

MINISTRY OF PUBLIC HEALTH OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY

«A P P R O V E D»

Vice-rector for research and
educational (academic) work, Professor

_____ I.P.Shmakova
«_»_____ 2020

CURRICULUM IN DISCIPLINE «NEUROLOGY, INCLUDING NEURODENTISTRY»

training of specialists of the second (master's) level of higher education in the field of knowledge 22 «Health care» in higher educational institutions of the Ministry of Health of Ukraine, specialty 221 «Dentistry» qualification educational «Master of Medicine», qualification professional «Doctor»

Faculty of Medicine №2, full-time form of education

Department **Neurology and Neurosurgery**

The scope of the discipline:

Discipline	Quantity of hours / credits				Year	Control type
	Total	Auditorium		ISW		
		Lect.	Pract.			
«NEUROLOGY, INCLUDING NEURODENTISTRY»	45/1,5	10/0,33	30/1,0	5/0,17	2020-2021	Differentiated test
Total						

The program was worked out by: prof. A.S. Son, on the basis of the educational-professional program of the second level of higher education on preparation of masters on a specialty 222 "Medicine" ONMedU, according to the Standard of higher education of Ukraine of preparation of the expert in the field of knowledge 22 "Health care", a specialty 221 "Dentistry", the approximate curriculum training of specialists of the second (master's) level of higher education in the field of knowledge 22 "Health" in higher educational institutions of the Ministry of Health of Ukraine in specialty 221 "Dentistry", educational qualification "Master of Medicine", professional qualification "Doctor" 2016, based on Article 10 of the Law Of Ukraine dated 01.07.2014 № 1556-VII "On higher education", resolutions of the Cabinet of Ministers of Ukraine dated 29.04.2015 № 266 "On approval of the list of branches of knowledge and specialties for which higher education students are trained" as amended by the Cabinet of Ministers of Ukraine from 01.02.2017 № 53.

The curriculum is discussed at the method conference of the department

Protocol № _____

The head of the department _____ Prof. A.S.Son

The curriculum is approved at the conference of the subject cyclic method committee of therapeutic disciplines

Protocol № _____

Chairman of the subject cyclic method committee _____ Prof. N.A.Matsegora

The curriculum is approved at the session of Central Coordination-Method Council of the university

Protocol № _____

I. THE EXPLANATORY NOTE

Program on discipline «Neurology, including Neurodentistry» for students of higher medical educational institutions of Ukraine of III-IV accreditation levels, branch of knowledge 22 «Healthcare», specialty 221 «Dentistry».

The curriculum is composed in accordance with the following normative documents:

- Law of Ukraine «On Higher Education» of 01.07.2014 №1556-VII;
- The standard of higher education is the second (master's) level, the branch of knowledge 22 «Health» specialty 222 «Medicine», Ministry of Education and Science of Ukraine, Kiev, 2016;
- Regulations on the organization of the educational process in the ONMED (2015).
- By order of ONMEDU №383-0 of September 17, 2010 On introduction into the educational process of a typical cross-cutting educational program «HIV Prevention, prevention of mother-to-child transmission of HIV, diagnosis, treatment of HIV-infected people and socio-psychological support of people Live with HIV».
- A typical curriculum on discipline «Neurology», Kiev, 2017;
- By order of ONMedU from 05.26.2014 № 210-0 «On introduction into the educational process of the OSMedU through program «Palliative and Hospice Assistance»».

Credit transfer system of the educational process as a technology ECTS includes:

- The introduction of credits ECTS (ECTS) in units of student workload required for the assimilation of the course;

Loans (Credit) appointed qualifications or training programs in general, and their education (educational) components (such as training courses, course work, work placements and laboratory work).

Credit includes all types of work the student provided in the approved individual plan: auditorium, independent, preparation for state certification, preparation of integrated licensing examinations «STEP-1» and «STEP-2», practically oriented state exam, practical, writing term papers, etc. . One ECTS credit is 30 hours.

- Providing loans to students entering the components of the curriculum (disciplines, practices, course and qualification work) on the grounds of positive assessments. Installation of credits students are in full accordance with the credit component of the training set, and only after their full implementation;
- Use multiple scales of assessment, including assessment rating scale ECTS, which are converted into each other according to certain rules.

The program is structured in two sections, topics.

According to the curriculum study of «Neurology, including neurostomatology» as a discipline is carried out in the VIII semester and:

- a) based on a study of medical students of biology, biological and bioorganic chemistry, histology, physiology and pathological physiology, human anatomy and pathology and integrated with these disciplines;
- b) based on a study of students propaedeutic disciplines therapeutic profile, pharmacology, radiology and integrated with these disciplines;
- c) integrates with other clinical disciplines (internal medicine, neurosurgery, oncology, psychiatry, medical genetics, dentistry, etc.).

The course «Neurology including Neurodentistry» contains 1.5 credit (45 hours), 30 hours of them is class-room training (in the form of lectures - 10 hours, practical classes - 30 hours) and independent work of students - 5 hours.

Program of educational discipline «Neurology, including Neurodentistry» is structured into two sections: «Neurology» and «Neurodentistry».

Discipline: «Neurology including Neurodentistry».

Section 1. Neurology.

Section 2. Neurodentistry.

