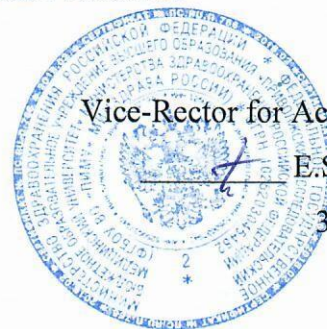


Federal State Budgetary Educational Institution of Higher Education
"Privolzhsky Research Medical University"
Ministry of Health of the Russian Federation



APPROVED

Vice-Rector for Academic Affairs

E.S. Bogomolova

31 August 2021

WORKING PROGRAM

Name of the academic discipline: **NEUROLOGY**

Specialty: **31.05.03 DENTISTRY**

Qualification: **DENTIST**

Department: **NERVOUS DISEASES**

Mode of study: **FULL-TIME**

Labor intensity of the academic discipline: **72 ACADEMIC HOURS**

Nizhny Novgorod
2021

The working program has been developed in accordance with the Federal State Educational Standard for the specialty 31.05.03 Dentistry, approved by Order of the Ministry of Science and Higher Education of the Russian Federation No. 96 of August dated 08, 2016.

Developers of the working program:

Full name, academic degree, title, position.

Grigoryeva V.N., MD, Professor, Head of the Department of Nervous Diseases

Khrulev A.E., Candidate of Medical Sciences, Associate Professor of the Department of Nervous Diseases

Zorkova A.V., Assistant of the Department of Nervous Diseases

The program was reviewed and approved at the department meeting
(protocol No. ,date. 01 June 2021)


Head of the Department,
MD, Professor,



V.N. Grigoryeva

01 June 2021

AGREED

Deputy Head of EMA ph.d. of biology  Lovtsova L.V.

01 June 2021

1. The purpose and objectives of mastering the academic discipline neurology (hereinafter – the discipline):

1.1. The purpose of mastering the discipline: (*participation in forming the relevant competencies*): UK8, GPC6, GPC8, GPC9, PC10.

1.2. As a result of completing the discipline, the student should:

To know

Methods of emergency measures and indications for hospitalization of patients with diseases of the nervous system

Etiology, pathogenesis, diagnosis, treatment and prevention of the most common diseases of the nervous system

Clinical picture, features of the course and possible complications of the most common diseases of the nervous system in a typical form

The main clinical manifestations of diseases of the nervous system, the features of their diagnosis and treatment

Be able to

Collect anamnesis of a sick patient with a pathology of the nervous system

Conduct a physical examination of a patient with a pathology of the nervous system, send him to a laboratory and instrumental examination, determine the indications for a neurologist's consultation

Interpret the results of the examination, make a preliminary diagnosis to the patient, outline the scope of studies to clarify the diagnosis; formulate a preliminary clinical diagnosis

Identify life-threatening disorders and provide first aid in case of emergency

Determine the condition requiring urgent medical attention and immediately contact the appropriate specialists

To substantiate pharmacotherapy in a particular patient with major pathological syndromes and urgent conditions, methods of administration, regimen and dose of medications; to evaluate the effectiveness and safety of the treatment

Perform resuscitation and first aid techniques for an epileptic seizure

To identify clinical signs of acute and chronic craniofacial pain of somatic, neurogenic and odontogenic origin

Possess:

Methods of general clinical neurological examination

The algorithm of making a preliminary diagnosis to patients and, if necessary, with subsequent referral for additional examination and to specialist doctors

An algorithm for performing basic medical diagnostic and therapeutic measures to provide first aid to victims of urgent and life-threatening conditions associated with damage to the nervous system

2. Position of the academic discipline in the structure of the General Educational Program of Higher Education (GEP HE) of the organization.

2.1. The discipline neurology refers to the core part "*Disciplines (modules)*" of Block 1 of GEP HE (C.1.1.32).

The discipline is taught in 8 semester/4 year of study.

