

Syllabus of discipline "CURRENT PROBLEMS OF NEUROLOGY" ББ 1.72 2023-2024 academic year	
The name of the faculty	Dental
Educational program (area, specialty, level of higher education, form of education)	22 Healthcare, 222 Medicine, second (master's) level of higher education, full-time
Academic year	2023-2024
Name of discipline, code	ББ 1.72 «Current problems of neurology» Kaf_neurology@meduniv.Lviv.ua
Department	79010, Lviv, LRCH, Y.Rufa str., 6 tel. +38 (032)2769325, 2368297, 2368397, 2368261, 2368326 Kaf_neurology@meduniv.Lviv.ua
Head of the department (contact e-mail)	Professor, Dr Med Sci, Nehrych Tetyana Kaf_neurology@meduniv.Lviv.ua
Year of study (year in which the study of the discipline is carried out)	5th year, medical faculty
Semester (semester in which the study of the discipline is implemented)	9-10 semesters
Type of course / module (mandatory / optional)	Elective discipline
Teachers (names, surnames, scientific degrees and titles of teachers who teach the discipline, contact e-mail)	Nehrych Tetyana, Dr Med Sci, Professor, Head of the Department of Neurology Maryenko Lidiya, Dr Med Sci, Professor of the Department of Neurology Natalia Malyarska, PhD, Associate Professor of the Department of Neurology Matvienko Yuriy, PhD, Associate Professor of the Department of Neurology Bozhenko Natalia, PhD, Associate Professor of the Department of Neurology Shorobura Maria, PhD, Associate Professor of the Department of Neurology Pshyk Roman, PhD, Lecture Assistant of the Department of Neurology Wiwchar Roman, Lecture Assistant of the Department of Neurology Bozhenko Myroslav, Lecture Assistant of the Department of Neurology Kaf_neurology@meduniv.Lviv.ua
Person responsible for the syllabus (person to be commented on the syllabus, contact e-mail)	Nataliya Malyarska Kaf_neurology@meduniv.Lviv.ua
Number of ECTS credits	2
Number of hours	60 hours - total: 26 hours - practical classes, 34 hours - independent work
Language of instruction	Ukrainian
Information about consultations	according to the schedule of consultations (presented at the department)
Address, telephone and regulations of the clinical base	79010, Lviv, LRCH, Y.Rufa str., 6 tel. +38 (032)2769325, 2368297, 2368397, 2368261, 2368326

2. Short annotation to the course

The program "Actual problems of neurology" is designed to train specialists of the second (master's) level of higher education, field of knowledge 22 "Health", specialty 222 "Medicine". The program offers consideration of the main neurological diseases from the standpoint of evidence-based medicine, considers the basic principles of disease diagnosis using guidelines, offers the acquisition of practical skills for use in practice. The organization of the educational process is carried out according to the European credit transfer system ECTS. The program is designed for 60 study hours / 2 credits.

3. The purpose and objectives of the course

The purpose of teaching the discipline "Actual problems of neurology" (the ultimate goal) is to prepare a master's degree in the specialty. The description of goals is formulated through skills in the form of target tasks (actions). On the basis of the final goals to the test, specific goals are formulated in the form of certain skills (actions), target tasks that ensure the achievement of the ultimate goal of studying the discipline.

Learning objectives: to determine the tactics of examination of the patient and formulate a clinical diagnosis (review of neurological status, prescribe the necessary laboratory and instrumental research methods, provide emergency care for major neurological diseases, develop rehabilitation and prevention of major neurological diseases from the standpoint of evidence-based medicine.

The study of the discipline provides competencies (general and special competencies):

- general:

- ability to act socially responsibly and consciously;
- ability to apply knowledge in practical situations;
- ability to abstract thinking, analysis and synthesis;
- ability to communicate in the native language orally and in writing;
- ability to communicate with representatives of other specialties.

- special (professional, subject-oriented):

- determine the tactics of examination and management of the patient with various neurological diseases;
- interpret the results of laboratory and instrumental research methods;
- formulate a preliminary clinical diagnosis of the disease;
- formulate general treatment tactics;
- demonstrate the ability to keep medical records in a neurology clinic;
- demonstrate mastery of the principles of clinical deontology.

