

MINISTRY OF HEALTH OF UKRAINE  
KHARKIV NATIONAL MEDICAL UNIVERSITY

DEPARTMENT OF NEUROLOGY

Academic year 2021-2022

SYLLABUS OF TRAINING COURSE IN  
«TOPICAL ISSUES OF NEUROLOGY»

**Elective course**

Form of education \_\_\_\_\_ full-time \_\_\_\_\_

Field of knowledge 22 «Health» \_\_\_\_\_

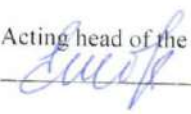
Specialty 222 «Medicine» \_\_\_\_\_

Second (Master's) level

Year V

The syllabus of the training course was approved  
at the meeting of the department of neurology

Protocol from  
«01» September 2021 № 1

Acting head of the department  
 prof. Tovazhnyanska O.L.

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Approved by the methodical commission of KhNMU  
on problems of professional training

Protocol from  
“ ” \_\_\_\_\_ 20 \_\_\_\_\_ № \_\_\_\_\_

Head  prof. Kravchun P.G.

“ ” \_\_\_\_\_ 20 \_\_\_\_\_

***Syllabus of the training course in «Topical issues of neurology» for students in the field of knowledge 22 "Health" in the specialty 222 "Medicine" second (Master's) level***

Year 5

Developers: Acting head of the Department of Neurology, MD, Professor O.L. Tovazhnyanska;  
Associated Professor, Ph.D. O.I. Kauk.

## INFORMATION ABOUT LECTURERS

1. Nekrasova Natalia Oleksandrivna – Professor of the Department of Neurology, MD. Professional interests: cerebrovascular diseases, vertebral neurology, psychoneurology, neurorehabilitation. Cont. phone: +380506154580, e-mail address [no.nekrasova@knmu.edu.ua](mailto:no.nekrasova@knmu.edu.ua) (English-speaking students);
2. Kauk Oksana Ivanivna - Associate Professor of Neurology dpt, PhD (medicine). Professional interests: pediatric neurology, paroxysmal conditions in children, mental retardation and correction of behavioral disorders in children. Cont. phone: +380995619123, e-mail address for correspondence [oi.kauk@knmu.edu.ua](mailto:oi.kauk@knmu.edu.ua) (domestic and Russian-speaking foreign students);
3. Markovska Olena Volodymyrivna - Associate Professor of Neurology Department, PhD (medicine). Professional interests: cerebrovascular diseases, demyelinating diseases. Cont. phone: +380954207904, e-mail address for correspondence [ov.markovska@knmu.edu.ua](mailto:ov.markovska@knmu.edu.ua) (domestic and Russian-speaking foreign students);
4. Solovyova Evgeniya Tarasivna - Assistant of the Department of Neurology, Candidate of Medical Sciences. Professional interests: cerebrovascular diseases, diseases of the peripheral nervous system. Cont. phone: +380679999450, e-mail address for correspondence [yt.soloviova@knmu.edu.ua](mailto:yt.soloviova@knmu.edu.ua) (English-speaking students);
5. Reminyak Yuliya Kostiantynivna - Assistant of the Department of Neurology. Professional interests: migraine and other types of headache. Cont. phone: +380995655432, e-mail for correspondence [yk.remyniak@knmu.edu.ua](mailto:yk.remyniak@knmu.edu.ua) (English-speaking students).

### Information about counseling

The students are consulted face-to-face by teachers of groups according to the schedule approved by the department which can be found on the information stand of the department, on the eve of tests and exams.

### Location

Venue of practical classes: training room of the Department of Neurology on the basis of SPMC "UC" KhNMU (Kharkiv, O. Speyer St., 4) and KNP CHO "OKL" (Kharkiv, 13 Nezalezhnosti Ave.).

Class time: according to the schedule.