2.2. The following knowledge, skills and abilities formed by previous academic disciplines are required for mastering the discipline:

chemistry, biology; human anatomy – anatomy of the head and neck; normal physiology-physiology of the maxillofacial region; immunology - clinical immunology; pathophysiology–pathophysiology of the head and neck; pathological anatomy-pathological anatomy of the head and neck; internal diseases, clinical pharmacology; topographic anatomy and operative surgery; pediatrics; general surgery, surgical diseases; radiation diagnostics; medical rehabilitation; obstetrics; infectious diseases; otorhinolaryngology, ophthalmology, psychiatry and narcology

2.3. Mastering the discipline is required for forming the following knowledge, skills and abilities for subsequent academic disciplines:

psychiatry; gynecology; pediatrics; hospital therapy, endocrinology; infectious diseases; polyclinic therapy; hospital therapy; traumatology, orthopedics; epidemiology; clinical pharmacology; forensic medicine; phthiology; anesthesiology, intensive care; oncology, radiation therapy; oncohematology; rheumatology; fundamentals of emergency care

3. Deliverables of mastering the academic discipline and metrics of competence acquisition

Mastering the discipline aims at acquiring the following universal (UC) or/and general professional (GPC) or/and professional (PC) competencies

№	Competence code	The content of the competence (or its part)	Code and name of the competence acquisition metric	As a result of mastering the discipline, the students should:		
				know	be able to	possess
1.	UK8	Able to work in a team, to perceive social, ethnic, confessional and cultural differences with tolerance		the problems of selecting an effective team; basic conditions for effective teamwork; the basics of strategic human resource management, regulatory legal acts concerning the organization and implementation of professional activities; organizational behavior models, factors of formation of organizational relationships; strategies and principles of teamwork, the main characteristics of the organizational climate and	determine the management style for the effective team work; develop a team strategy; apply the principles and methods of organizing team activities	participation in the development of a team work strategy; participation in teamwork, role distribution in the team interaction

				interaction of people in the organization		
2.	<i>GPC6</i>	Able to maintain medical records		scientific, research and production, design, management and regulatory documentation in the healthcare system	prepare scientific, research and production, design, management and regulatory documentation in the healthcare system	
3.	<i>GPC8</i>	Able to readiness for medical use of medicines and other substances and their combinations in solving		fundamentals of the legislation in the field of countering the use of doping in sports mechanisms of action of the main drugs, used as doping in sports	apply knowledge of action mechanisms of the main medicines used as doping in sports, organize the fight against it; carry out sanitary and educational work among different groups of the population	conducting sanitary and educational work aimed at the fight against doping in sports, among students, engaged in sports.
4.	<i>GPC9</i>	Able to assess morphofunctional, physiological conditions and pathological processes in the human body for solving professional tasks		anatomy, histology, embryology, topographic anatomy, physiology, pathological anatomy and physiology of human organs and systems	evaluate the basic morphological and functional data, physiological conditions and pathological processes in the human body	assessment of basic morphological and functional data, physiological conditions and pathological processes in the human body when solving professional problems
5.	<i>PC10</i>	Able to participate in the provision of medical assistance in emergency situations, including participation in		methods of collecting complaints and anamnesis of patients (their legal representatives); methods of physical examination of patients (examination, palpation,	recognize conditions that require healthcare delivery in an emergency form, including in the conditions of emergencies, epidemics and in the centers of mass destruction,	assessing the condition requiring healthcare delivery in an emergency form, including in emergency situations, epidemics and in the centers of mass destruction; definition of life-threatening

		medical evacuation	percussion, auscultation); principles and methods of medical care delivery to patients in urgent conditions, in emergency situations, epidemics and in centers of mass destruction in accordance with the procedures for providing medical care, clinical recommendations taking into account the standards of medical care; clinical signs of major emergency conditions; principles of medical evacuation in emergency situations, epidemics and in centers of mass destruction; principles of work in centers of mass destruction; principles of organization of patient care, first aid treatment	requiring medical assistance in an emergency form; organize the work of medical personnel in emergency situations, epidemics and in centers of mass destruction; provide emergency medical care to patients in conditions that pose a threat to the life of patients, including (blood circulation and (or) respiration); use medicines and medical products when providing medical care in emergency conditions; perform basic cardiopulmonary resuscitation; use personal protective equipment; organize patient care, provide primary health car	conditions, including the state of clinical death (arrest of vital important functions of the human body (blood circulation and (or) breathing) requiring medical care in the emergency form; medical care delivery in emergency form to patients in conditions, constituting life-threatening situations including clinical death (arrest of vital functions of human body (blood circulation and (or) respiration));the use of medicines and medical products in the provision of medical care in case of emergency conditions and epidemics; use of personal protective equipment; organization of patient care, first aid measures
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4. Sections of the academic discipline and competencies that are formed when mastering them