The types of educational activities of students according to the curriculum are:

- a). lectures,
- b). practical classes,
- c). independent work of students (IWS).

Topics of **lectures** reveal problematic issues relevant sections of neurology and neurostomatology.

Practical classes of the students provide:

- 1) the study of the neurologic status of a healthy person;
- 2) the study of status with different diseases of the nervous system; development of symptoms and syndromes;
- 3) the formulation of topical and clinical diagnosis; making of differential diagnosis;
- 4) solution of situational tasks, problems by the type of license examination «STEP-2».

Current educational activity of students supervised practical training to meet your specific goals and during individual work of teacher with students. Students at the first lesson of discipline are informed on a daily form of knowledge control adopted by the department.

Obligatory element of daily control of knowledge students have oral answer in a survey on the topic of employment, solving situational tasks justify a diagnosis, conduct a differential diagnosis, destination methods of examination and treatment, explain the survey results patients.

In assessing the current performance of students written test control is considered only as part of the control of knowledge. Mostly written test control should only serve as student self-test their knowledge and skills.

During auditory employment tests are not used. They are used only if the ISW, along with situational challenges.

For objectification determine the level of student knowledge tests not contain answers. In the classroom the teacher analyzes the errors implied by students in answering the tests. In practical classes students learn to explore the neurological status, diagnose and prescribe adequate examination and treatment. With this system the student masters the professional practical skills.

Individual students' work (ISW)

The main tasks of the bid is in full mastering basic educational programs and learning skills for effective independent professional activity. To bid included preparation for classroom training, self mastering specific topics of the course in accordance with the work program, the preparation for the exam.

ISW done in free time at home, library or in the educational-methodical cabinet (in hours reserved for consultations under the control of another teacher). Educational and methodical developments or manuals for ISW Department provides part fund its educational-methodical cabinet. Other material to prepare students to find their own according to the list of textbooks to a subject put to bid, while working in the library, including on-line ONMedU library or web. The list of recommended literature (mandatory and optional) available to students (to be on the stand of the Department).

Diagnostic level of training of students, control of practical skills - the ability to explore the neurological status and interpret it in various neurological diseases; computer tests; solving situational problems and tasks «STEP-2».

PURPOSE OF STUDY OF EDUCATIONAL DISCIPLINE
«Neurology including Neurodentistry.»
Specialty 221 «Dentistry»

The purpose of the study of neurology - **the ultimate goal** is determined on the basis of OPP preparation of a doctor in the specialty according to the block of its content module (professional and practical training) and is the basis for constructing the content of the discipline. The description of goals is formulated through skills in the form of target tasks (actions). Based on the ultimate goals, the module or content module formulated **specific goals** in the form of certain skills (actions), objectives, which ensure the achievement of the ultimate goal of studying the discipline.

The ultimate goals of the discipline are:

- Identify the main symptoms and syndromes of lesions of different parts of the nervous system.
- To interpret data of functional anatomy and clinical physiology of the nervous system.
- Determine the etiological factors and pathogenetic mechanisms of development of major neurological diseases.
 - Provide a preliminary diagnosis of major neurological diseases.
 - Analyze the main indicators of laboratory-instrumental research methods in neurological practice.
- To plan the practice of treating a patient with a neurological pathology and incurable patients and the use of palliative treatment with respect to the latter.

Competence and learning outcomes, the formation of which is facilitated by discipline (the relationship with the normative content of the training of higher education graduates, formulated in terms of the results of training in the Standard).

Integral competence - the ability to solve complex problems and problems in the field of health care in the specialty "Medicine" in the professional activity or in the process of study, which involves conducting research and / or innovations and characterized by uncertainty of conditions and requirements.

2.1. General competences on the requirements of the NRC

GC1	Ability to abstract thinking, analysis and synthesis.
GC2	Knowledge and understanding of the subject area and understanding of the profession.
GC3	Ability to communicate in the state language.
GC4	Ability to learn and master modern classes, use information and communication technologies; ability to search, process and analyze information from various sources.
GC5	Ability to adapt and act in a new situation.
GC6	Ability to work in a team.
GC7	Ability to work in an international context, to communicate in a foreign language.
GC8	Ability to evaluate and ensure the quality of work performed.
GC9	Ability to act on the basis of ethical considerations, socially responsible and consciously.
GC10	Ability to be aware of equal opportunities and gender issues; appreciate and respect diversity and multiculturalism.

2.2. Special (professional, substantive) competencies

A generalized object of professional activity - preservation of health, prevention and treatment of diseases of internal organs of a person.

Professional competence of the master's degree - the ability to implement such professional duties by type of activity:

SC1	Communication skills and clinical examination of the patient.
SC2	Ability to determine the list of required clinical and instrumental studies and evaluate their results
SC3	Ability to establish a preliminary and clinical diagnosis of the disease.
SC4	Ability to determine the principles of treatment of diseases, the required mode of work and rest and the nature of nutrition.
SC5	Ability to diagnose emergencies.
SC6	Ability to determine tactics and provide emergency medical care
SC7	Ability to plan and conduct medical and evacuation measures
SC8	Ability to perform medical manipulations
SC9	Ability to provide advice on family planning, determine the tactics of physiological pregnancy, physiological childbirth and the postpartum period
SC10	Ability to plan and conduct sanitary and preventive measures
SC11	Ability to plan and implement preventive and anti-epidemic measures for infectious diseases.
SC12	Ability to determine the tactics of management of persons subject to dispensary supervision.
SC13	Ability to conduct a performance examination.
SC14	Ability to keep medical records.
SC15	Ability to conduct epidemiological and medical-statistical population health research; assess the impact environment, socio-economic and biological determinants on the health of an individual, family, population.
SC16	Ability to plan, conduct and analyze activities organization and integration of medical care to the population.