## INTRODUCTION

**The syllabus of the discipline** «Topical issues of neurology» is compiled in accordance with the educational-professional program (hereinafter - EPP) «Medicine» and the Standard of Higher Education of Ukraine (hereinafter - the Standard), the second (master's) level, field of knowledge 22 "Health", specialty "Medicine".

### Description of the course

Neurology is a branch of clinical medicine that studies the etiology, pathogenesis and clinical manifestations of diseases of the nervous system and develops methods for their diagnosis, treatment and prevention.

The course "Topical issues of neurology" is a part of professional training of future doctors and provides opportunities for senior students to improve knowledge of modern neurology, current aspects of various nosological forms, modern ideas about etiology, pathogenesis, clinical forms, modern methods of treatment of certain neurological diseases.

In accordance with the EPP and the curriculum for the training of specialists of the second (master's) educational and qualification level of qualification in the field of training 22 "Health" in the specialty 222 "Medicine" for the discipline «Topical issues of neurology» allocated 3.0 ECTS credits, the total number of hours - 90: classroom - 20 hours of practical classes and 70 hours of independent work of students.

#### **The form of final control is a test.**

**General structure of the course** - the program of the discipline is structured in one section, in which the issues of separate nosological forms of various neurological diseases are considered at separate practical classes..

The amount of student workload is described in ECTS credits which are given to students upon successful mastering of the corresponding volume of the material.

### Prerequisites and co-requisites of the course

"Topical issues of neurology" as a discipline is based on the study of medical biology, histology, physiology and pathological physiology, human anatomy and pathomorphology and integrates with these disciplines, propaedeutic disciplines of therapeutic profile, pharmacology, radiology and integrates with these disciplines. The course "Topical issues of neurology" is effectively integrated with other clinical disciplines (internal medicine, neurosurgery, oncology, psychiatry, medical genetics, etc.).

## 1. The purpose and objectives of the course

**1.1. The purpose** of teaching the course "Topical issues of neurology" is to create a holistic view of students on modern views on etiopathogenetic features, clinical manifestations, differential diagnostic features of the most common diseases of the nervous system, modern directions and algorithms for their diagnosis and treatment.

#### **1.2.Objectives:**

improve knowledge of anatomical and functional features and main syndromes of lesions of the pyramidal, extrapyramidal, cerebellar, sensory systems, cranial nerves, integrative brain systems and autonomic nervous system, to improve the methodology of neurological status, to get acquainted with the

basic research methods in neurology (EEG, ultrasound of cerebral vessels, potentials, CT, MRI, etc.), their benefits and diagnostic capabilities.

### 1.3. Competences and learning outcomes

<b>1.3.1. The study of the discipline provides students with mastery of <b>competencies</b></b>	
Integral competence	ability to solve typical and complex specialized tasks and practical problems in professional activities in the field of health care, or in the learning process, which involves research and / or innovation and is characterized by complexity and uncertainty of conditions and requirements.
General Competences (GC)	<p>GC 1 - Ability to abstract thinking, analysis and synthesis, the ability to learn and be modernly trained</p> <p>GC 2 - Ability to apply knowledge in practical situations</p> <p>GC 3 - Knowledge and understanding of the subject area and understanding of professional activity</p> <p>GC 4 - Ability to adapt and act in a new situation</p> <p>GC 5 - Ability to make an informed decision; work in a team; interpersonal skills</p> <p>GC 6 - Ability to communicate in the state language both orally and in writing; ability to communicate in a foreign language</p> <p>GC 7 - Skills in the use of information and communication technologies</p> <p>GC 8 - Definiteness and persistence in terms of tasks and responsibilities</p> <p>GC 9 - Ability to act socially responsibly and consciously</p>
Professional competencies (PC)	<p>PC1 - Survey skills</p> <p>PC2 - Ability to determine the required list of laboratory and instrumental studies and evaluate their results</p> <p>PC3 - Ability to establish a preliminary and clinical diagnosis of the disease</p> <p>PC4 - Ability to determine the required mode of work and rest, the nature of nutrition in the treatment of diseases</p> <p>PC5 - Ability to determine the principles and nature of treatment of diseases</p> <p>PC6 - Ability to diagnose emergencies</p> <p>PC7 - Ability to determine tactics and skills of emergency medical care</p> <p>PC9 - Skills to perform medical manipulations</p> <p>PC11 - Ability to plan and conduct sanitary, preventive and anti-epidemic measures, including infectious diseases</p> <p>PC12 - Ability to determine</p> <p>PC14 - Ability to keep medical records</p> <p>PC15 - Ability to conduct epidemiological and medical-statistical studies of public health; processing of state, social, economic and medical information</p> <p>PC17 - Ability to analyze the activities of a doctor, department, health care institution, to take measures to ensure the quality and safety of medical care and improve the efficiency of medical resources</p> <p>PC18 - Ability to conduct activities for the organization and integration of medical care, and marketing of medical services</p>

