internal organs. Age-related changes of the skin [Text]: a method. Recommendations / A.N. Plakuev [et al.]; North. state. med. Univ. Dep. propedeutics ext. diseases North. state. med. Univ. dep. family medicine and internal. diseases. - Archangelsk: SSMU, 2012. - 66, [1] p .: col. Ill.
3. Samtsov A.V. Dermatology [electronic resource]: Textb. for med. Universities / A.V. Samtsov, V.V. Barbin. - St. Petersburg: Spets.Lit., 2008. - 352 with 12 p. col. Ill.- Access: http://www.studmedlib.ru/.
4. Infections, sexually transmitted infections. Clinical lectures [electronic resource] / edited. VN Prilepskaya. - Moscow: GEOTAR Media, 2014. - 160 p .: ill. - Access: http://www.studmedlib.ru/.
5. Infectious diseases [electronic resource]: satin-guide / VF Uchaikin [et al.]. - Moscow: GEOTAR Media, 2010. - 384 p .: ill. - Access: http://www.studmedlib.ru/.
6. Edmond R.T.D. Atlas of infectious diseases [electronic resource]: Per. from English. / R. TD Edmond, FD Uelsbi, H. AK Rowland; Ed .: Malev VV, DV Usenko. - Moscow: GEOTAR-Media, 2013 - Access: http://www.studmedlib.ru/.
7. Infectious and parasitic skin diseases Infectious diseases in children [electronic resource]: Textb. for ped. factor. honey. Universities / [I. D.

Annenkov and others.] ed. 4.4.11. V. Timchenko. - 3rd ed., Rev. and additional .. - St. Petersburg: SpetsLit, 2008. - 607 p. - Access: http://www.studmedlib.ru/.
8. Assist patients in diseases of the skin and venereal diseases Zudin BI Skin and venereal diseases [electronic resource]: Proc. for honey. schools and colleges / BI Zudin, Kochergin NG, AB Zudin. - Moscow: GEOTAR-Media, 2013 - 287, [1] p .: col. Ill. - Access: http://www.studmedlib.ru/.
9. Zudin BI Skin and venereal diseases [Text]: studies. for honey. schools and colleges / BI Zudin, Kochergin NG, AB Zudin. - Moscow: GEOTAR Media, 2012. - 287, [1] p .: col. Ill.
10. Essentials of dermatology for foreing students of medical universites [Электронныйресурс] : методическийматериал/ S. L. Kashutin [идр.]. - Архангельск: Изд-воСеверногогосударственногомедицинскогоуниверситета, 2017. -128 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/K22-321761
11. Дерматовенерология [Электронный ресурс] : учебник/ ред.: А. В. Самцов, В. В. Барбинов. -3-е изд., испр. и доп.. -Москва: ГЭОТАР-Медиа, 2016. -432 с.- URL: http://www.studentlibrary.ru/book/ISBN9785970436509.html
12. Платонова А.Н. Дерматовенерология. Атлас [Электронный ресурс] : учебное пособие/ А. Н. Платонова, А. Л. Бакулев, С.Р. Утц. -Москва: ГЭОТАР-Медиа, 2017. -136 с.- URL: http://www.studentlibrary.ru/book/ISBN9785970440858.html

9.3. List of Internet resources required for mastering of the discipline

№	Internet resource	Describtion
1	http://www.studmedlib.ru/	Provides individual access to full-text database of relevant literature for medical and pharmaceutical education
2	http://www.scopus.com	Provides access to bibliographic and scientometric database
3	http://www.iprbookshop.ru/	Provides individual access to full-text database of modern educational literature
4	http://www.rosmedlib.ru/	Provides access to electronic medical information and the educational system for interns, residents, post-graduates, listeners of courses of improvement of qualification

9.4 List of information technologies used in the educational process within the discipline (module), including software and referral systems:

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Required facilities and equipment

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа № 2511, административный учебный корпус, 5 этаж *а) перечень основного оборудования:* комплект учебной мебели (столы, стулья, экран, доска), рабочее место преподавателя, рабочие места для обучающихся на 190 мест *б) наборы демонстрационного оборудования:* моноблок, проектор, экран *в) перечень учебно-наглядных пособий:* схемы, таблицы *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номерлицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно.	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации **№ 5**, 4 этаж Договор № 337 от 11.04.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГАУЗ Архангельской области «Архангельский клинический кожно-венерологический диспансер». Срок действия Договора – 5 лет. Оборудование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* комплект учебной мебели (столы, стулья, экран, доска), рабочее место преподавателя, рабочие места для обучающихсяна 24 места *б) наборы демонстрационного оборудования:* ноутбук, проектор	163000, Архангельская область, г. Архангельск, проезд Сибиряковцев, д. 2, корп.1

в) перечень учебно-наглядных пособий: наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно.	

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 26th 2020

SYLLABUS OF THE DISCIPLINE

Discipline **Gerontological Aspects of Pharmacotherapy**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI / 12**
Form of the interim assessment **Credit**
Department **of Pharmacology and Pharmacy**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No.
June 26th 2020
Head of the department
I. A. Krylov

Author and compiler:
Krylov Ilya Albertovich, Head of the Institute of Pharmacology and Pharmacy, Head of the Department of Pharmacology and Pharmacy, Associate Professor of the Department of Pharmacology and Pharmacy, Doctor of Medical Sciences

Arkhangelsk, 2020

1. Goal and tasks of the mastering of the course

Goal of the discipline	The goal of the discipline is to form necessary minimum of theoretical knowledge related to peculiarities of the action of drugs on elderly patients.
Tasks of the discipline	- to recognize possible side effects and toxicological manifestations when using medicines; - to teach students the principles of prescribing and composing prescriptions, the ability to write prescriptions for medicines in various dosage forms, as well as for certain pathological conditions, based on the characteristics of pharmacodynamics and pharmacokinetics of drugs.

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

The program is developed following the requirements of Federal State Education Standard (FSES) for higher education in the field of 31.05.01 «General medicine». Block 1. Variative part. Elective disciplines.

The program related to many academic and clinical disciplines, including such as "Physiology", "Pathology", "Therapy", "Clinical pharmacology". In turn, the main provisions of the pharmacology is the basis for the formation of the individual specialist.

The title of disciplines interested in program division.