№	Competence code	Section name of the discipline	The content of the section in teaching units
1	GPC9	Motor system. Motor paralysis. Extrapyramidal system. Parkinsonian syndrome. Dyskinesias. Cerebellar anatomy. Cerebellar disorders symptoms	Central and peripheral motor neurons. Cortico-spinal tract: its functional significance for the organization of voluntary movements. Syndromes of central and peripheral motor neuron damage. Pathophysiological foundations of the formation of pathological reflexes, muscle spasticity, plasticity. Reflex arc - structure and functioning. Levels of reflex closure in the spinal cord and brainstem. The study of reflexes, surface and deep reflexes. Basic pathological reflexes, protective spinal reflexes. Regulation of muscle tone: spinal reflex arc. The study of muscle tone, the main types of tonic disorders: hypertension (spastic, plastic and mixed variants), hypotension.

			<p>The structure and connections of the extrapyramidal system with the higher and lower parts of the central nervous system (afferent and efferent connections). The role in the organization of movements, ensuring muscle tone, stereotypical automated movements. Neurophysiological and neurochemical mechanisms of regulation of the extrapyramidal system, the main neurotransmitters (dopamine, acetylcholine, norepinephrine, gamma-aminobutyric acid). Variants of motor disorders in the defeat of various departments of the extrapyramidal system: hypokinesia, oligo-, bradykinesia, hyperkinesia (tremor, chorea, tics, athetosis, hemiballism, torsion spasm, spastic torticollis, myoclonia). Changes in muscle tone when various parts of the extrapyramidal system are affected. Violation of higher mental functions in the defeat of the extrapyramidal system. Dystonic - hyperkinetic and hypertensive-hypokinetic syndromes. Pathophysiology of extrapyramidal disorders.</p> <p>Cerebellum and vestibular system: anatomy, physiology, afferent and efferent connections, role in the organization of movements. Symptoms and syndromes of cerebellar lesion (ataxia, dissinergia, dysarthria, muscle hypotension). Ataxia: cerebellar, vestibular, frontal, sensitive.</p>
2	<i>GPC9</i>	Sensory system	<p>Afferent systems of somatic sensitivity, their anatomical and functional features. Receptors and pathways. Exteroceptive, proprioceptive, interoceptive sensitivity, complex types of sensitivity. Surface and deep sensitivity. Principles of classification of sensitive disorders according to the functional state of the analyzer (hypo- and hyperesthesia, paresthesia and pain, dysesthesia, hyperpathy, allodynia, causalgia), and according to the level of afferent systems damage (peripheral, segmental, conductive, cortical). Dissociated types of sensory disorders.</p>
3	<i>GPC9</i>	Cranial nerves	<p>The structure of the brain stem (medulla oblongata, bridge of the brain, midbrain): the main motor, sensory and vegetative nuclei, ascending and descending pathways, reticular formation. Cranial nerves are motor, sensitive, mixed. Anatomical and physiological features. Cortical-nuclear pathways. Clinical research methods, lesion syndromes. Brain stem damage syndromes at different levels. Cross syndromes.</p>
4	<i>GPC9</i>	Higher mental functions. Gnosis, praxis, speech, consciousness	<p>Cytoarchitectonics of the cerebral hemispheres. Localization of functions in the brain. Functional asymmetry of the cerebral hemispheres. The organization of mental functions, the role of the right and left hemispheres. Syndromes of lesions of individual lobes of the cerebral hemispheres. Higher mental functions: gnosis, praxis, speech, reading, writing, counting, body schema, memory, attention, intelligence and their disorders - aphasia (motor, sensory, amnesic, semantic), agraphy, alexia, acalculia, apraxia, agnosia (visual, auditory, olfactory, gustatory, tactile), violation of the body schema</p>
5	<i>UK8</i> <i>GPC6</i> <i>GPC8</i> <i>GPC9</i>	Meningitis, encephalitis, brain abscess. Neurological	<p>Principles of classification of infectious diseases of the nervous system - by etiology, pathogenesis, severity of the process, features of the clinical course. Meningitis (primary and secondary bacterial, serous, tuberculous, syphilitic, etc.).</p>