**1.3.2. The study of the discipline ensures the acquisition of students the following program learning outcomes:**

Knowledge and understanding:

PLO 1 - acquisition by a person of general and special fundamental and professionally-oriented knowledge, skills, abilities, competencies necessary for the performance of typical professional tasks related to his / her activity in the medical field in the relevant position

PLO 2 - knowledge of psychophysiological features of the person, human health, support of health, prevention of diseases, treatment of the person, health of the population

Application of knowledge and understanding:

PLO 3 - the ability to apply the acquired knowledge, skills and understanding to solve typical problems of the doctor, the scope of which is provided by lists of syndromes and symptoms, diseases, emergencies, laboratory and instrumental research, medical manipulations

PLO 4 - collection of patient information

PLO 5 - evaluation of survey results, physical examination, laboratory and instrumental research data

PLO 6 - establishing a preliminary clinical diagnosis of the disease

PLO 7 - determining the nature, principles of treatment of diseases

PLO 8 - determination of the necessary diet in the treatment of diseases

PLO 9 - determining the tactics of contingent of persons subject dispensary supervision

PLO 10 - diagnosing emergencies, determining the tactics of emergency medical care

PLO 11 - carrying out sanitary and hygienic and preventive measures

PLO 12 - planning of preventive and anti-epidemic measures for infectious diseases

PLO 15 - performance of medical manipulations

PLO 17 - maintenance of medical documentation, processing of state, social and medical information

Formation of judgements:

PLO 18 - the ability to assess the state of human health and provide its support taking into account the impact of the environment and other health factors

PLO 20 - the ability to apply the acquired knowledge about the existing health care system to optimize their own professional activities and participate in solving practical problems of the industry

PLO 21 - the formation of a specialist with appropriate personal qualities, who adheres to the code of ethics of the doctor

**1.3.3. The study of the discipline ensures the acquisition of students following social skills (Soft skills):**

- communication skills
- interpersonal skills
- research skills
- adaptability
- emotional intelligence

## 2. INFORMATION SCOPE OF THE COURSE

Name of indicators	Field of knowledge, direction of training, educational and qualification level	Characteristics of the discipline
		full-time education
Number of credits - 3,0	educational program for training specialists of the second (master's) level of higher education training 22 "Health"	Elective
Total number of hours - 90	Specialty: 222 "Medicine"	<b>Year of preparation:</b>
		5 <sup>th</sup>
		<b>Semester</b>
		7 <sup>th</sup> or 8 <sup>th</sup>
Hours for full-time (or evening) form of education: classroom – 20 individual work of the student - 70	Education level: master	<b>Лекції</b>
		0 hours
		<b>Practical, seminar</b>
		20 hours
		<b>Laboratory</b>
		0 hours
		<b>Individual work</b>
		70 hours
		<b>Individual tasks:</b>
		Type of control: test