- The human physiology and anatomy: physiology of the autonomic nervous system, central nervous system, $GABA_A$ receptors, nociceptive and anti-nociceptive systems, electrophysiology of normal cardiac rhythm; normal regulation of blood pressure; renal tubule transport mechanisms; normal lipoprotein metabolism: synthesis and catabolism; mechanisms of blood coagulation, blood coagulation cascade (fibrin formation), initiation of clotting; hematopoiesis, the main components of the haemopoietic system; physiology and anatomy respiratory system; gastrointestinal system; the homeostatic mechanisms controlling energy balance; endocrine system; bone mineral homeostasis.
- Pathological anatomy: characteristic of inflammatory reactions, atheromatous disease, respiratory system disorders; gastrointestinal disorders; bone mineral homeostasis disorders.
- Pathological physiology: the immune response (acute or chronic), characteristic of inflammatory reactions, types of allergic or hypersensitivity reactions (immediate or anaphylactic hypersensitivity, antibody-dependent cytotoxic hypersensitivity, complex-mediated hypersensitivity, cell-mediated hypersensitivity), mediators of inflammation and immune reactions; the pathogenesis of major depression; parkinsonism pathophysiologic changes; types of heart failure; mechanisms of arrhythmias; pathophysiology of angina; systemic hypertension and regulation of blood pressure; atheromatous disease, modifiable

risk factors for atheromatous disease; athophysiology of hyperlipoproteinaemia: atherogenesis, lipoprotein transport in the blood; disorders of coagulation; types of anaemia; respiratory system disorders; gastrointestinal disorders; endocrine system disorders; bone mineral homeostasis disorders.

- Biochemistry: the cyclo-oxygenase family: tissue expression, functions; hormones; bone mineral homeostasis.
- General surgery: description of the stages of anesthesia.
- Microbiology and immunology: types of microorganisms, antibiotic resistance phenomen, the immune response (acute or chronic), characteristic of inflammatory reactions, types of allergic or hypersensitivity reactions.

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

Codes of the formed competences	**Competences**		
	a student has knowledge of	**a student is able to**	**a student masters**
GPC –No.	**General professional competences**		
PC-8 ability to decide on management of patients with various nosological forms	Milestones of a history of pharmacology. Methods of pharmacological researches and pharmacological terms (definitions). Pharmaceutical classes of the drugs (pharmacologic classification). Chemistry characteristics of main groups of the drugs. Mechanism of action of the drugs (pharmacological actions). Pharmacokinetic properties of some commonly used drugs. Contraindications of some commonly used drugs.	Dosage regimen of some commonly used drugs. Prevalence use of the main groups of the drugs (therapeutic applications). Undesired effects of the main groups of the drugs (adverse effects, unwanted effects and dangers, toxicity) and their preventive maintenance Principles of clinical	Principles of drug combinations (some important interactions with other drugs). Principles of the management of hypertensive emergencies. Prescriptions of the drugs

		(therapeutic) efficacy. Withdrawal symptoms (drug dependence). Diagnosis and treatment of overdosage. To use the scientific literature.	

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

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

Discipline workload (in academic hours)	**Type of the academic work**	**Total hours**	**Term**
	Lectures (L)		
	Seminars (Sem.)		
	Practical classes (PC)	54	12
	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)	54	12
	Examination control (EC)		
	Total course workload	**108**	**12**

5. Contents of the course:

5.1. Contents of the sections of the course

No	**Name of the course section**	**Content of the section**
1	2	3
1	**The Section I. The General principals of gerontopharmacology.**	
		Introduction to gerontopharmacology. Basic principles of gerontopharmacology. Drug reactivity and drug-receptor bonds (covalent, electrostatic, and hydrophobic – their characteristic) in elderly patients.

		Pharmacokinetic of the drugs (pharmacokinetic processes) in elderly patients: ways and means of the introduction medicine (routes of administration in elderly patients). Specific of the absorption in elderly patients. Transport of medicinal material in elderly patients. Bioavailability and bioequivalence in elderly patients. Distribution of the drugs in elderly patients. Drug clearance in elderly patients: the ways of the elemination medicine from organism; specific of renal excretion of drugs and drug metabolites (glomerular filtration, active tubular secretion, passive diffusion across tubular epithelium); specific of half-life period ($t_{1/2}$) in elderly patients, drug accumulation in elderly patients. Pharmacodynamic processes and pharmacodynamic principles (drug-body interactions) in elderly patients. Examples of adverse effects associated with specific medications in elderly patients. Special aspects of geriatric pharmacology. Pharmacologic changes associated with aging: effect of age on some physiologic functions, pharmacokinetic changes (absorption, distribution, metabolism, elimination), pharmacodynamic changes, behavioral and lifestyle changes. Specific of major drug groups: sedative-hypnotics, opioid analgesics, traditional antipsychotic and antidepressant agents, drugs used in Alzheimer's disease, antihypertensive drugs, positive inotropic agents, antiarrhythmic agents, antimicrobial drugs, anti-inflammatory agents. Adverse drug reactions in the elderly.
2	**The Section II.** **The Private of geriatric pharmacology.**	

		Gerontopharmacologycal characteristic of beta-adrenoceptor antagonists: the pharmacological actions of β-receptor antagonists in the elderly, specific of pharmacokinetic properties in the elderly, organ system effects, therapeutic applications in the elderly, unwanted effects and their preventive maintenance, specific of drug interactions in the elderly. Pharmacological control to allergies and inflammations in the elderly. Therapeutic strategies in the elderly: specific of uses nonsteroidal anti-inflammatory drugs, glucocorticoids, disease-modifying antirheumatic drugs). Gerontopharmacologycal characteristic of central nervous system (CNS) drugs. Pharmacology of sedative-hypnotic (anxiolytic) drugsin the elderly. Characteristic of benzodiazepines, barbiturates, chemical structures of newer hypnotics. Specific of pharmacokinetics in the elderly, pharmacodynamics in the elderly. Tolerance; psychologic and physiologic dependence; adverse effects in the elderly; drug interactions. Pharmacologic principles of treatment of anxiety states in the elderly. Opioid analgesics in the elderly. Organ system effects of morphine and its surrogates: central nervous system effects (analgesia, euphoria, sedation, respiratory depression, cough suppression, miosis, truncal rigidity, nausea and vomiting, temperature), peripheral effects (cardiovascular system, gastrointestinal tract, biliary tract, renal function, uterus, neuroendocrine, pruritus, miscellaneous). Clinical use of opioid analgesics in the elderly: analgesia, acute pulmonary edema, cough, diarrhea, shivering, applications in anesthesia. Alternative routes of administrations in the elderly. Toxicity in the

		elderly. Undesired effects. Drug dependence in the elderly: specific of physical dependence, psychologic dependence. Tolerance in the elderly patients. Diagnosis and treatment of opioid overdosage in the elderly patients. Drug interactions in the elderly patients. Gerontopharmacologycal characteristic of antipsychotic (neuroleptic) agents. Drug action in the elderly patients. Efficacy. Prevalence of use in the elderly patients. Dosage and administration in the elderly patients. Off-label and controversial uses in the elderly patients. Side effects. Overdoses. Drug interactions in the elderly patients. Antidepressant agents in the elderly patients. Mechanisms of antidepressive pharmacologic action in the elderly patients, clinical indications, therapeutic efficacy in the elderly patients, long-term use, withdrawal symptoms, side effects in the elderly patients, overdoses, drug interactions in the elderly patients. Gerontopharmacology of general anesthetics. Gerontopharmacology of inhaled anesthetics: specific of pharmacokinetics (solubility, anesthetic concentration in the inspired air, pulmonary ventilation, pulmonary blood flow, anesthetic concentration gradient between arterial and mixed venous blood, elimination /clearance of inhaled anesthetics via the lungs/), specific of pharmacodynamics in the elderly patients (organ system effects of inhaled anesthetics: effects on the cardiovascular system, effects on the respiratory system, effects on the brain, effects on the kidney, effects on the liver, effect on uterine musculature), toxicity in the elderly patients (hepatotoxicity, nephrotoxicity, malignant hyperthermia), chronic toxicity in the elderly patients (mutagenicity, carcinogenicity,

