Federal State Autonomous Educational Institution of Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA
RUDN University

Institute of Medicine

educational division (faculty/institute/academy) as higher education programme developer

COURSE SYLLABUS

Neurology, Medical Genetics, Neurosurgery

course title

Recommended by the Didactic Council for the Education Field of:

31.05.01 General Medicine

field of studies / speciality code and title

The course instruction is implemented within the professional education programme of higher education:

General Medicine

higher education programme profile/specialisation title

2022-2023

1. COURSE GOAL(s)

The goal of the course "**Neurology, Medical Genetics, Neurosurgery**" is to equip students with basic knowledge and skills in clinical neurology and neurosurgery regarding semiotics, topical diagnosis, nosology, paraclinical tests, diagnostics and differential diagnostics, treatment and prevention of the most common disorders of the nervous system.

2. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the course (module) "**Neurology, Medical Genetics, Neurosurgery**" is aimed at the development of the following competences /competences in part: : **GC-1.1; GPC-4; GPC-5.3; GPC-7; PC-1; SPC-2; SPC-3.**
4.

Table 2.1. List of competences that students acquire through the course study

Compete nce code	Competence descriptor	Competence formation indicators (within this course)
GC-1.	The ability to implement critical analysis of problem situations based on systems approach, develop an action strategy	GC-1.1. Analysing scientific and technical literature and regulatory documents of medical institutions.
		GC-1.2. Assessing in a critical way the reliability of information sources, working with contradictory information from different sources.
GPC-4.	The ability o use medical devices provided for by the procedure for medical care, and conduct patient examinations in order to determine a diagnosis	GPC-4.1. Being able to use medical devices in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care, care taking into account the medical care standards.
		GPC-4.2. Being able to assess the effectiveness and safety of medical devices.
GPC-5.	The ability to assess morpho-functional, physiological conditions and pathological processes	GPC-5.1. Mastering the algorithm of clinical, laboratory and functional diagnosis when dealing with professional tasks.

	in the human body to solve professional tasks	GPC-5.2. Being able to evaluate the results of clinical, laboratory and functional diagnosis when dealing with professional tasks.
		GPC-5.3. Being able to determine morpho-functional, physiological states and pathological processes of the human body.
GPC-7	The ability to prescribe treatment and monitor its efficacy and safety	GPC-7.1. Mastering skills in the methods of general clinical examination, interpretation of laboratory results, instrumental diagnostic methods.
		GPC-7.2. Being aware of the algorithm for making a preliminary diagnosis with the subsequent referral of the patient to the relevant medical specialist.
SPC-1	The ability to provide emergency or urgent medical care to a patient	SPC-1.1. Being able to assess the condition of a patient who needs emergency or urgent medical care.
		SPC-1.2. Being able to recognize conditions that arise from sudden acute diseases, exacerbation of chronic diseases without obvious signs of a threat to the patient's life and which require emergency medical care.
		SPC-1.3. Being able to provide emergency medical care to patients with sudden acute diseases, conditions, exacerbation of chronic diseases without obvious signs of a threat to the patient's life.
		SPC-1.4. Being able to recognize conditions which pose a threat to the patient's life, including conditions of clinical death (cessation of the vital bodily functions (blood circulation and/or respiration) which require emergency medical care.

		SPC-1.5. Being able to provide emergency medical care to patients in conditions which pose a threat to the patient's life, including clinical death (cessation of the vital bodily functions (blood circulation and/or respiration).
		SPC-1.6. Being able to use drugs and medical devices when providing medical care in emergency or urgent forms.
SPC-2	The ability to examine a patient in order to determine a diagnosis	SPC-2.1. Mastering the skills to collect complaints, anamnesis of the patient's life and disease, as well as conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation).
		SPC-2.2. Being able to make a preliminary diagnosis and make up a plan of laboratory and instrumental examinations of a patient.
		SPC-2.3. Being able to refer a patient to a laboratory examination in case there are medical indications in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the medical care standards.
		SPC-2.7. Being able to carry out differential diagnosis with other diseases/conditions, including the urgent ones, as well as to make a diagnosis taking into account the current international statistical classification of diseases and problems related to health (ICD).

SPC-3	The ability to prescribe treatment and monitor its efficacy and safety	SPC-3.1. Being able to develop a treatment plan for a disease or condition taking into account the diagnosis, age and clinical picture in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the standards of medical care.
		SPC-3.2. Being able to prescribe medicinal drugs, medical devices and medical nutrition taking into account the diagnosis, age and clinical picture of the disease and in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the standards of medical care.
		SPC-3.3. Being able to prescribe non-drug treatment taking into account the diagnosis, age and clinical picture of the disease in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the standards of medical care.
		SPC-3.4. Being able to assess the efficacy and safety of the use of drugs, medical devices, medical nutrition and other treatment methods. efficacy and safety of treatment.