	<i>PC10</i>	complications of HIV/AIDS	Clinic, diagnosis, differential diagnosis, treatment. Encephalitis (tick-borne, borreliosis, herpetic, influenza, enterovirus, encephalitis in measles, chickenpox, rubella, postvaccinal, etc.). Polio: etiology, pathogenesis, clinical forms, methods of diagnosis, treatment and prevention. Brain abscess. Spinal epidural abscess. Shingles (herpes): etiology, pathogenesis, clinical manifestations, principles of diagnosis, therapy and prevention. Neuro AIDS - modern ideas about the etiology, pathogenesis, clinical manifestations. Methods of diagnosis, treatment and prevention.
6	<i>UK8 GPC6 GPC8 GPC9 PC10</i>	Ischemic stroke. Hemorrhagic stroke and subarachnoid hemorrhage.	Anatomy of blood supply to the brain and spinal cord. Collateral blood flow, the Willis circle and its importance in ensuring collateral blood supply. Autoregulation of cerebral blood flow and mechanisms that ensure normal metabolism of brain tissue. Principles of classification of vascular diseases of the brain. Acute disorders of cerebral circulation: <ul style="list-style-type: none"> transient disorders of cerebral circulation (transient ischemic attacks); ischemic stroke (atherothrombotic, cardioembolic, hemodynamic, hemorheological). Etiology, pathogenesis, pathophysiology, clinic, diagnosis, differential diagnosis, treatment. Indications for surgical treatment. hemorrhagic stroke (subarachnoid hemorrhage, parenchymal hemorrhages, ventricular hemorrhages). Etiology, pathogenesis, pathophysiological mechanisms, clinic, diagnosis, differential diagnosis, principles of therapy. Indications for surgical treatment. Principles of early and late rehabilitation of stroke patients.
7	<i>UK8 GPC6 GPC8 GPC9 PC10</i>	Brain and spinal cord injuries.	Classification of traumatic brain injury. Concussion, bruising, compression of the brain, intracranial hematomas, diffuse axonal injury. Pathophysiological mechanisms of damage to intracranial structures in brain injury of varying severity. Clinic, diagnostics, conservative and surgical treatment. Indications for cranial trepanation and removal of intracranial hematomas. Signs of brain edema and wedging. Consequences of traumatic brain injuries). Spinal cord injury: pathogenesis, clinic, diagnosis, emergency care, treatment.
8	<i>UK8 GPC6 GPC8 GPC9 PC10</i>	Diseases of the peripheral nervous system. Back pain.	The structure of the peripheral nervous system. The structure of the peripheral nerve. Etiology and pathogenesis of diseases of the peripheral nervous system. Classification. Mono- and polyneuropathies. The role of compression, traumatic, and infectious factors in the genesis of peripheral nerve trunk lesions. Polyneuropathies in somatic diseases - liver, kidneys, pancreas, diffuse connective tissue diseases, exogenous intoxication, infections. Acute inflammatory demyelinating polyneuropathy. Hereditary polyneuropathies. Clinic, diagnosis, treatment. Vertebroneurological syndromes – ideas about pathophysiology and pathogenesis; clinical manifestations, diagnosis, differential diagnosis and principles of therapy.
9	<i>UK8 GPC6 GPC8</i>	Tumors of the brain and spinal cord.	Principles of classification of tumors of the brain and spinal cord, peripheral nerves. Classification of brain tumors. Cerebral, meningeal and focal symptoms in brain damage.

	<i>GPC9</i> <i>PC10</i>		Intracranial hypertension syndrome. Modern principles of diagnosis and differential diagnosis of brain and spinal cord tumors. Principles of conservative and surgical treatment.
10	<i>UK8</i> <i>GPC6</i> <i>GPC8</i> <i>GPC9</i> <i>PC10</i>	Epilepsy. Disorders of consciousness. Fainting. Coma.	<p>Classification of epilepsy. Pathophysiology of changes in the brain during an epileptic seizure. Clinical manifestations of epilepsy. Diagnosis, differential diagnosis, basic principles of therapy. Epilepsy in children. A series of epileptic seizures and epileptic status: definition, clinic, pathogenesis, emergency care, treatment.</p> <p>Anatomical and physiological foundations of the regulation of consciousness. Reticular formation of the trunk, reticulocortical and cortical-reticular connections, ascending activating and descending inhibitory effects on brain structures. Depression of consciousness: stun, sopor, coma. Confusion of consciousness, psychomotor agitation.</p> <p>Vegetative state, brain death. Clinical diagnosis of symptoms of focal brain damage in comatose patients. Electrophysiological, angiographic and ultrasound methods of diagnosing brain death - EEG, evoked brain potentials, angiography, ultrasound.</p>