		hematotoxicity), clinical use of inhaled anesthetics in the elderly patients. Uses of intravenous anesthetics in the elderly patients. Pharmacologic management of parkinsonism (paralysis agitans) and other movement disorders. Classification of parkinsonism, main signs and symptoms, pathophysiologic changes. Pharmacologic characteristic of L-dopa (levodopa), dopa decarboxylase inhibitors (carbidopa and benserazide), COMT enzyme inhibitors (tolcapone, entacapone), dopamine agonists (bromocriptine, pergolide, pramipexole, ropinirole, cabergoline, apomorphine, and lisuride). Neurorehabilitation, prognosis. Research directions: gene therapy, neuroprotective treatments, complementary therapies in the elderly patients. Nootropic drugs in the elderly patients. Characteristic of piracetam group: pharmacologic effects in the elderly patients, mechanisms of action, approval and usage, specific of dosage in the elderly patients, side effects in the elderly patients, contraindications. Gerontopharmacology of CNS-stimulants: uses of amphetamines (amphetamine, methamphetamine, methylphenidate, pemoline), eugeroics /"wakefulness enhancers"/ (adrafinil, armodafinil, modafinil), xanthines (caffeine, theophylline) in the elderly patients. Gerontopharmacology of local anesthetics. Pharmacology of topical anesthesia in the elderly patients, infiltration, plexus block, epidural (extradural) block, spinal anesthesia (subarachnoid block). Pharmacokinetic properties in the elderly patients (local and systemic absorption, distribution, metabolism and elimination), pharmacodynamics in the elderly patients,

		undesired effects in the elderly patients - toxicity (systemic effects following absorption /general adverse effects/, direct neurotoxicity, hypersensitivity and allergy, localized adverse effects, causes of localized symptoms), therapeutic applications in the elderly patients, unwanted effects and their preventive maintenance, drug interactions in the elderly patients. Gerontopharmacologycal aspects of the drugs used in heart failure. Types of heart failure (systolic failure, diastolic failure) and their characteristic in the elderly patients. Cardiac glycosides group in the elderly patients. Gerontopharmacologycal aspects of other positive inotropic drugs used in heart failure: inhibitors of phosphodiesterases (bipyridines inamrinone and milrinone), group of beta-adrenoceptor stimulants (the selective β_1-agonists - dobutamine) in the elderly patients. Drugs without positive inotropic effect used in heart failure in the elderly patients: diuretics, angiotensin-converting enzyme inhibitors, angiotensin AT_1-receptor-blockers drugs, vasodilators (hydralazine, isosorbide dinitrate, synthetic form of the endogenous peptide brain natriuretic peptide – nesiritide, inhibitor of endothelin - bosentan), beta-adrenoblockers drugs. Principles of management of acute heart failure in the elderly patients. Gerontopharmacologycal aspects of antiarrhythmic drugs - agents used in cardiac arrhythmias in the elderly patients. Pharmacologic classification and characteristic (the Vaughan Williams classification (Vaughan Williams' Oxford group), introduced in 1970): class I agents interfere with the sodium channel (IA - Na^+ channel block (intermediate association/dissociation), IB - Na^+ channel block (fast association/dissociation), IC - Na^+ channel block (slow association/dissociation)), class II agents are

		anti-sympathetic nervous system agents, class III agents affect potassium (K^+) efflux, class IV agents affect calcium channels and the AV node (but not dihydropyridines). Antianginal drugs in the elderly patients. Gerontopharmacologycal aspects of drugs used to treat angina and myocardial infarction. Pharmacologic characteristic of cardioprotective drugs (trimetazidine). Gerontopharmacologycal aspects of antihypertensive drugs: mechanisms and sites of action, pharmacokinetic characteristics, dosage, undesirable effects, contraindications to use, drug interactions in the elderly patients. Atherosclerosis and lipoprotein metabolism. Gerontopharmacologycal aspects of the main agents used clinically: statins (3-hydroxy-3-methylglutaryl-coenzyme A reductase inhibitors - lovastatin, atorvastatin, fluvastatin, pravastatin, simvastatin, rosuvastatin), fibric acid derivatives (gemfibrozil, fenofibrate, bezafibrate), inhibitors of cholesterol absorption /bile acid-binding resins/ (colestyramine, colestipol, colesevelam), inhibitors of intestinal sretol absorption (ezetimibe), nicotinic acid or its derivatives, fish oil derivatives: pharmacological actions, pharmacokinetic aspects and side-effects, contraindications to use. Principals of combined drug therapy of hyperlipoproteinaemia in the elderly patients. Dietary management of hyperlipoproteinaemia (general principals) in the elderly patients. Gerontopharmacologycal aspects of the drugs used in disorders of coagulation. Pharmacology of the anticoagulant drugs in the elderly patients. The indirect thrombin inhibitors. The direct thrombin inhibitors. Pharmacology of the fibrinolytic drugs

		(streptokinase, urokinase, anistreplase, alteplase, reteplase, tenecteplase, duteplase). Gerontopharmacologycal aspects of the antiplatelet drugs (clopidogrel, ticlopidine, aspirin, dipyridamole). Glycoprotein IIb/IIIa receptors inhibitors (abciximab, eptifibatide, tirofiban); the drugs used in bleeding disorders; the inhibitors of fibrinolysis - aminocaproic acid. Gerontopharmacologycal aspects of the the serine protease inhibitors – aprotinin. Gerontopharmacologycal aspects of the agents used in anemias. Iron (iron salts): pharmacokinetics (absorbtion, transport, distribution of iron in the body, storage, elimination, iron turnover and balance), indications for the use of iron, treatment (oral iron therapy, parenteral iron therapy), clinical toxicity (acute and chronic iron toxicity), drug interactions, contraindications in the elderly patients. The treatment of acute and chronic iron toxicity. Gerontopharmacologycal aspects of the Vitamin B_{12}: their biochemical actions, the role of vitamin B_{12} in the synthesis of folate polyglutamate, chemistry, pharmacokinetics, pharmacodynamics, clinical uses (megaloblastic anemia, pernicious anemia). Gerontopharmacologycal aspects of the folic acid (pteroylglutamic acid); hematopoietic growth factors and colony-stimulating factors: erythropoietin (epoetin alfa), granulocyte colony-stimulating factor (G-CSF), granulocyte-macrophage colony-stimulating factor (GM-CSF), and interleukin-11 (IL-11), pegfilgrastim, sargramostim, darbopoietin, lenograstim in the elderly patients. Pharmacology of respiratory system disorders in the elderly patients. Categories of antiasthma drugs: bronchodilators (β_2-adrenoceptor agonists, methylxanthines, muscarinic receptor antagonists /ipratropium, thiotropium/) /short- and long-acting inhaled