4. Course details

"Actual problems of neurology" – discipline consists of theoretical and practical sections.

The theoretical section has a professional and applied nature and is implemented in the form of explanations of educational material in the process of practical classes, independent study of special literature by students, writing essays and presenting multimedia presentations, participation in the scientific student group of neurology and is based on medical biology, biological and bioorganic chemistry, histology, physiology and pathological physiology, human anatomy and pathomorphology and integrates with these disciplines; as well as propaedeutic disciplines of therapeutic profile, pharmacology, radiology and integrated with these disciplines; integrates with other clinical disciplines (internal medicine, neurosurgery, oncology, psychiatry, medical genetics, etc.); is differentiated - the formation of certain areas of neurological science, which have independent international organizations: epileptology; cerebrovascular pathology; neuromuscular diseases; migraine and other types of headaches; parkinsonology; multiple sclerosis and other demyelinating diseases; degenerative - dystrophic diseases of the spine, somatoneurological syndromes and emergencies in these diseases.

Practical section - involves students mastering practical skills and abilities, the use of standards (protocols) for care in various nosologies, writing a medical history with the formation of knowledge about diagnosis and treatment from the standpoint of evidence-based medicine.

5. Program learning outcomes

The study of the discipline "Actual problems of neurology" provides the following program learning outcomes:

Knowledge: the main modern methods of diagnosis and treatment, their purpose according to

treatment protocols from the standpoint of evidence-based medicine; demonstrate knowledge of systematization and diagnosis; to analyze instrumental and laboratory methods of examination, treatment protocols and examinations of patients that are accepted and implemented in the state.

Skills: to master the principles of classification of vascular diseases of the brain; analyze clinical forms of ischemic strokes; principles of undifferentiated and differentiated treatment of strokes; prevention of acute cerebrovascular disorders.

-interpret the modern classification of epileptic and non-epileptic paroxysmal states; diagnose status epilepticus and provide emergency care.

-interpret the main types of cephalgia and their treatment.

-master the principles of classification of infectious diseases of the nervous system; clinic of the main nosological forms of infectious diseases; interpret forms of neurosyphilis; to analyze the lesions of the nervous system in the presence of HIV infection.

-master modern aspects of etiopathogenesis, clinical forms, treatment of demyelinating diseases.

-master the principles of vertebrogenic and nonvertebrogenic diseases of the peripheral nervous system.

-analyze the neurological manifestations of hereditary and degenerative diseases of the neuromuscular, extrapyramidal, pyramidal, cerebellar systems.

-interpret neurological syndromes in diseases of internal organs, paraneoplastic syndromes.

-to assimilate drugs used in patients of neurological profile from the standpoint of evidence-based medicine;

-to conduct examinations of patients, to formulate a preliminary and to make a differential diagnosis of neurological diseases.

Communication: Establish appropriate connections to achieve goals. To form a communication strategy in professional activity. Use information and communication technologies in professional activities. Adhere to the provisions of the Doctor's Code of Ethics when communicating with patients and colleagues. Adhere to the current legal norms of the "doctor" → patient relationship during professional activity. Maintain a healthy psychological microclimate in the team. Interact with medical staff at the neurology clinic.

Autonomy and responsibility: continuous professional development with a high level of autonomy; the validity of the decisions made to solve problems of professional activity; observance of moral and ethical principles of the medical specialist and rules of professional subordination; their civic position and activities; observance of the current legal norms of the "doctor → patient" relationship; a sense of responsibility for the correctness and timeliness of care to the patient. Adhere to the requirements of ethics, bioethics and deontology in their professional activities. Adhere to the relevant ethical and legal norms.

6. Course format and scope

Course format	Full-time	
Kind of classes	Number of hours	Number of groups
Lectures	-	(according to the schedule)
Practical classes	26	
Seminars	-	
Independent	34	

7. Topics and content of the course (appendix attached)

In the process of studying the discipline "**Actual problems of neurology**" teaching methods are used:

- by type of cognitive activity: explanatory-illustrative, analytical, synthetic, inductive, deductive;
- the main stages of the process of knowledge formation, their application in clinical practice, generalization, formation of skills, consolidation, testing;
- system approach: stimulation and motivation, control and self-control;
- by sources of knowledge: verbal - story, conversation, visual - demonstration, illustration.