**Determination of competence in accordance with the descriptors of the NRC in the form of
«Matrix of competence».**

«Matrix of competence»

№	Competence	Knowledge	Abilities	Communication	Autonomy and responsibility
1	Ability to apply knowledge in practical situations	Have specialized conceptual knowledge gained from learning process.	Be able to solve complex tasks and problems that are arise in professional activities.	Understand and unambiguous report their own conclusions, knowledge and explanations that they are substantiated to specialists and non-specialists.	To be responsible for adoption solutions in complex conditions
2	Ability to evaluation results laboratory and instrumental researches	Have specialized knowledge about man, her organs and systems know standard methodology carrying out laboratory and instrumental research	Be able analyze results laboratory and instrumental studies and on their basis appreciate information regarding the diagnosis patient (for List 4)	Substantiated assign and evaluate results laboratory and instrumental research (on list 4).	Carry responsibility for acceptance decision on evaluation results laboratory and instrumental research
3	Ability to choose communication strategies; ability to work in a team; skills interpersonal interactions	Know tactics and strategies communication, laws and ways of communicative behavior	Be able to choose the ways and communication strategies to provide an effective team work	Use strategies communication and skills interpersonal interaction	Be responsible for choice and tactics way of communication
4	Ability apply knowledge to practical situations.	Know the methods of application knowledge in solving practical issues.	Be able to use knowledge at varied practical situations.	Establish connections on vertically and horizontally in Depending on the practical the situation.	Be responsible for timeliness made decisions in these situations.

5	Ability to installation the previous one clinical diagnosis disease	Have specialized knowledge about the person, it organs and systems knowledge standard techniques examination; algorithms diagnostics of diseases; selection algorithm leading symptoms or syndromes (list 1); previous and clinical diagnoses (on list 2); knowledge of methods laboratory and instrumental survey (list 3); knowledge about assessment of the state man	Be able to hold physical examination the patient; be able to take grounded decision about selection leading clinical symptom or syndrome; to be able to put previous diagnosis disease (by list 2); to appoint laboratory and instrumental examination of the patient (for List 3) by way of application standard techniques	Based on normative documents to conduct medical patient documentation (map outpatient / inpatient patient, etc.).	Adhering to ethical and legal norms be responsible for acceptance grounded solutions and actions on the correctness established previous clinical diagnosis of the disease
6	Build-up skills information about the patient	Have specialized knowledge about the person, it organs and systems know techniques and standard circuits poll and physical patient examination	Be able to converse with patient based on algorithms and standards, using standard techniques to conduct a physical one patient examination. Be able to appreciate state of health of a person.	Enter status information human health to the appropriate medical documentation	Be responsible for a qualitative collection received information on based on an interview, interview, review, palpation, percussion organs and systems and timely evaluation I will: human health, and making appropriate measures

7	Ability to definition principles and the nature of the treatment diseases	Have specialized knowledge with respect to algorithms and standard schematics treatment of diseases (by list 2)	Be able to determine principles and character treatment of the disease (in list 2)	Form and convey to patient and professionals own conclusions about principles and nature of treatment (by list 2)	Be responsible for making a decision with respect to the principles and the nature of the treatment disease (by list 2)
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The normative content of the training of higher education graduates, formulated in terms of learning outcomes

1. Ability to establish a preliminary clinical diagnosis of the disease.

- Be able to isolate and fix the leading clinical symptom or syndrome (list 1) by making a reasonable decision using historical data of the patient's history, physical examination data of the patient, knowledge of the person, its organs and systems, observing the relevant ethical and legal norms.

- Be able to identify the most probable or syndromic disease (list 2) by making a reasonable decision by comparison with standards using historical data of the patient's history and patient survey data, based on the leading clinical symptom or syndrome, using knowledge about the person, his organs and systems, adhering to the relevant ethical and legal standards.

1.2. In the conditions of the health care institution, its unit:

- Assign a laboratory and / or instrumental examination of the patient (on list 4) by making a reasonable decision based on the most probable or syndromic diagnosis, using standardized schemes, using knowledge about the person, his organs and systems, observing the relevant ethical and legal standards.

- Establish a preliminary clinical diagnosis (in list 2) by making a reasonable decision and logical analysis, using the most probable or syndromic diagnosis, data of the laboratory and instrumental examination of the patient, conclusions of the differential diagnosis, knowledge of the person, its organs and systems, observing the relevant ethical and legal norms.

2. The skills of collecting patient information

To collect data on patient complaints, medical history, history of life (including a professional history), under the conditions of the health facility, his unit or at home in the patient, using the interview results with the patient, according to the standard patient survey scheme.