		bronchodilators/ and anti-inflammatory (cysteinyl leukotriene receptor antagonists, glucocorticoids, cromoglicate and nedocromil, anti-IgE - monoclonal antibodies treatment /omalizumab/) agents their pharmacological characteristic. Management of the severe acute asthma (status asthmaticus) in the elderly patients. Chronic obstructive pulmonary disease: pathogenesis, principles of treatment, specific aspects of treatment in the elderly patients. Gerontopharmacologycal aspects of the drugs used in the treatment of gastrointestinal diseases. Drugs used in the acid-peptic diseases. Agents that reduce intragastric activity. Antacids in the elderly patients. Mucosal protective agents: mucosal prostaglandin analogs (misoprostol), sucralfate, colloidal bismuth compounds (bismuth subsalicylate, bismuth subcitrate and bismuth dinitrate). Drugs stimulating gastrointestinal motility - drugs that selectively stimulate gut motor function (prokinetic agents): physiology of the enteric nervous system; 5-HT_3-receptor antagonists and 5-HT_4-receptor agonists, cholinomimetic agonists (bethanechol, neostigmine), D_2 receptor antagonists (metoclopramide and domperidone). Laxatives: classification (bulk-forming laxatives, stool surfactant agents /softeners/, osmotic laxatives, stimulant laxatives /cathartics/, serotonin 5-HT_4 receptors agonists). Gerontopharmacology of the antidiarrheal agents: opioid agonists, colloidal bismuth compounds, bile salt-binding resins (cholestyramine, colestipol), octreotide (somatostatin). Drugs used to treat inflammatory bowel disease in the elderly patients. Pancreatic enzyme supplements in the elderly patients. Pharmacologic characteristic of the creon, pancrease, ultrase in the elderly patients. Bile acid therapy for gallstones: pharmacologic characteristic of

		the ursodiol (ursodeoxycholic acid) in the elderly patients. Obesity treatment in the elderly patients. The homeostatic mechanisms controlling energy balance in the elderly patients. Pharmacologic characteristic of 'anorectic' (e.g. appetite suppressant) agents in the elderly patients. The endocrine pancreas; categories of diabetes mellitus (the current classification of diabetes mellitus): type 1, insulin-dependent diabetes; type 2, noninsulin-dependent diabetes; type 3, other; and type 4, gestational diabetes mellitus (Expert Committee, 2003). Characteristics of available insulin preparations in the elderly patients. The oral antidiabetic agents in the elderly patients. Agents that affect bone mineral homeostasis in the elderly patients. Principal hormonal regulators of bone mineral homeostasis in the elderly patients (parathyroid hormone, vitamin D, glucocorticoid hormones, estrogens). Pharmacologic characteristic of vitamin D, metabolites and analogs (calcitriol, cholecalciferol [D3], doxercalciferol, ergocalciferol [D2] (vitamin D2, calciferol), paricalcitol), calcium preparations, phosphate in the elderly patients. Gerontopharmacologycal aspects of the chemotherapeutic drugs. General principles of antimicrobial therapy in the elderly patients. Empiric antimicrobial therapy in the elderly patients, approach to empiric therapy, choice of antimicrobial agent, principles of antimicrobial therapy of infections with known etiology, interpretation of culture results, guiding antimicrobial therapy of established infections, susceptibility testing, definition of minimal inhibitory concentration and minimal bactericidal concentration, specialized assay methods,

		monitoring therapeutic response, clinical failure of antimicrobial therapy, bacteriostatic versus bactericidal activity (concentration-dependent killing, time-dependent killing), postantibiotic effect, pharmacokinetic considerations (route of administration, conditions that alter antimicrobial pharmacokinetics, drug concentrations in body fluids, monitoring serum concentrations of antimicrobial agents), management of antimicrobial drug toxicity, antimicrobial drug combinations (rationale for combination antimicrobial therapy, synergism and antagonism, mechanisms of synergistic action, mechanisms of antagonistic action), antimicrobial prophylaxis (surgical prophylaxis) in the elderly patients. Gerontopharmacologycal characteristic of the antifungal drugs: polyene antifungals, imidazole, triazole and thiazole antifungals, imidazoles, triazoles, thiazoles, allylamines, echinocandins, others. Gerontopharmacologycal characteristic of antiviral drugs. Approaches by life cycle stage: before cell entry, entry inhibitor, uncoating inhibitor, during viral synthesis, reverse transcription, integrase, transcription, translation / antisense, translation / ribozymes, protease inhibitors, assembly, release phase. Agents to treat herpes simplex virus and varicella-zoster virus infections in the elderly patients. Agents to treat cytomegalovirus infections in the elderly patients. Antiretroviral therapy in the elderly patients. Antihepatitis drugs in the elderly patients. Gerontopharmacologycal characteristic of anti-influenza drugs. Cancer chemotherapy in the elderly patients. Combination chemotherapy in the elderly patients. Adjuvant therapy. Supportive care during chemotherapy in the elderly patients.

		Gerontopharmacologycal characteristic of polyfunctional alkylating agents, the nitrosoureas group, related drugs acting as alkylating agents, antimetabolites, purine antagonists, pyrimidine antagonists group, plant alcaloids group, epipodophyllotoxins, camptothecins, hormonal agents, miscellaneous anticancer drugs, monoclonal antibodies. Gerontoimmunopharmacology. Gerontopharmacology of immunosuppressive agents (immunodepressants) and immunostimulants.

5.2. Sections and types of studies

No.	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
1	The Section I. The General principals of gerontopharmacology.			5				10	15
2	The Section II. The Private of geriatric pharmacology.			49				44	93

6. Interactive forms of studies

Active and interactive forms of work used in the educational process: individualization and flexibility of elective through outside of class, independent work, computer simulations, business and role-playing, brainstorming, discussion, case method (analysis of situations), simulation (role-playing game design - construction, development of methodological or technical solutions), small group work, case studies, psychological and other trainings, creative tasks, case studies with the standards of responses, multimedia training.

Methods based on the latest achievements of science and information technology in education are used in the process of teaching. They are aimed to improve the quality of training through the development of students' creativity and self-reliance. For this purpose are used:

• interactive forms of holding seminars and clinical dissections
• training form of practical training
• lectures on telemedicine (or on CD ROM), the country's leading experts.