8. Verification of learning outcomes

Current control

is carried out during training sessions and aims to check the assimilation of students of educational

material (it is necessary to describe the forms of current control during training sessions). Forms of assessment of current educational activities should be standardized and include control of theoretical and practical training. The final grade for the current educational activity is set on a 4-point (national) scale

Learning outcome code	Code type of the class	Method of verifying learning outcomes	Acceptance criteria
<i>3H-1-15, VM-1-15, K-1, AB-1</i>	<i>II-26, CPC-34</i>	<p>Test control: the student receives 10 tests, answers and receives the result in points (from 0 to 10) and percent (from 0 to 100).</p> <p>Individual oral examination of theoretical material, which is included in methodological developments on relevant topics;</p> <ul style="list-style-type: none"> - solving situational problems; - ability to differentiate different forms and manifestations of diseases; - demonstration of practical skills: the student must be able to demonstrate practical skills in neurological status, which is listed. - drawing up a protocol of medical history 	<p>Test control: from 5-6 (50-60%) - satisfactory;</p> <p>7-8 (70-80%) - good;</p> <p>9-10 (90-100%) - excellent.</p> <p>Demonstration of practical skills: the student must be able to demonstrate all the structures that are in the list of practical skills.</p> <p>Answer to the teacher's question: the student answered all the teacher's questions, demonstrated the ability to think logically - excellent.</p> <p>The student answered all the questions of the teacher, demonstrated the ability to think logically, made 1-2 mistakes or inaccuracies - well. The student answered some questions of the teacher, demonstrated the ability to think logically, but is confused in the conduct of topical diagnostics - satisfactory.</p>

Final control

The evaluation is conducted on a 200-point scale.

Form of final control of academic performance: the form of final control of the discipline is a test, which is conducted at the last practical lesson. Students who have attended all the classes provided by the curriculum in the discipline and scored a minimum number of points (not less than 72, which corresponds to the national scale "3") are admitted to the test. A student who, for a good reason, has missed classes, is allowed to work off the academic debt until a certain deadline. For students who missed classes without good reason, the decision to complete them is made individually by the dean of the faculty. A package of test tasks is being solved, which includes basic test tasks "Step-2" in the amount of at least 40 tests.

Distribution of points received by students: assessment of the results of the discipline is carried out during the test. The grade in the discipline is defined as the sum of points for the current educational activity and is min - 120 to max - 200 points. Points for current performance and credit are added up. The obtained points correspond to a fixed scale of assessments.

Grade "5" - 200-170 points;

Grade "4" - 169-140 points;

Scores "3" - 139-120 points.

Assessment of independent work:

Assessment of students' independent work, which is provided in the topic along with classroom work, is carried out during the current control of the topic in the relevant classroom.

10. References:

1. Neurology = Неврологія : textbook for students of higher education establishments - medical universities, institutes and academies. / edit by L.A.Hryhorova, L. I. Sokolova. - K. : AUS Medicine Publishing, 2017. - 624 c.
2. Neurology: Clinical Cases [Текст] = Неврологія=Клінічні задачі : A practical guide for students of higher medical education institutions of the IV level of accred. (Recom.MHU №2 as of Juli 1, 2012) / L. Sokolova, L. Panteleienko, T. Dovbonos, V. Krylova ; edit by L. Sokolova. - K. : AUS Medicine Publishing, 2016. - 96 c.
3. Stuhan Davis. Neurology: NEUROLOGY CLINICAL PRACTICE AND CRITICAL CARE: The Clinical Practice of Neurology (Kindle Edition) Amazon Digital Services LLC (August 22, 2019).
4. Mervat Wahba. The Clinical Practice of Critical Care Neurology: clinical localization, Diagnosis & Treatment in Clinical Neurology and Neuroanatomy, of
5. Neurological disorders and the investigative modalities (Kindle Edition) Amazon Digital Services LLC (August 8, 2019)
6. Pietro Mazzoni, Toni Pearson, Lewis P Rowland. Merritt's Neurology Handbook (Hardcover) LWW; Thirteenth edition (October 3, 2015).