### 2.1 Description of the discipline

#### Topics of practical classes

№	Name topics	Number of hours	Teaching methods	Forms of control
1	Headache. Vascular diseases of the brain and spinal cord. Epilepsy and non-epileptic paroxysmal conditions.	5	Story-explanation, conversation, demonstration, presentation, supervision of patients, written creative works, creative tasks; individual tasks.	Oral interview; written survey; test control.
2	Infectious diseases of the nervous system. Demyelinating diseases of the nervous system.	5		
3	Diseases of the peripheral nervous system. Hereditary degenerative diseases of the nervous system.	5		
4	Somato-neurological syndromes. Practical skills. Credit lesson.	5		
Total hours of practical training		20		

#### Individual work

№	Name topics	Number of hours	Teaching methods	Forms of control
1	Vascular diseases of the brain and spinal cord	6	Written creative works,	Oral interview; written survey; test control,
2	Epilepsy and non-epileptic paroxysmal conditions	6		
3	Infectious lesions of the nervous system	6		

4	Poliomyelitis. Acute myelitis. Neurosyphilis. Neurological manifestations of polymyositis-dermatomyositis. Lesions of the nervous system in the presence of HIV infection. Tuberculosis of the nervous system.	6	creative tasks; individual tasks.	abstracts; report.		
5	Demyelinating diseases of the nervous system	6				
6	Diseases of the peripheral nervous system	6				
7	Somatoneurological syndromes	6				
8	Hereditary degenerative diseases of the nervous system	6				
9	Functional diagnostics of nervous system diseases.	6				
10	Drugs used in neurology.	6				
11	Practical skills. Credit lesson.	10				
Total hours for individual work		70				

### 3. Evaluation policy

3.1. Evaluation of the success of education of students is carried out on the basis of the current "Instructions for evaluating the educational activities of students of KhNMU"

#### Organization of current control.

*Current educational activity of students (CEA)* is controlled in practical classes according to specific goals and during the individual work of the teacher with students.

The following tools are used to diagnose the level of students' preparation: control of practical skills, tests, solving situational problems and tasks "Krok -2".

*Final control* is upon completion of the course.

**Assessment of student performance in the subject is a rating** and is set on a multi-point scale **as the arithmetic mean of the relevant sections, determined by the ECTS system and the traditional scale adopted in Ukraine.**

If a student wants to improve his rating, he has the opportunity to perform individual tasks, which include preparation of diagrams of meridians and acupuncture points, creating tables of compatibility of acupuncture points in different diseases, schemes of complex application of different reflexology methods in different nosological forms of disease, creating test tasks for control survey, preparation of reports for scientific conferences, participation in interuniversity competitions in the course, etc.

**Individual student tasks** are assessed if all the teacher's tasks have been performed (reports at scientific and practical conferences of the department, university, writing abstracts, articles, participation in the All-Ukrainian Olympiad). Points (not more than 10) are added as incentives. The total number of points for the current educational activity may not exceed 200 points.

**Assessment of students' independent work.** Independent work of students, which is provided by the topic of the lesson along with the classroom work, is assessed during the current control of the topic in the relevant lesson.

**Elimination of academic debt.** Missed practical classes (both classroom and distance) are subject to mandatory completion. Practice is carried out either by the teacher of the group or by the teacher on duty, the remote form of practice is allowed (by prior arrangement). Missed



classes for up to 1 month from the moment of admission are worked out free of charge, if the term exceeds 1 month - on request, with the permission of the dean's office, which decides the form of practice (free or paid).

#### **Overall grade in the discipline.**

The final score for the common learning activity (CLA) and the final lessons (FL) is defined as the arithmetic mean of the traditional grades for each lesson and software, rounded to 2 decimal places and converted into a multi-point scale according to Table 2 according to the "Instructions for assessment activities under the European credit transfer system for the organization of the educational process in KhNMU "from 21.08.2021 №181.

To enroll in the discipline, the student must receive from 120 to 200 points, which is expressed on a two-point scale: "passed" or "not passed".