No	Name of the course section	Interactive forms of studies	Duration (hours)
1	The Section I. The General principals of gerontopharmacology.	Business and role-playing, case studies, psychological or other training, situational problems with the standards of answers. The method of small groups. Discussion on employment. Analysis of specific clinical situations.	4
2	The Section II. The Private of geriatric pharmacology.	Business and role-playing, case studies, psychological or other training, situational problems with the standards of answers. The method of small groups. Discussion on employment. Analysis of specific clinical situations.	8
		Total (hours)	12
		Total (% of the class activities)	22 %

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

The list of questions and topics, intended for self-studing study, refer to guidelines for teachers on discipline traumatology and orthopedics, subparagraph "The organization and the control of independent work of students."

No	Name of the course section	Types of self-studies	Forms of control
1	The Section I. **The General principals of gerontopharmacology.**	The study of educational material for primary and secondary literature. Preparation of a report with a presentation on "Pharmacodynamic processes and pharmacodynamic principles (drug-body interactions) in elderly patients. Examples of adverse effects associated with specific medications in elderly patients".	Discussion LMS Moodle
2	The Section II.	Preparation of a report with a presentation on	Discussion

	The Private of geriatric pharmacology.	"Gerontopharmacologycal aspects of the chemotherapeutic drugs"	LMS Moodle

8. Forms of control

8.1. Forms of current control

- Oral: recitation on topic sesions, interview, assessment of the report, analysis of multimedia presentations and slideshows;
- Written: test control on paper, summaries, writing abstracts on the topics of missed practical lessons, solving clinical case studies.

A theme list of abstracts, reports, review papers, test collections and situational problems are shown at the Section 'Evaluation tools'.

8.2. Forms of interim attestation: the intermediate pass/fail test with the evaluation "passed" in the discipline, which goes to the next semester, at the end of the lecture and practical cycles of the semester.

Stages of pass/fail test

1. Stage - The test control;
2. Stage – Interview

Questions for a pass/fail test, a theme list of test collections and situational problems are shown at the section 'Set of the evaluation tools for the current control and interim assessment of students'.

9. Library and information materials of the course

9.1. Compulsory literature

1. Tripathi KD. Essentials of Medical Pharmacology [Text] / K. D. Tripathi. - 7th ed. - New Delhi ; London ; Philadelphia : Jaypee brothers medical publishers (P) LTD, 2013. - 1002 p. : ил. - Index: p. 977-1002. - ISBN 978-93-5025-937-5 (в пер.)

2. Kharkevitch D. A. Pharmacology [Электронный ресурс] / D. A. Kharkevitch . - 2-е изд., испр. и доп. - М. : GEOTAR-Media, 2017. - 680 p. - URL: http://www.studentlibrary.ru/book/ISBN9785970438831.html

3. Luellmann H. Color Atlas of Pharmacology. [Электронный ресурс] / H. Luellmann, K. Mohr, L. Hein. - 5th ed. - [Б. м.] : Thieme, 2017. - URL: https://medone-education.thieme.com/ebooks/2129838?fromSearch=true#/ebook_2129838_SL81461794

4. Simmons M. Pharmacology-An Illustrated Review. [Электронный ресурс] / M. Simmons. - 1st ed. - [Б. м.] : Thieme, 2011. - URL: https://medone-education.thieme.com/ebooks/2146880?fromSearch=true#/ebook_2146880_SL81922334

5. Simmons M. Pharmacology: An Essential Textbook[Электронный ресурс]/ M. Simmons. -2st ed.: Thieme, 2020. – URL: https://medone-education.thieme.com/ebooks/cs_13052599#/ebook_cs_13052599_cs29

6. Reichl F. Illustrated Handbook of Toxicology. [Электронный ресурс] / F. Reichl, L. Ritter. - 1st ed. - [Б. м.] : Thieme, 2010. - URL: https://medone-education.thieme.com/ebooks/2122982?fromSearch=true#/ebook_2122982_SL81315095

7. Pharmacology. Illustrated textbook [Электронный ресурс]/ ed. R. N. Alyautdin. -Moscow: GEOTAR-Media, 2020. -312 c.- URL: https://www.studentlibrary.ru/ru/book/ISBN9785970456651.html

9.2. Supplementary literature

1. Babbini M. Pharmacology Test Prep. 1500 USMLE-Style Questions & Answers. [Электронный ресурс] / M. Babbini, M. Thomas. - 1st ed. - [Б. м.] : Thieme, 2014. - URL: https://medone-education.thieme.com/ebooks/2135012?fromSearch=true#/ebook_2135012_SL81653618

2. Reichl F. Illustrated Handbook of Toxicology. [Электронный ресурс] / F. Reichl L. Ritter. - 1st ed. - [Б. м.] : Thieme, 2010. - URL: https://medone-education.thieme.com/ebooks/2122982?fromSearch=true#/ebook_2122982_SL81315095

3. Венгеровский Александр Исаакович. Фармакология. Курс лекций [Электронный ресурс] : учеб. пособие / А. И. Венгеровский. - 4-е изд., перераб. и доп. - Москва : ГЭОТАР-Медиа, 2015. - 736 с. - URL: http://www.studentlibrary.ru/book/ISBN9785970433225.html

4. Фармакология [Электронный ресурс] : учебник / ред. Р. Н. Аляутдин. - 5-е изд., перераб. и доп. - Москва : ГЭОТАР-Медиа, 2016. - 1104 с. - URL: http://www.studmedlib.ru/book/ISBN9785970437339.html

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

1) http://grls.rosminzdrav.ru/default.aspx

2) http://www.roszdravnadzor.ru/drugs/monitpringlp?from_subheader_menu=1

3) http://www.roszdravnadzor.ru/drugs/qualitycontrol?from_subheader_menu=1

4)
http://www.roszdravnadzor.ru/drugs/monitoringzhnvlp?from_subheader_menu=1
5)
http://www.roszdravnadzor.ru/medactivities/statecontrol/standards?from_subheader_menu=1

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

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

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа № 2102 имени Н.П. Бычихина административный учебный корпус, 1 этаж *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* проектор, моноблок, экран, колонки *в) перечень учебно-наглядных пособий:* таблицы, схемы *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51

Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 1349 главный учебный корпус, 3 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 31 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины. Схемы по темам занятий, доска информационная. *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение№1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 1314 главный учебный корпус, 3 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 23 места. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины. Схемы по темам занятий, доска информационная. *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 1344а главный учебный корпус, 3 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран,доска) рабочее место преподавателя, рабочие места для обучающихся на 21 место. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины. Схемы по темам занятий, доска д/фломастеров, доска информационная *г) используемое программное обеспечение:*	163000, г. Архангельск, просп. Троицкий, д. 51

Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	

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 26th2020

SYLLABUSOF THE DISCIPLINE

Discipline**Modern Rehabilitation Methods**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI / 12**
Form of the interim assessment**Credit**
Department**of Physical Culture and Medical Rehabilitation**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No.
June 16th2020
Head of the department

N. I. Ishekova

Authors and compilers:
IshekovaNadezhda Ivanovna, Head of the Department of Physical Culture and Medical Rehabilitation, Associate Professor of the Department of Physical Culture and Medical Rehabilitation, Doctor of Medical Sciences; IshekovAlexandrNikolaevich, Associate Professor of the Department of Physical Culture and Medical Rehabilitation, Candidate of Biological Sciences

Arkhangelsk, 2020

1. Purpose and objectives of the course

Goal of the discipline	The goal of the discipline is toprovide specific knowledge and practical skills for applying scientifically based methods of rehabilitation measures to patients who have suffered a somatic disease, injury or surgery.
Tasks of the discipline	- to teach students to make classification of physical exercises; - to acquire knowledge about methods for studying physical and functional state of a healthy person and a sick one and to choose an adequate physical mode; - to determine indications and contraindications to the use of non-drug therapy; - to apply various rehabilitation measures (medical, social and professional) among patients with the most common pathological conditions and injuries of the body; - to monitor the effectiveness of provision of rehabilitation and preventive care.