Information resources:

Internet sources

http://meduniv.lviv.ua/index.php?option=com_content&view=article&id=137&Itemid=173&lang=uk
Nevrologi.com.ua

1. <http://www.mif-ua.com/archive/mezhdunarodnyij-nevrologicheskij-zhurnal/numbers>
2. <http://neuronews.com.ua>

Survey: Questionnaires to assess the quality of the course will be conducted at the end of the course.

11. Equipment, material and technical and software of the course - Multimedia projector, personal computer, stimulation techniques, MISA distance learning platform.

12. Additional Information

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Head of the scientific student group: Lecturer Ass. Bozhenko Myroslav

Responsible for safety at the department: Lecturer Ass. Wiwchar Roman

Syllable's author

Malyarska Nataliya, PhD, Associate Professor

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Head of Department

Nehrych Tetyana, Dr Med Sci, professor

(Signature)

ADDITION

scheme of the discipline "Actual problems of neurology"

Class type code	Topic	Learning content	Learning outcome code	Teacher
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http://meduniv.lviv.ua/index.php?option=com_content&view=article&id=137&Itemid=173&lang=uk
Nevrologi.com.ua

1. <http://www.mif-ua.com/archive/mezhdunarodnyij-nevrologicheskij-zhurnal/numbers>
2. <http://neuroneews.com.ua>

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scheme of the discipline "Actual problems of neurology"

Class type code	Topic	Learning content	Learning outcome code	Teacher
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<p>II-1 2 hours</p>	<p>Vascular diseases of the brain and spinal cord.</p>	<p>Classification. Acute cerebrovascular disorders: strokes and transient ischemic attacks and cerebral hypertensive crises. Vascular dementia. Etiological factors and pathogenesis of acute cerebrovascular disorders. Symptoms of damage to the anterior, middle, posterior cerebral arteries. Syndromes of occlusion and stenosis of the main vessels of the brain. General cerebral and focal syndromes. Differential diagnosis of different types of acute cerebral circulatory disorders. Modern methods of undifferentiated and differentiated therapy. The period of the "therapeutic window". Indications and contraindications to surgical treatment. Spinal strokes. Rehabilitation and examination of able-bodied patients. Prevention of vascular diseases of the brain and spinal cord.</p>	<p>3H -1 3H -2 Y_M-1 Y_M-2 Y_M-3 Y_M-4 K-1 K-2</p>	<p><u>According to the schedule</u></p>
<p>II-2 1 hour</p>	<p>Epilepsy and non-epileptic paroxysmal conditions.</p>	<p>The pathogenetic essence of the epileptic focus in the development of the disease. Significance of endogenous and exogenous factors involved in the formation of the epitope. Classification of epileptic seizures. Status epilepticus (diagnosis, emergency care). Non-epileptic paroxysmal states. Differential diagnosis of epilepsy and non-epileptic paroxysmal states. Treatment of paroxysm and treatment in the interictal period.</p>	<p>3H-1 3H-2 Y_M-1 Y_M-2 Y_M-3 Y_M-4 K-1 K-2</p>	<p><u>According to the schedule</u></p>
<p>II-3 1 hour</p>	<p>Perinatal pathology.</p>	<p>Perinatal risk factors and the formation of pre-perinatal pathology. Assessment of physical development of newborns. Vaccination of newborns according to the vaccination calendar and regulations of the Ministry of Health of Ukraine. Fetal hypoxia and neonatal asphyxia. CNS birth trauma. Spinal birth injury.</p>	<p>3H-1 3H-2 Y_M-1 Y_M-2 Y_M-3 Y_M-4 K-1 K-2</p>	<p><u>According to the schedule</u></p>
<p>II-4 1 hour</p>	<p>Infectious diseases of the nervous system.</p>	<p>Meningitis. Classification of meningitis: primary and secondary, purulent and serous. Clinic, diagnosis, cerebrospinal fluid</p>	<p>3H-1 3H-2 Y_M-1 Y_M-2</p>	<p><u>According to the schedule</u></p>