5. Volume of the academic discipline and types of academic work

Type of educational work	Labor intensity		Labor intensity (AH) in semesters	
	volume in credit units (CU)	volume in academic hours (AH)		8
Classroom work, including				
Lectures (L)				14
Laboratory practicum (LP)*				
Practicals (P)				52
Seminars (S)				
Student's individual work (SIW)				6
Mid-term assessment				
credit/exam (<i>specify the type</i>)				
TOTAL LABOR INTENSITY				72

6. Content of the academic discipline

6.1. Sections of the discipline and types of academic work

№	Name of the section of the academic discipline	Types of academic work* (in AH)					
		L	LP	P	S	SIW	total
1	Motor system. Motor paralysis. Extrapyramidal system. Parkinsonian syndrome. Dyskinesias. Cerebellar anatomy. Cerebellar disorders symptoms	2		5			7
2	Sensory system	2		5			7
3	Cranial nerves	2		5			7
4	Higher mental functions. Gnosis, praxis, speech, consciousness			5			5
5	Meningitis, encephalitis, brain abscess. Neurological	2		5		1	8

	complications of HIV/AIDS						
6	Ischemic stroke. Hemorrhagic stroke and subarachnoid hemorrhage.	2		5		1	8
7	Brain and spinal cord injuries.	2		5		1	8
8	Diseases of the peripheral nervous system. Back pain.			5		1	6
9	Tumors of the brain and spinal cord.	2		5		1	8
10	Epilepsy. Disorders of consciousness. Fainting. Coma.			5		1	6
11	Credit						2
	TOTAL	14		50		6	72

* - L – lectures; LP – laboratory practicum; P – practicals; S – seminars; SIW – student's individual work.

6.2. Thematic schedule of educational work types:

6.2.1 Thematic schedule of lectures

№	Name of lecture topics	Volume in AH	
		semester	8 semester
1	Motor system. Motor paralysis. Extrapyramidal system. Cerebellar disorders symptoms		2
2	Sensory system. Pain		2
3	Ischemic stroke. Hemorrhagic stroke		2
4	Meningitis, encephalitis, brain abscess		2
5	Brain and spinal cord injuries		2
6	Tumors of the brain and spinal cord		2
7	Facial pain		2
	TOTAL (total - AH)		14

6.2.2. The thematic plan of laboratory practicums (if this type of classes is stipulated in the curriculum)

№	Name of laboratory practicums	Volume in AH	
		semester	semester
	TOTAL (total - AH)		

6.2.3. Thematic plan of practicals

№	Name of the topics of practicals	Volume in AH

		semester	8 semester
1	Motor system. Motor paralysis. Extrapyramidal system. Parkinsonian syndrome. Dyskinesias. Cerebellar anatomy. Cerebellar disorders symptoms		5
2	Sensory system. I-II cranial nerves		5
3	Higher mental functions: gnosis, praxis, speech. Epilepsy. Disorders of consciousness. Fainting. Coma		5
4	Cranial nerves (V, VII, IX, X, XI, XII). Facial pain		5
5	Meningitis, encephalitis, brain abscess. Neurological complications of HIV/AIDS		5
6	Ischemic stroke		5
7	Hemorrhagic stroke and subarachnoid hemorrhage		5
8	Brain and spinal cord injuries		5
9	Diseases of the peripheral nervous system. Back pain		5
10	Tumors of the brain and spinal cord		5
	Credit		2
	TOTAL (total - AH)		52

6.2.4. Thematic plan of seminars (if this type of classes is stipulated in the curriculum)

№	Name of seminar topics	Volume in AH	
		semester	semester
	TOTAL (total - AH)		

6.2.5. Types and topics of student's individual work (SIW)

№	Types and topics of SIW	Volume in AH	
		semester	8 semester
	Reading the textbook, primary source, additional literature		5
	Working with electronic resources on the distance education portal of PIMU		1
	TOTAL (total - AH)		6