**The students who have not been admitted to the credit test or have not passed it, are entitled to liquidation of current academic debt and reassignment of the semester control within the current semester, as well as during winter or summer vacations after the end of the semester but before the next.**

*The students can re-take the differential test no more than twice if it is allowed by the dean of the faculty.*

## **4. Discipline policy**

The department accepts qualified students of any race, national or ethnic origin, gender, age, people with special needs, any religion, sexual orientation, veteran status or marital status for all rights, privileges, programs and activities, provided to university students.

It is expected that male and female students will attend all practical classes. If they have missed classes, it is necessary to work them out (according to the schedule on the information stand of the department).

Written and home assignments must be completed in a timely manner, and if students have questions, they can contact the teacher in person or by e-mail, which the teacher will provide at the first practical session.

During the practical lesson, students are recommended to keep a synopsis of the lesson and keep a sufficient level of silence. Asking questions to the teacher is perfectly normal.

### **Occupational Health**

The first lesson of the course will explain the basic principles of labor protection by conducting appropriate training. It is expected that everyone should know where the nearest evacuation exit is, where the fire extinguisher is, how to use it, and so on.

### **Behaviour in the classroom**

#### **Basic "yes" and "no"**

It is important for students to follow the rules of good behavior at the university. These rules are common to all, they also apply to all faculty and staff, and are not fundamentally different from the generally accepted norms.

During classes it is allowed:

- to leave the classroom for a short time if necessary and with the permission of the teacher;

- drink soft drinks;
- take photos of presentation slides;
- take an active part in the class

**Forbidden:**

- eating (except for persons whose special medical condition requires different - in this case, medical confirmation is required);
- smoking, drinking alcohol and even low-alcohol beverages or drugs;
- using obscene language or use words that offend the honor and dignity of colleagues and faculty;
- gambling;
- damaging the material and technical base of the university (damage inventory, equipment; furniture, walls, floors, litter the premises and territories);
- shouting or listening to loud music in classrooms and even in corridors during classes

### **Practical training**

Active participation during the discussion in the classroom, students should be ready to understand the material in detail, ask questions, express their point of view, discuss. During the discussion it is important:

- to respect for colleagues,
- tolerate others and their experience,
- receptivity and impartiality,
- the ability to disagree with the opinion, but to respect the personality of the opponent / s,
- careful argumentation of his opinion and the courage to change his position under the influence of evidence,
- self-expression, when a person avoids unnecessary generalizations, describes his feelings and formulates his wishes based on their own thoughts and emotions,
- mandatory acquaintance with primary sources.

A creative approach in its various manifestations is welcome. Students are expected to be interested in participating in city, national and international conferences, competitions and other events in the subject profile.

## **5. Academic integrity**

The Department of Neurology maintains zero tolerance for plagiarism. Students are expected to constantly raise their awareness of academic writing. The first lessons will provide information on what to consider plagiarism and how to properly conduct research and scientific research.

Students with special needs should meet the teacher or warn him/her before the start of classes, at the request of the student this can be done by the group leader. If you have any questions, please contact the teacher.

## 6. Recommended references

### Educational literature

1. Neurology: a textbook / I.A. Grygorova [et.al.]; ed .: I. A. Grygorova, L.I. Sokolova. - K.: Medicine, 2013. - 640 p.
2. Clinical Neurology / Edited by Gryb V.A. – K.: Publishing house Medknyha, 2017/- 288 p.
3. Neurology / Hryhorova I.A., Sokolova L.I., Herasymchuk R.D. et al. - Kyiv: AUS Medicine Publishing, 2017. – 624 p.

### Auxiliary:

1. Nervous diseases, edited by S.M. Vynychuk, E.G. Dubenko. - K .: Health. - 2001 – 696p.
2. Nikiforov A.S., Konovalov A.N., Gusev E.I. Clinical Neurology: Textbook. In three volumes. - I-II-III .: Medicine, - 2007. - 792p.
3. Skoromets A.A. Nervous diseases: textbook / A.A. Skoromets, A.P. Skoromets, T.A. Skoromets. - 4th ed. - M .: MEDpress-inform, 2010. – 560p with illustr.
4. Shevaga V.M. Neurology: textbook / V.M.Shevaga, A.V.Payenok, B.V.Zadorozhna. - 2nd ed., revised and supplemented..-K .: Medicine, 2009.-. 656p.
5. Yakhno N.N., Shtulman D.R. Diseases of the nervous system. - Volume 1-2 - M .: Medicine, 2007 - 744p. and 480 p.