		<p>indicators, treatment, prevention.</p> <p>Encephalitis. Classification.</p> <p>Primary encephalitis: epidemic, tick-borne spring-summer, herpetic.</p> <p>Secondary encephalitis. Clinic, course, forms of the disease, diagnosis.</p> <p>Acute COVID-infection, clinic, course, diagnosis.</p> <p>Neurological manifestations of COVID infection.</p> <p>Acute myelitis. Liquor diagnostics. Differential diagnosis. Treatment.</p> <p>Neurosyphilis. Early neurosyphilis (mesodermal), late neurosyphilis (parenchymal). Diagnosis, treatment methods.</p> <p>NeuroAIDS. Etiology, pathogenesis, key clinical manifestations: dementia, acute meningoencephalitis and atypical aseptic meningitis, myelopathy, lesions of the peripheral nervous system.</p> <p>Tuberculous meningitis (clinic, course, cerebrospinal fluid). Diagnosis, modern methods of treatment, prevention.</p>	<p>Y_M-3</p> <p>Y_M-4</p> <p>K-1</p> <p>K-2</p>	
<p>II-5</p> <p>2 hours</p>	<p>Headache: primary, secondary. Other types of headaches.</p>	<p>Etiology and mechanisms of headache: vascular, cerebrospinal fluid, neuralgic, muscle tension, psychalgic, mixed. Classification.</p> <p>Nosological forms of headache: migraine, muscle tension pain, beam pain. Differential diagnosis, principles of treatment.</p> <p>Migraine etiology, modern mechanisms of pathogenesis.</p> <p>Headache in intracranial hypotension syndrome and intracranial hypertension syndrome (etiopathogenetic factors, clinical and instrumental data).</p>	<p>3H-1</p> <p>3H-2</p> <p>Y_M-1</p> <p>Y_M-2</p> <p>Y_M-3</p> <p>Y_M-4</p> <p>K-1</p> <p>K-2</p>	<p><u>According to the schedule</u></p>
<p>II-6</p> <p>1 hour</p>	<p>Pathology of the ANS.</p>	<p>Neurological manifestations of asthenic syndrome, psycho-vegetative syndrome, panic attacks, peripheral syndromes: vegetative-vascular and vegetative-trophic syndromes, Raynaud's syndrome); CNS lesions, (hypothalamic dysfunction), additional methods of examination, differential diagnosis, treatment, prevention.</p>	<p>3H-1</p> <p>3H-2</p> <p>Y_M-1</p> <p>Y_M-2</p> <p>Y_M-3</p> <p>Y_M-4</p> <p>K-1</p> <p>K-2</p>	<p><u>According to the schedule</u></p>
<p>II-7</p>	<p>Diseases of the</p>	<p>Clinical classification of diseases of</p>	<p>3H-1</p>	<p><u>According to</u></p>

1 hour	peripheral nervous system.	<p>the peripheral nervous system. Vertebrogenic lesions of the peripheral nervous system. Cervical level: reflex syndromes (cervicago, cervicalgia; cervicocranioalgia or posterior vertebral artery syndrome and cervicobrachialgia with muscular, vegetative-vascular or neuro-dystrophic manifestations). Radicular syndromes (discogenic lesions of radiculopathy roots). Radicular and vascular syndromes (radiculoischemia). Chest level; reflex syndromes (thoracic, thoracalgia with muscular-tonic vegetative-visceral or neurodystrophic manifestations). Radicular syndromes (discogenic lesions of the roots - radiculopathy). Lumbosacral level: reflex syndromes (lumbago, lumbalgia, lumboischialgia with muscular, vegetative-vascular or neurodystrophic manifestations). Radicular syndromes (discogenic lesions of the roots - radiculopathy). Radicular and vascular syndromes (radiculoischemia).</p>	<p>3H-2 Y_M-1 Y_M-2 Y_M-3 Y_M-4 K-1 K-2</p>	<u>the schedule</u>
II-8 1 hour	Hereditary and degenerative diseases of the nervous system.	<p>Progressive muscular dystrophies. Myopathies. Myotonia. Myasthenia. Myasthenic syndromes. Paroxysmal myoplegia. Paroxysmal myoplegia syndrome. Extrapyrarnidal degeneration. Hepatocerebral degeneration. Huntington's disease. Modern biochemical aspects of Parkinson's disease and its treatment. Spinocerebellar ataxias. Pyramidal degeneration. Principles of treatment.</p>	<p>3H-1 3H-2 Y_M-1 Y_M-2 Y_M-3 Y_M-4 K-1 K-2</p>	<u>According to the schedule</u>
II-9 1 hour	Demyelinating diseases of the nervous system.	<p>Acute disseminated encephalomyelitis. Multiple sclerosis. Modern theory of pathogenesis. Pathomorphology. Early symptoms. The main clinical forms of the Charcot's triad. Marburg's pentad. Differential diagnosis. Treatment (in the period of exacerbation, in the period of remission: interferon drugs, stimulants of interferon production,</p>	<p>3H-1 3H-2 Y_M-1 Y_M-2 Y_M-3 Y_M-4 K-1 K-2</p>	<u>According to the schedule</u>