7. Types of assessment formats for ongoing monitoring and mid-term assessment

№	Semester No.	Types of control		Name of section of academic discipline	Competence codes	Assessment formats		
						types	number of test questions	number of test task options
1.	7	Current monitoring	Control of mastering the topic	Motor system. Motor paralysis		questions	3	27
			Monitoring the student's individual work			tasks	2	6
						Tests	10	36
2	7	Current monitoring	Control of mastering the topic	Extrapyramidal system. Parkinsonian syndrome. Dyskinesias. Cerebellar anatomy. Cerebellar disorders symptoms		questions	3	18
			Monitoring the student's individual work			tasks	2	6
						Tests	10	20
3	7	Current monitoring	Control of mastering the topic	Sensory system. Cranial nerves I-II. Clinical disorders		questions	3	31
			Monitoring the student's individual work			tasks	2	7
						Tests	10	27
4	7	Current monitoring	Control of mastering the topic	Cranial nerves (V, VII, IX, X, XI, XII). Clinical disorders		questions	3	18
			Monitoring the student's individual work			tasks	2	8
						Tests	10	20
5	7	Current monitoring	Control of mastering the topic	Higher psychical functions. Aphasia. Apraxia. Agnosia.		questions	3	13
			Monitoring the student's individual work			tasks	2	6
						Tests	10	40
6	8	Current monitoring	Control of mastering	Ischemic		questions	10	20

			the topic	stroke; Intracerebral hemorrhage. Subarachnoid hemorrhage		tasks	7	30
			Monitoring the student's individual work			Tests	4	10
7	8	Current monitoring	Control of mastering the topic	Meningitis, encephalitis, brain abscess. Neurological complications of HIV/AIDS		questions	5	16
						tasks	3	6
			Monitoring the student's individual work			Tests	10	14
8	8	Current monitoring	Control of mastering the topic	Tumors of the brain. Spinal tumors.		questions	7	15
						tasks	3	10
			Monitoring the student's individual work			Tests	10	20
9	8	Current monitoring	Control of mastering the topic	Brain trauma. Spinal injury		questions	5	17
						tasks	3	12
			Monitoring the student's individual work			Tests	12	19
10	8	Current monitoring	Control of mastering the topic	Peripheral nervous system disorders. Back pain		questions	6	18
						tasks	3	14
			Monitoring the student's individual work			Tests	11	21
11		Mid-term assessment	Credit			questions	4	85
						tasks	1	36

8. Educational, methodological and informational support for mastering the academic discipline (printed, electronic publications, the Internet and other network resources)

8.1. Key literature references

№	Name according to bibliographic requirements	Number of copies	
		at the department	in the library
1	Baehr, Mathias. Topical diagnosis in neurology: anatomy, physiology, signs, symptoms / M. Baehr, M. Frotscher. – 6th ed. – Stuttgart : Thieme, 2019. – 319 p. : il. – ISBN 978-3-1324-0958-3.	1	25
2	Mattle, H. Fundamentals of neurology : an illustrated guide / H. Mattle, M. Mumenthaler. – 2nd ed. – Stuttgart : Thieme, 2017. – XV, 438 p. : il. – ISBN 9783131364524.	-	20
3	Neurology and neurosurgery illustrated / K. W. Lindsay, I. Bone, R. Callander, G. Fuller ; Callander, Robin ; Lindsay, Kenneth W. ; Bone, Ian ; Fuller, Geraint. – 5th ed. – Edinburgh ; London : Churchill Livingstone, 2010. – 600 p. : il. – ISBN 9780443069789.		20
4	Baehr, M. Duus' topical diagnosis in neurology / M. Baehr, M. Frotscher. – 5th ed. – Stuttgart : Thieme, 2012. – 333 p. : ил. мяг. – ISBN 978-3-13-612805-3.		8

8.2. Further reading

№	Name according to bibliographic requirements	Number of copies	
		at the department	in the library
1	Motor system disorders in neurological clinic : the textbook / V. N. Grigorieva, I. G. Stelnikova, T. A. Sorokina, A. A. Melnikov ; FSBEI HE PRMU MOH Russia. – N. Novgorod : Publishing House of Privolzhskiy Research Medical University, 2021. – 1 файл (4.72 Мб). – ISBN 978-5-7032-1407-7. –	Текст : электронный	
2	Mumenthaler, M. Neurology / M. Mumenthaler, H. Mattle ; Mumenthaler Mark ; Mattle Heinrich. – 4th revised and enlarged ed. – Stuttgart : Georg Thieme Verlag, 2004. – 992 с. : ил. мяг. – ISBN 3-13-523904-7.		22
3	Greenberg, M. S. Handbook of Neurosurgery / M. S. Greenberg ; Greenberg Mark S. – 5th ed. – [Б. и.], 2001. – 974p. – ISBN 0-86577-909-0		49
4	Haines, D. E. Neuroanatomy: an atlas of structures, sections, and systems / D. E. Haines ; Haines Duane E. – 7th ed. – Philadelphia : Lippincott Williams & Wilkins, 2008. – 341 с. : ил. мяг. – ISBN 978-0-7817-6328-8.		15