Under any circumstances (in the health care facility, its subdivision, at the patient's home, etc.), using knowledge of the person, its organs and systems, according to certain algorithms:

- collect information about the general condition of the patient (consciousness, constitution) and appearance (skin, subcutaneous fat, palpation of lymph nodes, thyroid and mammary glands);

- examine the state of the cardiovascular system (examination and palpation of the area of the heart and surface vessels, determination of percussion limits of the heart and vessels, auscultation of the heart and blood vessels);

examine the state of the respiratory organs (examination of the chest and upper respiratory tract, palpation of the chest, percussion and auscultation of the lungs).

examine the state of the abdominal organs (abdominal examination, palpation and percussion of the intestines, stomach, liver, spleen, palpation of the pancreas, kidneys, pelvic organs, finger rectal examination);

examine the condition of the musculoskeletal system (examination and palpation);

examine the state of the nervous system .

examine the state of the genitourinary system .

3. Ability to evaluate the results of laboratory and instrumental studies

Evaluate information about the diagnosis in a health facility, its unit, using a standard procedure, using knowledge of the person, its organs and systems, based on the results of laboratory and instrumental studies (on list 4).

4. Ability to determine the principles and nature of the treatment of diseases. To determine the nature of the treatment (conservative, operative) of the disease (on the list 2), in the conditions of the health care institution, at the patient's home and at the stages of medical evacuation, incl. under field conditions on the basis of a previous clinical diagnosis, using knowledge about the person, its organs and systems, adhering to the relevant ethical and legal standards, by making a well-founded decision on existing algorithms and standard schemes.

To determine the principles of treatment of the disease (in list 2), in the conditions of the health care institution, at the patient's home and at the stages of medical evacuation, incl. under field conditions, based on the previous clinical diagnosis, using knowledge of the person, its organs and systems, adhering to the relevant ethical and legal norms, by making a reasonable decision based on existing algorithms and standard schemes.

5. Ability to determine the healing food in treatment diseases

To determine the necessary medical nutrition in the treatment of the disease (in list 2), in the conditions of the health care facility, at the patient's home and at the stages of medical evacuation including, in the field, on the basis of the previous clinical diagnosis, using knowledge about the person, her organs and systems, adhering to relevant ethical and legal standards, by making a well-founded decision based on existing algorithms and standard schemes.

6. To get a healthy lifestyle, use self-regulation and self-control techniques.

7. To realize and guide in the activity of civil rights, freedoms and responsibilities, to raise the general educational level of culture.

8. Adhere to the requirements of ethics, bioethics and deontology in their professional activities.

9. To organize the necessary level of individual safety (own and persons cared for) in case of occurrence of typical dangerous situations in the individual field of activity.

**The curriculum of the discipline «Neurology including Neurodentistry»
for students of the dentistry faculty**

Structure of the subject	Quantity of hours					Year	Control type
	Total hours	Auditorium			ISW		
		Lectures	Practical classes	Seminars			
	45 hours	10	30		5	4	
Credits ECTS	4,5	0,33	1,0		0,17		
Section 1: «Neurology»	16 hours / 0,5 credits ECTS	2	14		-		<ul style="list-style-type: none"> - Current control at the practical classes - The control of the practical skills - Differentiated test
Section 2: «Neurodentistry»	24 hours / 0,8 credits ECTS	8	16	4	5		<ul style="list-style-type: none"> - Current control at the practical classes - The control of the practical skills - Differentiated test

Note: 1 credit of ECTS – 30 hours.

Auditory training – 88.9%, ISW – 11.1%

CONTENTS OF THE CURRICULUM

Discipline: «Neurology, including Neurodentistry».

Section 1. Neurology.

The specific goals:

1. *To identify the location of neurology as a science, the field of practical medicine and academic subject.*
2. *To explain the symptoms of central and peripheral paresis.*
3. *To interpret movement disorders in lesions of the motor way at different levels.*
4. *To explain the anatomical and physiological, biochemical data of extrapyramidal syndromes and its destruction.*
5. *To analyze the anatomical and physiological features of cerebellar syndromes and its destruction.*
6. *To explain the concept of reception, clinical classification sensitivity, species sensitive disorders, topical types of sensory disturbances.*
7. *To analyze the anatomical and physiological features and pathology of olfactory and visual analyzers.*
8. *To explain syndromes oculomotor nerves.*
9. *To analyze syndromes cortex.*
10. *To study the classification of vascular diseases of the brain, especially to treat ischemic and hemorrhagic stroke, the principles of differentiated and undifferentiated treatment of strokes, principles of prevention of acute disorders of cerebral circulation.*
11. *To interpret the features of epileptic and non epileptic paroxysmal states.*
12. *To learn clinic and treatment of major infectious diseases nosological forms.*
13. *To interpret neuroimaging, and electrophysiological methods of ultrasonic examination of neurological patients.*

Lesson 1. The main stages of the neurological sciences. The principles of the structure and functioning of the nervous system.

The first study of diseases of the nervous system (Hippocrates, Galen, Avicenna) study neurology at the universities of the Middle Ages and the Renaissance. The organization of the first departments of neurology at the universities (Moscow, Kharkov, St. Petersburg, Kyiv, Lviv, etc.). Domestic and foreign Neurological school. Current areas of neurology.