		combination drugs, monoclonal antibodies).		
II-10 1 hour	Somato-neurological syndromes.	Somatoneurological syndromes that occur as a result of metabolic disorders of the nervous system, hypoxia, pathological reflex impulses in somatic diseases. Somatoneurological syndromes in diseases of the lungs, heart, blood system, digestive tract, liver, kidneys, endocrine system, collagenosis. Paraneoplastic syndrome. Treatment. Prevention.	3H-1 3H-2 Y _M -1 Y _M -2 Y _M -3 Y _M -4 K-1 K-2	<u>According to the schedule</u>
II-11 2 hour	Emergencies.	Cerebral crises. Disorders of consciousness and comatose states, Epileptic and non-epileptic paroxysmal disorders, status epilepticus, hypertensive crisis, asphyxia (perinatal), myasthenic crisis.	3H-1 3H-2 Y _M -1 Y _M -2 Y _M -3 Y _M -4 K-1 K-2	<u>According to the schedule</u>
C-1 18 hours	Independent elaboration of topics that are not included in the plan of classroom classes.	- Vertebrogenic syndromes in pathology of the spine. - Prevention of vascular diseases of the brain and spinal cord. - Rehabilitation of patients after a stroke: modern aspects to improve the quality of life of the patient.	3H-1 3H-2 Y _M -1 Y _M -2 Y _M -3 Y _M -4 K-1 K-2	
II-12 2 hours	Functional diagnosis of diseases of the nervous system.	X-ray (cranio-, spondylography), Contrast X-ray examinations (myelography, angiography, ventriculography), Ultrasound (echoencephalography, Doppler), Electrophysiological (electroencephalography, rheoencephalography, echoencephalography). Methods of neuroimaging (computed tomography, magnetic resonance imaging, including in the vascular mode), positron emission tomography.	3H-1 3H-2 Y _M -1 Y _M -2 Y _M -3 Y _M -4 K-1 K-2	<u>According to the schedule</u>
C-2 4 hours	Functional diagnosis of diseases of the nervous system.	Cerebrospinal fluid diagnosis in various neurological diseases.	3H-1 3H-2	
II-13 1 hours	Drugs used in neurology.	Groups of drugs used to treat neurological diseases: neuroprotectors; drugs that improve cerebral hemodynamics; antiparkinsonian drugs; anticonvulsants; antimigraine, vegetotropic, antiatherosclerotic, biogenic stimulants; neuroleptics;	3H-1 3H-2 Y _M -1 Y _M -2 Y _M -3 Y _M -4 K-1 K-2	<u>Згідно графіку</u>

		anti-stress drugs; interferons; drugs used in neuromuscular diseases, autoimmune and demyelinating diseases, herpetic lesions, muscular dystonias and hyperkinesias and others.		
C-3 4 hours	Drugs used in neurology.		3H-1 3H-2	
П-14 2 hours	Practical experience. Analysis of patients.		УМ-1 УМ-2 УМ-3 УМ-4 К-1 К-2	<u>According to the schedule</u>
C-4 2 hours	Individual independent work.			
C-5 during the year	Participation in a scientific student group, interuniversity competitions			
П-15 2 hours	Preparation for the test		3H-1 3H-2	<u>According to the schedule</u>
C-6 10 hours	Theoretical training and mastering of practical skills.		3H-1 3H-2	
П-16 2 hours	Test.			<u>According to the schedule</u>
Totally: Practical classes - 26 hours. Independent work - 34 hours.				