8.3. Electronic educational resources for teaching academic subjects

8.3.1. Internal Electronic Library System of the University (IELSU)

<i>№</i>	<i>Name of the electronic resource</i>	<i>Brief description (content)</i>	<i>Access conditions</i>	<i>Number of users</i>
1	Internal Electronic Library System (EBS) http://nbk.pimunn.net/MegaPro/Web	Works of the teaching staff of the University: textbooks, textbooks, collections of tasks, methodological manuals, laboratory work, monographs, collections of scientific papers, scientific articles, dissertations, abstracts of dissertations, patents	From any computer and mobile device using an individual login and password. Access mode: http://nbk.pimunn.net/MegaPro/Web	Not limited

8.3.2. Electronic educational resources acquired by the University

<i>№</i>	<i>Name of the electronic resource</i>	<i>Brief description (content)</i>	<i>Access conditions</i>	<i>Number of users</i>
1	EBS "Student Consultant" (Electronic database "Student consultant". Database "Medicine. Healthcare (VO) and "Medicine. Healthcare (SPO)") http://www.studmedlib.ru	Educational literature, additional materials (audio, video, interactive materials, test tasks) for higher medical and pharmaceutical education	From any computer and mobile device using an individual login and password. Access mode: http://nbk.pimunn.net/MegaPro/Web	Not limited
2	Database "Doctor's consultant. Electronic Medical Library" https://www.rosmedlib.ru	National guidelines, clinical guidelines, textbooks, monographs, atlases, pharmaceutical reference books, audio and video materials, ICD-10 and ATX	From any computer and mobile device using an individual login and password. Access mode: http://nbk.pimunn.net/MegaPro/Web	Not limited
3	Electronic library system "Bukap" https://www.books-up.ru	Educational and scientific medical literature of Russian publishers, including translations of foreign	From any computer and mobile device using an individual login and password; access is automatic from university computers. Publications from the "My Books"	Not limited

		publications. Publications of the participating universities are available within the framework of the "Big Medical Library" project	section are available for reading. Access mode: http://nbk.pimunn.net/MegaPro/Web	
4	YURAYT Educational Platform https://urait.ru	Collection of publications on psychology, ethics, conflictology	From any computer and mobile device using an individual login and password. Access mode: http://nbk.pimunn.net/MegaPro/Web	Not limited
5	Electronic periodicals as part of the database "Scientific Electronic Library eLibrary" https://elibrary.ru	Electronic medical magazines	From university computers. Access mode: https://elibrary.ru	Not limited
6	Integrated Information and Library system (IBS) of the scientific and educational medical cluster of the Volga Federal District - "Srednevolzhsky" (contract on a free basis)	Electronic copies of scientific and educational publications from the collections of libraries participating in the scientific and educational medical cluster of the Volga Federal District "Srednevolzhsky"	Access by individual login and password from any computer and mobile device. Access mode: websites of libraries participating in the project	Not limited
7	Electronic legal reference system "Consultant Plus" (contract on a free basis) http://www.consultant.ru	Regulatory documents regulating the activities of medical and pharmaceutical institutions	From the computers of the scientific library. Access mode: http://www.consultant.ru/	Not limited
8	National Electronic Library (NEB) (contract on a free basis) http://НЭБ.рф	Electronic copies of publications (including scientific and educational) on a wide range of knowledge	Scientific and educational works that have not been reprinted in the last 10 years are in the public domain. Works restricted by copyright, – from the computers of the scientific library. Access mode: http://НЭБ.рф	Not limited

8.3.3 Open access resources

№	Name of the electronic resource	Brief description (content)	Access conditions
1.	Federal Electronic Medical Library (FEMB) http://НЭБ.рф	Full-text electronic copies of printed publications and original electronic publications on medicine and biology	From any computer located on the Internet. Access mode: http://НЭБ.рф
2.	Scientific Electronic Library eLIBRARY.RU https://elibrary.ru	Abstracts and full texts of scientific publications, electronic versions of Russian scientific journals	From any computer located on the Internet. Access mode: https://elibrary.ru