The main stages of phylo-and ontogenesis of the nervous system. The structural and functional unit of the nervous system. The main anatomical and topographical parts of the nervous system: the brain, subcortical nodes, brain stem, spinal cord, spine, spinal ganglia, plexuses, and peripheral nerves. The functional unit of the nervous system - neurons. Types of neurons, their functional significance. Glia and its functional significance.

The autonomic nervous system, its suprasegmental and segmental divisions. Limbic-reticular complex. Cortex. Citoarchitectonical fields. Localization of function in the cerebral cortex. The concept of functional systems.

Blood supply of the brain and spinal cord. Shells of the brain and spinal cord. Cerebrospinal fluid.

Lesson 2. Voluntary movements and their disorders. Pyramidal system. Symptoms of central and peripheral paresis.

The concept of reflex and reflex arc conditioned and unconditioned reflexes circuit levels of skin, tendon and periosteal reflexes. Anatomical features and neurophysiology of voluntary movements, extrapyramidal system and cerebellum. Research Methodology motor system. Implementation of voluntary movements. Pyramidal system. Central and peripheral motor neurons. Nuclear and cortical-cortical-spinal tract. Symptoms of central (spastic) and peripheral (flaccid) paralysis. The syndrome of motor disorders in lesions of the motor way at different levels.

Extra pyramidal system and syndromes of affection.

Anatomical data: basal ganglia (lenticular, caudate nucleus, fencig, subthalamic), the formation of the brainstem (red nucleus, substantia nigra, reticular formation). Links subcortical ganglia from different parts of the brain and spinal cord. Physiology of the extrapyramidal system, its part in providing unconditional reflexes of automated stereotypical movements of the muscles ready for action. Modern concepts of exchange and the concentration of catecholamines in nirostriarniy system. Of extrapyramidal syndromes. Akinec-rigid syndrome, Parkinson's disease or syndrome, its biochemical aspects. Key clinical features of Parkinson's disease: oligo-bradikineziya, muscular rigidity, parkinsonian tremor, postural instability. Hyperkinetic syndrome. Types of hyperkinesis: athetosis, choreic, hemibalizm, tics. Muscle dystonia (focal (blepharospasm, facial hemispasm, spastic torticollis, oromandybulyarna dystonia, dystonia hand, foot dystonia, torsion dystonia), segmental, generalized).

Lesson 3. Sensitive system and symptoms of injury. Kinds and types of sensory loss.

The concept of reception. Types of receptors. Ekstrotseptivna, propriotsep-ment, interoceptive sensitivity. Clinical classification sensitivity. Pathways sensitivity. Research Methodology. Types of sensory disorders: anesthesia, hypoesthesia, hyperesthesia, hyperpatiya, dysesthesia. Synesthesia, dissociated disorders poliesteziya, paresthesia. Pain and its classification. The concept of nociceptive and antinociceptive systems of the brain. Topical types of sensory disorders: mononeuropathy, polineuropathy, radicular, posterior horns, conductor (in the sensory tract lesion leading at the spinal cord, the medial loop, thalamus, internal capsule), cortical (syndromes irritation and loss).

Lesson 4. Localization of functions in the cerebral cortex. Syndromes of affection. Cerebro-spinal fluid, its change. Meningeal syndrome.

Structure of the large cerebral hemispheres.

Cyto- and mieloarchitectonics of the cortex. Localization of functions in the cerebral cortex. Dynamic localization of functions. Motor and sensory representations in the cortex. Concept about the functional asymmetry of the hemispheres.

Functions of gnosticism. Kinds of dysfunctions of the gnosticism: visual, olfactory, gustatory, auditory agnosia, astereognosis, autotopagnosia, anozognosia.

Praxis. Kinds of apraxiae: constructive, ideational, motor.

Speech. Disorders of speech: motor, sensory, amnesic aphasia.

Cerebrospinal puncture.

Membranes of the brain and spinal cord. Physiology of liquor-formation. Composition of the liquor in the norm, its modification in meningitis, tumours, hemorrhagic stroke, tuberculosis. Cellular-protein, protein- cellular dissociation. Pleocytosis.

Meningeal symptoms: headache, vomiting, general hyperesthesia, photophobia, rigidity of the occipital muscles, Kernig's symptom, signs of Brudzinsky (upper, median, lower), trismus, local reactive painful phenomena- Mendel's syndrome, Bekhterev's zygomatic syndrome, pain on pressure of the exit points of the small and large occipital nerves. Meningeal pose of a patient. Symptom of Lessage.

Lesson 5. Epilepsy and nonepileptic paroxysmal states.

Epilepsy. Pathogenetic essence of epileptic medium in development of the disease. Significance of the endogenous and exogenous factors, which participate in the formation of this centre. Classification of the epileptic attacks: generalized, partial and partially –generalized. Principles of differentiated treatment of epilepsy. Epileptic status (diagnosis, emergency aid).

Nonepileptic paroxysmal states. States with convulsions: spasmophilia, febril convulsions, toxic convulsions, hysterical paroxysms. States without convulsions: vegetative paroxysms, migraine, syncopes.

Differential diagnosis of epilepsy and nonepileptic paroxysmal states. Treatment of paroxysm and treatment in the period between attacks.

Lesson 6. Vascular diseases of the brain.

Classification. Acute disturbances of the cerebral blood circulation: strokes and transient disturbances of the cerebral blood circulation (transitory ischemic attacks and cerebral hypertonic crises). Chronic disturbances of the cerebral blood circulation: early and late forms. Vascular dementia.