2. Location of the course within the educational program (EP)

The program was compiled in accordance with the requirements of the Federal State Educational Standard of Higher Education in the direction of preparation 05.31.01 “Medical business”.

The discipline of choice "Modern methods of rehabilitation" refers to the cycle of professional disciplines, Block 1. Variative part. Elective disciplines.

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

Codes of developed competences	**Competences**		
	Know	Be able to (can)	Master (be a master in)
PC -№	**Professional competences**		
PC-8 ability to decide on management of patients with various nosological forms	Organization of medical assistance for medical rehabilitation	Ergotherapy in the rehabilitation system.	The content of the topic: types of massage, classification, mechanism of action, the basic techniques of classical, segmental and acupressure

4. Volume of the course and types of academic work:

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

Discipline workload (in academic hours)	**Type of the academic work**	**Total hours**	**Term**
	Lectures (L)		
	Seminars (Sem.)		
	Practical classes (PC)		
	Clinicalpracticals(CP)	35	12
	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)	37	12
	Examination control (EC)		
	Total course workload	**72**	**12**

5. Course content:

5.1. Content of the course sections

No	**Name of the course section**	**Content of the section**
1	2	3
1	The basics of medical rehabilitation	Topic 1. Organization of medical assistance for medical rehabilitation. Contents: Indications and contraindications for the appointment of non-pharmacological methods of treatment (physical therapy, physiotherapy, reflexology, manual therapy, diet therapy, etc.). Stages, levels and aspects of rehabilitation (medical, social, professional, psychological). Theme 2. The place and role of physical therapy in rehabilitation treatment. Content: Classification of remedies for physical therapy. The basic principles of selection and dosage of physical activity. Contraindications to the appointment of physiotherapy exercises. Classification of exercise. Features of exercise therapy in the rehabilitation of adults and adolescents. The principles of drawing up schemes and complexes of exercise therapy. Theme 3. Ergotherapy in the rehabilitation system. The content of the topic: Concept. International Classification of Functioning. Models of ergotherapeutic assessment of human activity. The environment and its adaptation. Theme 4. Therapeutic massage. The content of the topic: types of massage, classification, mechanism of action, the basic

		techniques of classical, segmental and acupressure. Theme 5. Fundamentals of general physiotherapy. Content: Classification of physiotherapy methods. The basic principles of selection and dosage. Contraindications to the appointment of physiotherapy. Electrotherapy. Phototherapy. Mechanical effects. Aerosol and electroaerosoltherapy, halotherapy. Hydrotherapy. Balneotherapy. The treatment is warm and cold. Mud therapy.

5.2. Course sections and types of studies

No	Name of the course section	L	P	S	LBP	CP	Self-studies	Total hours
1	2	3	4	5	6	7	8	9
1	The basics of medical rehabilitation				50		22	72

6. Interactive forms of studies

No	Name of the course section	Interactive forms of studies	Duration (hours)
1	The basics of medical rehabilitation	Work in small groups in solving situational problems. Drawing up the scheme and complex of therapeutic gymnastics as prescribed by the doctor of exercise therapy.	12
		Total (hours)	12
		Total (% of in-class learning)	11%

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

№	Topic of the practical	Kind of work	Forms of control
1.	Organization of medical rehabilitation in Europe	Report Preparation Work with Moodle	interview, testing
2.	Organization of medical rehabilitation in Russia	Report Preparation Work with Moodle	interview, testing
3.	The procedure for the appointment of therapeutic exercises and paperwork.	Report Preparation Work with Moodle	interview, testing

4.	The basic principles of selection and dosage of physical activity.	Report Preparation Work with Moodle	interview, testing
5.	Unconventionalmassagetechniques.	Report Preparation Work with Moodle	interview, testing
6.	New methods of physiotherapy in Russia	Report Preparation Work with Moodle	interview, testing

8. Forms of control

8.1. Currentforms of control

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

A subject list of abstracts, reports, essays, tests, term papers, test collections and cases are shown at the section «Assessment tools».

8.2. Forms of interim attestation (pass/fail test, examination)

Stages of examination (pass/fail test)

1. Stage - final test
2. Stage - control of practical skills (interpretation of the oral glucose tolerance test (OGTT)
3. Stage – student's medical case history

9. Maintenance of the course

9.1. Compulsory course literature

1. Epifanov A.V. Medical rehabilitation [Electronic resource]: textbook / A. V. Epifanov, E. E. Achkasov, V. A. Epifanov. - Moscow: GEOTAR-Media, 2015. -672 p. - Access mode: http://www.studmedlib.ru/.

2. Epifanov V.A. Therapeutic physical culture [Electronic resource]: textbook. allowance / V.A. Epifanov. 3rd ed., Rev. and additional .. -Moscow: GEOTAR-Media, 2017. -656 pp., ill. - Access mode: http://www.studentlibrary.ru/book/ISBN9785970442579.html

3. Mehrholz J. Physical Therapy for the Stroke Patient: Early Stage Rehabilitation [Электронныйресурс]/ J. Mehrholz: Thieme, 2012- URL: https://medone-education.thieme.com/ebooks/2125925?fromSearch=true#/ebook_2125925_SL81383464

4. Schiffter R. Connective Tissue Massage. Bindegewebsmassage According to Dicke [Электронныйресурс]/ R. Schiffter, E. Harms: Thieme, 2014- URL: https://medone-education.thieme.com/ebooks/2144595?fromSearch=true#/ebook_2144595_SL81870342

9.2. Additional literature

1. Alexandrov V.V. Fundamentals of restorative medicine and physiotherapy Electronic resource]: textbook / V.V. Aleksandrov, A.I. Algazin. - Moscow: GEOTAR-Media, 2018 .-- 136 p. Access mode:http://www.rosmedlib.ru/book/ISBN9785970440575.html

2. Epifanov V.A. Therapeutic physical culture [Electronic resource]: textbook. allowance / V.A. Epifanov. 3rd ed., Rev. and additional .. -Moscow: GEOTAR-Media, 2017. -656 pp., ill. - Access mode: http://www.studentlibrary.ru/book/ISBN9785970442579.html.