3.	Scientific electronic library of the Open CyberLeninka access http://cyberleninka.ru	Full texts of scientific articles with annotations published in scientific journals of Russia and neighboring countries	From any computer located on the Internet. Access mode: https://cyberleninka.ru
4.	Electronic collection of Springer publishing house https://rd.springer.com	Full-text scientific publications (journals, books, articles, scientific protocols, conference materials)	From university computers. Access mode: https://rd.springer.com
5.	Database of periodicals published by Wiley www.onlinelibrary.wiley.com	Periodicals published by Wiley	From university computers, from any computer with an individual login and password Access mode: www.onlinelibrary.wiley.com
6.	Electronic collection of periodicals "Freedom" on the Science Direct platform https://www.sciencedirect.com	Periodicals of the Elsevier publishing house	From the computers of the university, from any computer with an individual login and password. Access mode: https://www.sciencedirect.com
7.	Scopus Database www.scopus.com	International Abstract Database of Scientific Citation	From the computers of the university, from any computer with an individual login and password. Access mode: www.scopus.com
8.	Web of Science Core Collection Database https://www.webofscience.com	International Abstract Database of Scientific Citation	From the computers of the university, from any computer with an individual login and password. Access mode: https://www.webofscience.com
9.	Questel database Orbit https://www.orbit.com	The patent database of the company Questel	From university computers. Access mode: https://www.orbit.com
10.	PubMed https://www.ncbi.nlm.nih.gov/pubmed	The search engine of the US National Library of Medicine for the databases "Medline", "PreMedline"	From any computer and mobile device. Access mode: https://www.ncbi.nlm.nih.gov/pubmed
11.	Directory of Open Access Journals http://www.doaj.org	Directory of open access to the full-text collection of periodicals	From any computer and mobile device. Access mode: http://www.doaj.org
12.	Directory of open access books (DOAB) http://www.doabooks.org	Directory of open access to the full-text collection of scientific books	From any computer and mobile device. Access mode: http://www.doabooks.org

9. Material and technical support for mastering an academic discipline

9.1. List of premises for classroom activities for the discipline

- 1) An auditorium for conducting lectures.
- 2) Offices for conducting clinical and practical classes.
- 3) Offices for working with patients receiving medical care.
- 4) lecture halls of hospital im. Semashko N.A.

9.2. List of equipment for classroom activities for the discipline

1. Multimedia complex (laptop, projector, screen)
2. Personal computer
3. Sets of tables
4. Sets of multimedia visual materials
5. Neurological hammers
6. Sets of MSCT and MRI images with various pathologies of the central and peripheral nervous system.

7. 9.3. A set of licensed and freely distributed software, including domestic production

8.

Item no.	Software	number of licenses	Type of software	Manufacturer	Number in the unified register of Russian software	Contract No. and date
1	Wtware	100	Thin Client Operating System	Kovalev Andrey Alexandrovich	1960	2471/05-18 from 28.05.2018
2	MyOffice is Standard. A corporate user license for educational organizations, with no expiration date, with the right to receive updates for 1 year.	220	Office Application	LLC "NEW CLOUD TECHNOLOGIES"	283	without limitation, with the right to receive updates for 1 year.
3	LibreOffice		Office Application	The Document Foundation	Freely distributed software	
4	Windows 10 Education	700	Operating systems	Microsoft	Azure Dev Tools for Teaching Subscription	
5	Yandex. Browser		Browser	«Yandex»	3722	
6	Subscription to MS Office Pro for 170 PCs for FGBOU VO "PIMU" of the Ministry of Health of Russia	170	Office Application	Microsoft		23618/HN10030 LLC "Softline Trade" from 04.12.2020

10. List of changes to the working program (to be filled out by the template)

Federal State Budgetary Educational Institution of Higher Education
"Privolzhsky Research Medical University"
Ministry of Health of the Russian Federation
(FSBEI HE "PRMU" of the Ministry of Health of Russia)

Department of
Name of the department

CHANGE REGISTRATION SHEET

working program for the academic discipline
NAME OF THE ACADEMIC DISCIPLINE

Field of study / specialty / scientific specialty: _____ (code, name)

Training profile: _____
(name) - for master's degree programs

Mode of study: _____
full-time/mixed attendance mode/extramural

Position	Number and name of the program section	Contents of the changes made	Effective date of the changes	Contributor's signature
1				

Approved at the department meeting
Protocol No. _____ of _____ 20__

Head of the Department

department name, academic title

signature

print name