Etiological factors and pathogenesis of acute disturbances of the cerebral blood circulation.

Hemorrhagic and ischemic (thrombotic and nonthrombotic) strokes, sub-arachnoidal hemorrhage. Symptoms of affection of the anterior, medial, posterior cerebral arteries. Syndromes of occlusion and stenosis of the main vessels of the brain. General cerebral and focal syndromes. Quantitative and qualitative forms of consciousness disorders (productive and nonproductive symptomatology).

Differential diagnosis of different types of acute disturbance of the cerebral blood circulation.

Modern methods of undifferentiated and differentiated therapy of acute disturbances of the cerebral blood circulation. The period of the "therapeutic window". Indication and contraindications for the surgical treatment of disturbances of the cerebral blood circulation.

Lesson 7. Infectious diseases of the nervous system.

Meningitis. Classification of meningitis: primary and secondary, purulent and serous. Purulent meningitis. Primary meningococcal meningitis, symptoms, diagnosis, peculiarities, atypical forms. Secondary meningitis: pneumococcal, staphylococcal. The clinic, diagnosis, CSF parameters, treatment, prevention. Serous meningitis. Primary virus: lymphocytic choriomeningitis, enteroviral meningitis (ECHO, Coxsackie), mumps, and others. Secondary: tuberculous meningitis and meningitis in other infections.

The clinic, diagnosis, meaning the study of the cerebrospinal fluid in the differential diagnosis, treatment and prevention. Encephalitis. Classification. Primary encephalitis: epidemiological, tick the spring and summer, herpetic. Secondary encephalitis: rheumatic (chorea), Post-vaccination, with chicken pox. crust krasnusi. Clinic, flow, form of the disease, diagnosis. The defeat of the nervous system with the flu (influenza hemorrhagic encephalitis, encephalopathy).

Neurosyphilis. Early neurosyphilis (mesodermal) generalized syphilitic meningitis, meningovascular syphilis, rubber brain and spinal cord, latent asymptomatic meningitis (likvorosyphilis). Late neurosyphilis (parenchymal): dorsal suhotka, progressive paralysis. Diagnosis, treatment.

NeuroAIDS. Etiology, pathogenesis, clinical manifestations key: dementia, acute meningoencephalitis and atypical aseptic meningitis, myelopathy, peripheral nervous system lesions. Lesions of the nervous system associated with infections that develop on the background of immunodeficiency caused by toxoplasmosis, herpes simplex virus, cytomegalovirus infection, papovavirus, mycosis (cryptococcus, candidiasis).

Tumors of the central nervous system in AIDS: primary lymphoma, Kaposi's sarcoma. Cerebral blood flow in patients with AIDS. Diagnosis of neurological manifestations of AIDS. Treatment. Prevention.

Tuberculosis of the nervous system. Tuberculous meningitis (clinical, current of disease, CSF). Tuberculous spondylitis, solitary tuberculomy brain. Diagnosis, modern methods of treatment, prevention.

Section 2. Neurodentistry.

The specific goals:

1. *To identify anatomical and physiological features and pathology of the trigeminal nerve.*
2. *To interpret the anatomical features and pathological manifestations of facial nerve injury.*
3. *To explain the symptoms of vestibular cranial nerve.*
4. *To interpret pathology IX-XII pairs of cranial nerves, bulbar and pseudobulbar syndromes.*
5. *To explain the main types tsefalhiy and their treatment.*
6. *To identify neuralgia and trigeminal neuropathy and its individual branches.*
7. *To interpret syndromes facial nerve, glossopharyngeal nerve, vagus nerve, hypoglossal nerve.*

8. *To identify vegetative prozopalhiyi.*
9. *To interpret other neurogenic disease of the face.*
10. *To learn the principles and vertebral nevertebrohennyh diseases of peripheral nervous system.*

Lesson 8. Cranial nerves I, II, III and syndromes of damage.

CN I – the olfactory nerve (sensitive nerve): basic anatomic-physiological data.

The olfactory analyzer: the first neuron (ganglionic cells of the mucous membrane of the nose); the second neuron (olfactory bulbs, olfactory tract); the third neuron (primary subcortical olfactory centres - olfactory triangle, transparent septum, anterior perforated substance); cortical olfactory centre (medial surface of the temporal lobe of the brain). Investigations of the olfactory analyzer.

Syndromes of damage - hyposmia, anosmia, hyperosmia, olfactory hallucinations.

CN II - the optical nerve (sensitive nerve).

Anatomic-physiological peculiarities: sections- peripheral (rods and cones, bipolar cells, ganglionic cells, nerve itself, chiasmus, visual tract), central (lateral geniculate bodies, the upper tubers of quadrigeminal plate, cushion of the healthy tuber (subcortical centres), Gratiole fascicle, calcarine sulcus of the occipital lobe (cortical centre of the analyzer).

Symptoms of damage: amaurosis, amblyopia, homonymous and heteronymous hemianopsia (binasal, bitemporal), visual hallucinations. Changes of the optical nerve disk (change in the fundus).

CN III, IV, VI – perimotor (mixed), block, abducent (motor) nerves: localization of the nuclei, outlet of the radices from the skull, zone of innervation on the periphery.