3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The course refers to the <u>core</u>/variable/elective* component of (B1) block of the higher educational programme curriculum.

* - Underline whatever applicable.

Within the higher education programme students also master other (modules) and / or internships that contribute to the achievement of the expected learning outcomes as results of the course study.

Table 3.1. The list of the higher education programme components/disciplines that contribute to the achievement of the expected learning outcomes as the course study results

Compet ence code	Competence descriptor	Previous courses/modules*	Subsequent courses/modules*
GC-1	The ability to carry out a critical analysis of problem situations based on a systematic approach, to develop an action strategy	Biology; Anatomy, Pathological Anatomy, Pathophysiology, Clinical Pathophysiology;	Infectious diseases, Hospital therapy, Traumatology and orthopedics
GPC-5.	The ability to assess morpho-functional, physiological conditions and pathological processes in the human body to solve professional tasks	anatomy, pathological anatomy, physiology, pathological physiology, pharmacology	infectious diseases, hospital surgery, hospital hospital surgery, therapy, psychiatry, traumatology, oncology
GPC-7	The ability to prescribe treatment and monitor its efficacy and safety	anatomy, pathological anatomy, physiology, pathological physiology, pharmacology	infectious diseases, hospital surgery, hospital hospital surgery, therapy, psychiatry, traumatology, oncology
SPC-1	The ability to provide emergency or urgent medical care to a patient	anatomy, pathological anatomy, physiology, pathological physiology, pharmacology	infectious diseases, hospital surgery, hospital hospital surgery, therapy, psychiatry, traumatology
SPC-2	The ability to examine a patient in order to determine a diagnosis	anatomy, pathological anatomy, physiology, pathological physiology, pharmacology	infectious diseases, hospital surgery, hospital hospital surgery, therapy, psychiatry, traumatology
SPC-3	The ability to rescribe treatment and monitor its efficacy and safety	anatomy, pathological anatomy, physiology, pathological physiology, pharmacology	infectious diseases, hospital surgery, hospital hospital surgery, therapy, psychiatry, traumatology

4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

The total workload of the course "Neurology, Medical Genetics, Neurosurgery" is 5 credits (216 academic hours).

*Table 4.1. Types of academic activities during the periods of higher education programme mastering (**<u>full-time training</u>**)**

Type of academic activities		Total academic hours	Semesters/training modules			
			7	8		
Contact academic hours		*216*	*108*	*108*		
including:						
Lectures (LC)		17	17			
Lab work (LW)		124	68	64		
Seminars (workshops/tutorials) (S)						
Self-studies		*72*	*23*	*44*		
Evaluation and assessment (exam/passing/failing grade)						
Course workload	academic hours	**216**	**108**	**108**		
	credits	**5**	**3**	**2**		

5. COURSE CONTENTS

Table 5.1. Course contents and academic activities types

Course module title	Course module contents (topics)	Academic activities types
Section 1. Propaedeutics in neurology	Topic 1.1. Introduction. Study of motor functions	**LC, LW**
	Topic 1.2. Study of the functions of motor cranial nerves	**LC, LW**
	Topic 1.3. Investigation of superficial and deep sensitivity and sensitivity disorders. Tension symptoms and meningeal symptoms. Study of pain syndrome.	**LC, LW**
	Topic 1.4. Methods of research and symptoms of damage to the sensory organs	**LW**
	Topic 1.5. Symptoms and methods of research of aphasia, apraxia, agnosia.	**LC, LW**
	Topic 1.6. Symptoms and methods of studying the coordination of movements.	**LC, LW**
	Topic 1.7 Research of the autonomic nervous system	**LC, LW**

Course module title	Course module contents (topics)	Academic activities types
	Topic 1.8. The main syndromes of lesions of the brain and spinal cord	**LW**
	Topic 1.9 Somato-neurological and neurosomatic syndromes	**LC, LW**
	Topic 2.0. Paraclinical research methods in neurology	**LW, S**
Section 2 Neurosurgery	Topic 2.1 Neurosurgery. Introductory lesson. Methods of examination in neurosurgery	**LC, LW**
	Topic 2.2 Tumors of the central nervous system	**LC, LW**
	Topic 2.3 Vascular diseases of the brain in neurosurgery	**LC, LW**
	Topic 2.4 Traumatic brain injury	**LC, LW**
Section 3 Private neurology	Topic 5.1 Vascular diseases of the brain and spinal cord. Modern representation, classification	**LC, LW**
	Topic 5.2 Vascular diseases of the brain and spinal cord. Diagnostics. Treatment.	**LC, LW**
	Topic 5.3 Infectious and parasitic diseases of the nervous system. Treatment and prevention	**LC, LW**
	Topic 5.4 Diseases of the peripheral nervous system. Treatment and prevention.	**LC, LW**
	Topic 5.5 Chronic and chronically progressive diseases	**LC, LW**
	Topic 5.6 Demyelinating diseases of the nervous system	**LC, LW**
	Topic 5.7 Hereditary and degenerative diseases of the nervous system. Chromosomal diseases.	**LC, LW**
	Topic 5.8 Epilepsy and seizures	**LC, LW**