3. Ponomarenko G.N. Medical rehabilitation [Electronic resource]: textbook / G. N. Ponomarenko. - Moscow: GEOTAR-Media, 2014 .- 360 p .: ill. - Access mode: http://www.studmedlib.ru/.

4. Color Atlas of Acupuncture. Body Points, Ear Points, Trigger Pointse. [Электронный ресурс]/ H. Hecker [и др.]. -2nd ed.: Thieme, 2008- URL: https://medone-education.thieme.com/ebooks/2122117?fromSearch=true#/ebook_2122117_SL81161686

5. Ergil M. Pocket Atlas of Chinese Medicine [Электронныйресурс]/ M. Ergil, K. Ergil: Thieme, 2009- URL: https://medone-education.thieme.com/ebooks/2130575?fromSearch=true#/ebook_2130575_SL81482201

6. Gautschi R. Manual Trigger Point Therapy: Recognizing, Understanding, and Treating Myofascial Pain and Dysfunction [Электронныйресурс]/ Roland Gautschi. - Thieme, 2019- URL: https://medone-education.thieme.com/p/author/profile/0000775748

7. Richter P. Trigger Points and Muscle Chains [Электронныйресурс]/ Philipp Richter, Eric Hebgen.- Thieme, 2019- URL: https://medone-education.thieme.com/ebooks/2427168#/ebook_2427168_SL90763924

8. Dr. Vodder's Manual Lymph Drainage: A Practical Guide [Электронныйресурс]/ Hildegard Wittlinger, Dieter Wittlinger, Andreas Wittlinger, Maria Wittlinger.- Thieme, 2019- URL: https://medone-education.thieme.com/ebooks/2396276#/ebook_2396276_SL89764274

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

1. https://rehabrus.ru/- regulatory framework for medical rehabilitation, clinical recommendations, conference information
2. http://www.elibrary.ru - Scientific Electronic Library
3. http://www.edu.ru - Russian education. Federal portal

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

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

Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
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10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 36, 5-й этаж, главный корпус Договор № 606 от 26.07.2017 года об организации практической подготовки обучающихся между ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России и ГБУЗ Архангельской области «Архангельская городская клиническая больница № 7». Срок	163062, Архангельская область, г. Архангельск, ул. Ярославская, д. 42

действия Договора – 5 лет. Обородование согласно Приложению № 3 к Договору. *а) перечень основного оборудования:* комплект учебной мебели (столы, стулья, экран, доска), рабочее место преподавателя, рабочие места для обучающихся на 14 мест *б) наборы демонстрационного оборудования:* колонки, моноблок, проектор, экран *в) перечень учебно-наглядных пособий:* наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номерлицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно.	
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 1429, главный учебный корпус, 4 этаж *а) перечень основного оборудования:* комплект учебной мебели (столы, стулья, экран, доска), рабочее место преподавателя, рабочие места для обучающихся на 10 мест *б) наборы демонстрационного оборудования*: ноутбук, проектор, телевизор *в) перечень учебно-наглядных пособий:* наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины; аппарат массажный, балансировочная подушк, бандаж на коленный сустав, бандаж на плечевой сустав, весы бытовые Omron, видеокамера, воротник "Реклинатор", воротник ортопедический, корсет пояснично-крестцовый, манжета медицинская, налокотник эластичный, пикфлуометрOmron,пояс корсетный, прибор для измерения ёмкости лёгких, пульсар 3 для глухих, пульсотахограф, светоскоп, фиксатор для голеностопа, фиксатор коленного сустава, осанки *г) используемое программное обеспечение:* KasperskyendpointSecurity. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номерлицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номердокумента 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно.	163000, г. Архангельск, просп. Троицкий, д. 51

MINISTRY OF HEALTHCARE OF THE RUSSIAN FEDERATION
Federal State Budgetary Educational Institution of Higher Education
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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 26th 2020

SYLLABUS OF THE DISCIPLINE

Discipline **Epidemiological methods of non-infectious diseases**
Field of training **31.05.01 General Medicine**
Year (s) of study / term (s) **VI / 12**
Form of the interim assessment **Credit**
Department **of Hygiene and Medical Ecology**
Discipline workload **108** (academic hours) / **3** (credits)

Approved at the department meeting
Minutes No.
June 16th 2020
Head of the department
A. B. Gudkov

Author and compiler:

Unguryanu Tatiana Nikolaevna, Associate Professor of the Department of Hygiene and Medical Ecology, Doctor of Medical Sciences

Arkhangelsk, 2020

1. Goal and tasks of the course

Goal of the discipline	The goal of this discipline is to provide knowledge about epidemiological research to study non-infectious diseases, to identify the cause of disease, to evaluate the effectiveness of different types of health services and quality and effectiveness of screening programs.
Tasks of the discipline	- to study epidemiological research of non- infectious diseases - to describe the epidemiological approach to causation - to get knowledge about main risk factors of chronic diseases.

2. 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: 31.05.01 General Medicine (Variative cycle, Block 1).

List of courses for which mastering of the course is a necessary prerequisite: microbiology, hygiene, epidemiology.

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

Codes of the formed competences	**Competences**		
	a student has knowledge of	**a student is able to**	**a student masters**
PC- No.	**Professional competences**		
PC-8 ability to decide on management of patients with various nosological forms	The environment and chronic health problems.	Hypothesis development and testing	Types of experimental research

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

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

	Type of the academic work	**Total hours**	**Term**
Discipline workload	Lectures (L)		

(in academic hours)	Seminars (Sem.)		
	Practical classes (PC)	54	12
	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)	54	12
	Examination control (EC)		
	Total course workload	**108**	**12**

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.	**Chronic disease epidemiology** *The environment and chronic health problems* *Behaviour and chronic health problems*	**The environment and chronic health problems.** Physical stresses and health. Chemicals and health. Toxicokinetic. Biologic agents and health. The social environment and health. **Behaviour and chronic health problems.** Smoking and chronic disease. Diet and chronic disease. Body weight and chronic disease. Sexual practices and chronic disease. Behaviour changes for better health. Health belief model. Multifactorial etiology in chronic disease epidemiology
2.	**Descriptive epidemiological studies** *Semiotics in epidemiological diagnostics* *Content of descriptive epidemiological studies* *Time series analysis*	**Semiotics in epidemiological diagnostics.** Semiotics. Definition. Groups of epidemiological diagnostic measures: basic, additional, evaluative. Main measures: absolute numbers, incidence, prevalence, pathological incidence, incidence with temporary disability, mortality. Additional measures: extensive metrics, cumulative frequency, visibility ratios, standardized indicators. **Content of descriptive epidemiological studies.**