Symptoms of damage: ptosis, squint, diplopia, disturbance of convergence and accommodation, ophthalmoplegia (partial and complete); pupil reactions, the reflex arch of the pupil reflex, disturbance of pupil reactions (Argile-Robertson syndrome), myosis, mydriasis, anisocoria.

Lesson 9. Cranial nerves V, VII, VIII and syndromes of damage.

CN V - the trigeminal nerve (mixed): the nuclei of the nerve, the outlet of radices on the basis of the brain, skull, branch of the nerve and zone of their innervation (optic nerve, upper maxillary, mandibular nerves).

Symptoms of damage of the system of the trigeminal nerve: affection of the branches of the trigeminal nerve (shooting pains, disturbance of all forms of sensitivity in the zone of innervation of the corresponding branches, loss of the corneal reflex, paresis of the masticatory muscles, loss of the mandibular reflex); affection of the node of the trigeminal nerve (herpetic rash, pain, disturbance of all forms of sensitivity on half of the face, reduction of the corneal, mandibular reflexes); affection of the sensitive nucleus of the trigeminal nerve - the nucleus of the cerebrospinal tract (segmental – dissociated type of disturbance of painful and temperature sensitivity on half of the face); affection of the thalamus (hemianesthesia of all forms of sensitivity, thalamic pain on the opposite side of the focus); affection of the cortex of postcentral gyrus.

Trigeminal neuralgia predominantly central origin. Classical trigeminal neuralgia. Postherpetic neuralgia of the trigeminal nerve. Trigeminal neuralgia predominantly peripheral origin. Odontogenic trigeminal nerve. Neuralgia ganglion (Charlene). Neuralgia ear-temporal nerve (Frey syndrome).

CN VII - the facial nerve (mixed).

Anatomic-physiological peculiarities; the components of the branch of the nerve (large petrosal nerve, stapedius nerve, tympanichord, facial nerve itself).

Symptoms of damage of the facial nerve: peripheral paresis of the mimic muscles (affection of the nerve in the canal, cerebellopontine angle, brain stem (alternating syndromes of the pons) and central paresis of the mimic muscles (internal capsule; the lower sections of anterior central gyrus).

Neuropathy of the facial nerve. Node knee injury syndrome (Hunt syndrome). Neuralgia «vidiyev» nerve syndrome (Failes syndrome). Ganglionitis ciliary node syndrome (Oppenheim). Ganglionitis wing palatal node syndrome (Sluder). Ganglionitis ear node. Ganglionitis during mandibular and sublingual nodes. Ganglionitis cervical sympathetic nodes. Beam headache (cluster tsefalhiya). Angioedema (angioedema). Syndrome Rossolimo-Melkersona-Rosenthal. Sjogren's syndrome. Progressive hemiatrofiya face (Parry-Romberg syndrome).

CN VIII - parietal-cochlear nerve (sensitive).

Anatomic-physiological data, cochlear and vestibular nerves. Pathology of the cochlear-vestibular apparatus: damage of sound perception apparatus (disorder of hearing to high tones), affection of the sound perception apparatus (disorder of hearing to low tones); damage of the parietal part (vertigo, nystagmus, disequilibrium, motor coordination, vegetative disturbances, affection of the cortex of the temporal lobes (in case of irritation- hearing hallucinations).

Lesson 10. Cranial nerves IX, X, XI, XII and syndromes of damage. Bulbar and pseudobulbar syndromes.

CN IX - the glossopharyngeal nerve (mixed);

CN X - the vagus (mixed);

CN XI - the accessory nerve (motor);

CN XII - the sublingual nerve (motor).

Anatomic-physiological peculiarities. Localization of the nuclei in the medulla. Bulbar and pseudobulbar syndromes: common signs (dysphagia, disphonia, dysarthria) and differences (fibrillations and atrophy of the lingual muscles, reflexes of the oral automatism, forced laughter, weeping). Impairment of innervation of the lingual muscles - peripheral and central pareses of nerves.

Lesson 11. Headache. Functional diagnosis of diseases of the nervous system.

Etiology and mechanisms of the headache: vascular, liquorodynamic, neuralgic, muscular stress, psychalgia, mixed. Classification. Nosologic forms of the headache: migraine, pain of the muscular stress, cluster pain. Differential diagnosis, principles of treatment.

Migraine - etiology, modern mechanisms of pathogenesis. Clinical forms (simple migraine - without the aura, associated), diagnosis, a differentiated diagnosis, principles of treatment (during the attack and between attacks).

Headache with the syndrome of intracranial hypotension and syndrome of intracranial hypertension (etiopathogenetic factors, subjective data, clinical and instrument data).

X-ray methods of investigation; Contrast X-ray testing (myelography, angiography, ventriculography);

Ultrasound methods (ehoencephaloscopia, doppler, duplex);

Electrophysiological (electroencephalography, rheoencephalography, echoencephaloscopia, electromyography, etc.)

Neuroimaging methods in neurology (CT, MRI).

Lesson 12. Pathology of the autonomic nervous system.

Syndromes suprasegmental division of the autonomic nervous system. The syndrome of vegetative dystonia. Permanent and paroxysmal course. Hypothalamic syndrome.