## 7. Learning outcomes

As a result of studying the course the student should be able to:

- To independently inspect patients with neurological pathology with compilation of medical history.
- To determine the leading neurological syndrome in the patient.
- To substantiate a topical diagnosis in the patient being examined.
- Conduct differential diagnostics.
- To substantiate the presented clinical diagnosis.
- To determine the etiology of diseases, peculiarities of pathogenesis, course of disease and its complications in subject patient.
- To substantiate the treatment prescribed to the patient.
- To determine the prognosis of disease in the patient.

### List of questions to the test

1. Blood supply of the brain and spinal cord.
2. Classification of vascular diseases of the nervous system.
3. Variants of cerebral vascular crises.
4. The syndromes of transient ischemic attacks.
5. Transient cerebral circulation disorder.
6. Hemorrhagic stroke (parenchymal and subarachnoid hemorrhage).
7. Ischemic (thrombotic and non-thrombotic) strokes
8. The principles of undifferentiated and differentiated treatment of strokes.
9. Spinal strokes.
10. Prevention of strokes.
11. Modern classification of paroxysmal conditions in the clinic of nervous diseases

12. The pathogenic essence of epilepsy, the classification of epileptic seizures, the principles of differentiated treatment.
13. Epileptic status, clinic, diagnosis, treatment.
14. Non-epileptic paroxysmal conditions - convulsive and unconscious..
15. Autonomic paroxysms.
16. Syncopal states.
17. Cephalalgia-pathogenetic mechanisms of occurrence, clinic, diagnostics, treatment.
18. Migraine: pathogenesis, clinic, treatment..
19. Meningitis (purulent-primary, secondary, sesion).
20. Arachnoiditis (adhesive, cystic), basal, convex).
21. Encephalitis (primary, secondary).
22. Lesions of the nervous system in influenza, rheumatism. Herpetic lesions.
23. Neurosyphilis, early and late forms.
24. Neurological disorders of polymyositis-dermatomyositis.
25. Lesions of the nervous system in the presence of HIV infection.
26. Tuberculosis of the nervous system.
27. Multiple sclerosis (etiogenesis, flow variations, clinic, modern methods of treatment).
28. Classification of diseases of peripheral nervous system.
29. Reflective vertebrogenic syndromes of the cervical, thoracic, lumbar levels.
30. Radicular syndromes of cervical, thoracic, lumbar localization.
31. Trigeminal neuralgia.
32. Facial nerve neuropathy.
33. Options of shoulder plexopathy.
34. Neuropathies of the ulnar, radial, median, tibial, tibial nerves.
35. Compression ischemic syndromes. Tunnel syndromes.
36. Polyneuropathies (infectious, toxic), modern methods of treatment.
37. Psychological syndromes in diseases of the digestive tract, lungs, cardiovascular system, blood, endocrine diseases. Paraneoplastic syndrome.
38. Progressive muscular dystrophies-primary (myopathy) and secondary (amyotrophy).
39. Myotonia.
40. Myasthenia gravis. Myasthenic syndromes. Paroxysmal myoplegia.
41. Hepatocerebral degeneration (Konovalov-Wilson's disease).
42. Huntington's disease.
43. Current biochemical aspects of Parkinson's disease and its treatment.
44. Muscular dystonia.
45. Dorsal cerebellar ataxia. Friedrich's hereditary ataxia.
46. Hereditary spastic paraplegia. Stumpel's disease.

Acting head of Neurology Department,  
Professor, MD

O.L. Tovazhnyanska