		Types of descriptive epidemiological studies. Ecological studies. Sources of information. Errors in ecological studies. Description of morbidity by territories, in the structure of the population and in time. Definition of territories and risk groups. **Time series analysis.** Time series analysis. Time series elements. Time series types. Groups of temporary causal factors. Indicators characterizing the rate of development of the epidemiological process over time: absolute change, growth rate, growth rate, lead rate. Graphs for displaying the dynamics of the epidemiological process
3.	**Analytical epidemiological studies** *Cohort study.* *Case-control study.* *Cross-sectional studies.*	**Cohort studies.** Types of cohort studies. Advantages and Limitations. Sources of information. Approaches to group formation. Methodology for conducting cohort studies. A four-field table for evaluating the results of a cohort study. Indicators obtained as a result of a cohort study: incidence (in the cohort), incidence (incidence), cumulative incidence, density of incidence. Measures for assessing the impact on outcomes in cohort studies: relative risk, additional risk, fraction of additional risk, additional population risk, fraction of additional population risk, ratio of incidence densities, difference in incidence densities. **Case-control studies.** Advantages and limitations of case-control studies. Sources of information. Approaches to group formation. Methods for selecting "controls". Methodology for conducting a case-control study. A four-field table for evaluating the results of a case-control study. Chances. Odds ratio. **Cross-sectional studies.** Advantages and limitations of cross-sectional studies. Sources of information. Approaches to group formation. Methodology for conducting cross-sectional studies. Cohort study indicators: prevalence, prevalence ratio. Chi-square test.

4.	**Experimental epidemiological studies** *Content of experimental epidemiological research methods.* *Assessment of the quality and effectiveness of anti-epidemic drugs and measures.*	**Content of experimental epidemiological research methods.** Types of experimental research. Advantages and Limitations. Sources of information. Approaches to group formation. Experimental research methodology. Randomized controlled trials. Field tests. Community level research. **Assessment of the quality and effectiveness of anti-epidemic drugs and measures.** The main criteria for assessing the quality of individual anti-epidemic measures. Potential Effectiveness. Actual efficiency. Security indicator. Efficiency index.
5.	**Causality in epidemiology** *Hypothesis development and testing*	**Hypothesis development and testing.** Hypothesis formulation. Hypothesis testing. Chance. Bias. Confounding. Causality. Causal inference. Causal guidelines. Web of causation. Fish bone diagram.

5.2. Sections and types of studies

No.	Name of the course section	L	S	P	CP	LBP	SBP	UW	Total hours
1	Chronic disease epidemiology			10				5	15
2	Descriptive epidemiological studies			10				5	15
3	Analytical epidemiological studies			10				5	15
4	Experimental epidemiological studies			10				2	12
5	Causality			10				5	15

6. Interactive forms of studies

No.	Name of the course section	Interactive forms of studies	Duration (hours)
1	Chronic disease epidemiology	an interview, report, checking of tests, situational problems solving	2
2	Descriptive epidemiological studies	an interview, report, checking of tests, situational problems solving	2
3	Analytical epidemiological studies	an interview, report, checking of tests, situational problems solving	2
4	Experimental epidemiological studies	an interview, report, checking of tests, situational problems solving	2

5	Causality in epidemiology	an interview, report, checking of tests, situational problems solving	2
		Total (hours)	10
		Total (% of in-class learning)	14%

7. 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	Chronic disease epidemiology	Prepare a report “Risk factors of cardiovascular diseases and cancer”	oral, written
2	Descriptive epidemiological studies	Compile a glossary of terms for measures in descriptive studies	oral, written
3	Analytical epidemiological studies	Compile a glossary of terms for measures of effect in analytical studies	oral, written
4	Experimental epidemiological studies	Answer the questions to the article, which presents the results of experimental epidemiological studies	oral, written
5	Causality in epidemiology	Prepare a report “Causality in Epidemiology”	oral, written

8. Forms of control

8.1. Current forms of control

- oral (an interview, a report)
- written (checking of tests, abstracts, situational problems solving).

A theme list of abstracts, reports, test collections and situational problems are shown at the section ‘Evaluation tools’.

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

Stages of the interim assessment

1. Stage - answer on questions

Questions for a pass/fail test and are shown at the section‘Set of the evaluation tools for the current control and interim assessment of students’.

9. Library and information materials of the course

9.1. Compulsory literature

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

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

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

9.2. Supplementary literature

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

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

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

http://webmed.irkutsk.ru Web – медицина - цифровые коллекции, цифровые библиотеки, базы данных и т.п.

http://lib.nsmu.ru/lib/ Электронный каталог и полнотекстовая электронная библотека НБ СГМУ.

http://feml.scsml.rssi.ru. Федеральная электронная медицинская библиотека.

http://www.elibrary.ru Научная электронная библиотека eLibrary.ru.

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

Software:
Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403.
MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно
Radmin Viewer 3. Radmin Server 3. Номер документа 11001793
Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно

10. Material and technical facilities necessary for the educational process

Наименование помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом, в том числе помещения для самостоятельной работы, с указанием перечня основного оборудования, учебно-наглядных пособий и используемого программного обеспечения	Адрес (местоположение) помещений для проведения всех видов учебной деятельности, предусмотренной учебным планом (в случае реализации ФГБОУ ВО СГМУ (г. Архангельск) Минздрава России программы в сетевой форме дополнительно указывается наименование организации, с которой заключен договор)
Учебная аудитория для проведения занятий лекционного типа № 2403 Морской медицины административный учебный корпус, 4 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 300 мест.	163000, г. Архангельск, просп. Троицкий, д. 51

б) наборы демонстрационного оборудования колонки, моноблок, проектор, экран *в) перечень учебно-наглядных пособий:* схемы, таблицы *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лиц. Согл. № 1051-08 от 10.04.2008, бессрочно	
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 1308 главный учебный корпус, 3 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 25 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Схемы по темам занятий, анализатор углекислого газа, барометр-анероид, шумомер портативный, высокоточечный термометр с черной сферой Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 1357 главный учебный корпус, 3 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 19 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины. Схемы по темам занятий, дозиметр-радиометр, измеритель вибрации *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793	163000, г. Архангельск, просп. Троицкий, д. 51

Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	
Учебная аудитория для занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 1307 главный учебный корпус, 3 этаж *а) перечень основного оборудования:* Комплект учебной мебели (столы, стулья, экран, доска) рабочее место преподавателя, рабочие места для обучающихся на 12 мест. *б) наборы демонстрационного оборудования* ноутбук, проектор *в) перечень учебно-наглядных пособий:* Наглядные пособия, раздаточный материал к практическим занятиям по всем темам дисциплины Таблицы, схемы для проведения занятий *г) используемое программное обеспечение:* Kaspersky endpoint Security. Номер лицензии 26FE-191125-134819-1-8403. MS Office 2007. MS Win Starter 7. MS Windows Prof 7 Upgr. MS Windows Server CAL 2008 Device CAL. Номер лицензии 46850049, бессрочно Radmin Viewer 3. Radmin Server 3. Номер документа 11001793 Traffic inspector. Лицензионное соглашение №1051-08 от 10.04.2008, бессрочно	163000, г. Архангельск, просп. Троицкий, д. 51