Course module title	Course module contents (topics)	Academic activities types
	Topic 5.9 Vegetative-endocrine diseases. neuroses	**LC, LW**

* - filled in only for full-time education: LC - lectures; LW - laboratory work; S - seminars.

6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Classroom equipment and technology support requirements

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
Lecture	Classroom for lecture is equipped with a set of specialized furniture; board (screen) and technical means of multimedia presentations	Classroom for conducting lecture and seminar classes, group and individual consultations, current control and intermediate certification.
Lab work	An auditorium for laboratory work, individual consultations, current control and intermediate certification, equipped with a set of specialized furniture and equipment.	A set of specialized furniture; technical means: VievSonic PJD5153 multimedia projector, ACER EXTENSA EX2511G-31JN Core i3 136x768 laptop has Internet access. Software: Microsoft products (OS, office suite, including MS Office/Office 365, Teams, Skype)
Seminar	An auditorium for conducting seminar-type classes, group and individual consultations, current control and intermediate certification, equipped with a set of specialized furniture and technical means for multimedia presentations.	A set of specialized furniture; technical means: VievSonic PX702HD multimedia projector, ACER EXTENSA EX2511G-31JN Core i3 136x768 laptop with Internet access. Software: Microsoft products (OS, office suite, including MS Office / Office 365, Teams, Skype) a list of specialized equipment, stands, visual posters, etc.

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
Self-studies	An auditorium for independent work of students (can be used for seminars and consultations), equipped with a set of specialized furniture and computers with access to the EIOS.	

7. RESOURCES RECOMMENDED FOR COURSE STUDY

Main readings:

Students are required to attend classes, complete assignments within the framework of classroom and independent work using recommended textbooks and teaching aids, electronic educational resources, databases, information and reference and electronic search systems. During certification, the quality of stud

1. Neuroanatomy through clinical case   by Hal.Blumenfeld, 2011.
2. Handbook of neurology edited by U.S. MARTINOV, MOSCOW 2000, 2013.
3. Guide to neurological history taking and examination. Garabova N.I., Burzhunova M.G., Strutsenko A.A., Nozdryukhina N.V. 2017
4. Glossary on neurology N.U. Nozdrukhina, A.A. Strutsenko, N.I. Garabova, Burzhunova M.G.
5. Harrison's Principles of Internal Medicine. Neurology chapters.
6. Oxford Handbook of Neurology by Manji, H., [et al]. 2014.

Additional readings:

1. Adams and Victor's principles of neurology by Ropper, A. H., Samuels, M. A., Klein, J. P. 2014
2. Bradley's neurology in clinical practice by Daroff, R. B., [et al]. 2016.
3. The 5-minute neurology consult by Lynn, D. J., Newton, H. 2012.
4. Massachusetts General Hospital Handbook of Neurology. by Flaherty A.W., 2007.

Internet-(based) sources

1. RUDN ELS and third-party ELS, to which university students have access on the basis of concluded agreements:

- RUDN Electronic Library System - RUDN EBS http://lib.rudn.ru/MegaPro/Web

- ELS "University Library Online" http://www.biblioclub.ru

2. Databases and search engines:

- electronic fund of legal and normative-technical documentation http://docs.cntd.ru/

- Google search engine https://www.google.ru/

- abstract database SCOPUS http://www.elsevierscience.ru/products/scopus/

Training toolkit for self- studies to master the course *:

1. The set of lectures on the course "Neurology, Medical Genetics, Neurosurgery"

* The training toolkit for self- studies to master the course is placed   on the course page in the university telecommunication training and information system under the set procedure.

8. ASSESSMENT TOOLKIT AND GRADING SYSTEM* FOR EVALUATION OF STUDENTS' COMPETENCES LEVEL UPON COURSE COMPLETION

The assessment toolkit and the grading system* to evaluate the competences formation level (GC-1.1, GPC-4, GPC-5.3, GPC-7, PC-1, SPC-2, SPC-3) upon the course study completion are specified in the Appendix to the course syllabus.

* The assessment toolkit and the grading system are formed on the basis of the requirements of the relevant local normative act of RUDN University (regulations / order).

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