Vegetative-vascular paroxysms: sympathoadrenal, vago-insular mixed. Syndrome segmental lesions autonomic nervous system. Lesion of the brain stem, lateral horns of the spinal cord, ganglia boundary barrel plexus and nerves. Syndrome of Claude-Bernard-Horner. Visceral symptoms. Levels of regulation of pelvic functions and their disorders.

Lesson 13. Neuropathy of the trigeminal nerve and its individual branches. Iatrogenic trigeminal neuropathy.

- Neuropathy inferior alveolar nerve.

- Neuropathy buccal nerve

- Neuropathy Nerve language (glossalgia).

- Neuropathy upper alveolar nerve.

- Iatrogenic trigeminal neuropathy.

Etiology, pathogenesis, clinical manifestations, diagnosis and treatment.

Lesson 14. Disease of the peripheral nervous system.

Clinical classification of diseases of the peripheral nervous system.

Vertebrogenic affection of the peripheral nervous system.

Cervical level: reflex syndromes (cervicago, cervicalgia; cervicocranioalgia or the syndrome of the posterior vertebral artery and cervicobrachyalgia with muscular-tonic, vegetative-vascular or neuro – dystrophic manifestations). The radicular syndromes (discogenic affections of the radices - radiculopathies). Radicular- vascular syndromes (radiculoishemia).

Thoracic level; reflex syndromes (thoracago, thoracalgia with muscular -tonic, vegetative – visceral or neurodystrophic manifestations).

Radicular syndromes (discogenic affections of the radices - radiculopathies).Radicular-vascular syndromes (radiculoishemia).

Lumbar- sacral level: reflex syndromes (lumbago, lumbalgia, lumboischalgia with musculo-tonic, vegetative- vascular or neurodystrophic manifestations).

Affection of the cranial nerves. Neuralgia of the trigeminal and other cranial nerves. Neuropathy of the facial nerve, neuropathy of other cranial nerves.

Affection of separate cerebrospinal nerves.

Traumatic. On the upper extremities: radius, ulnar, elbow, medial –muscular and other nerves. On the lower extremities: femoral, gluteal, fibular, tibial, etc.

Plexopathies. Injuries of the plexes: cervical, upper humeral (paralysis of Erb-Dushen); lower humeral (Degerine-Kluumpke paralysis); humeral (totally); lumbo-sacral (partially or totally).

Compression - ischemic mononeuropathies (most frequently tunnel syndromes). On the upper extremities: the syndrome of wrist canal (medial nerve); the syndrome of the canal of Guiyen (ulnar nerve). On the lower extremities: the syndrome of tarsal canal (fibular nerve); parestetic meralgia of Rott-Berngardt (jamming of the lateral skin nerve of the thigh under the inguinal ligament).

Multiple affections of the nerve radices.

Infectious polyneuropathies, infectious-allergic polyradiculoneuropathies (Landry, Guiyen-Barre).

Polyneuropathies. Toxic: in chronic everyday or production intoxications (alcoholic, lead, trichlorfon and others); in toxicoinfections (diphtheria, botulism); allergic (medicamental and others); dismetabolic: hypo- or avitaminosis, endocrine diseases - diabetes mellitus, diseases of the liver, kidneys, etc.; discirculatory: in nodular periarteriitis, rheumatic and other vasculites, idiopathic and hereditary forms.

Treatment of diseases of the peripheral nervous system: medicamental, orthopedic, surgical, sanitorium-health resort.

Treatment by gymnastics. Preventive measures and examination for fitness to work.

Lesson 15. Practical skills. Final control – differentiated test.

ORIENTATION STRUCTURE OF THE DISCIPLINE

Theme	Lec- tures	Prac- tical classes	Semi- nars	ISW
<i>Section 1. Neurology</i>				
1. The main stages of the neurological sciences. The principles of the structure and functioning of the nervous system.		2		
2. Voluntary movements and their disorders. Pyramidal system. Symptoms of central and peripheral paresis. Extrapyrarnidal system and syndromes of damage. Cerebellum, syndromes of damage.		2		
3. Sensitive system and symptoms of injury. Kinds and types of sensory loss.		2		
4. Localization of functions in the cerebral cortex. Syndromes of affection. Cerebro-spinal fluid, its change. Meningeal syndrome.		2		
5. Epilepsy and nonepileptic paroxysmal states.		2		
6. Vascular diseases of the brain.	2	2		
7. Infectious diseases of the nervous system.		2		
<i>Section 2. Neurodentistry</i>				
8. Cranial nerves I, II, III and syndromes of damage		2		1
9. Cranial nerves V, VII, VIII and syndromes of damage		2		1
10. Cranial nerves IX, X, XI, XII and syndromes of damage. Bulbar and pseudobulbar syndromes.		2		1
11. Headache. Functional diagnosis of diseases of the nervous system.	2	2		
12. Pathology of the autonomic nervous system.	2	2		
13. Neuropathy of the trigeminal nerve and its individual branches. Iatrogenic trigeminal neuropathy.	2	2		2
14. Disease of the peripheral nervous system.	2	2		
15. Practical skills. Final control – differentiated test.		2		
Total hours – 45	10	30		5
Credits ECTS – 1,5				

Class-room training – 88,9%, ISW – 11,1%

IV. Subject plan of the lectures of the discipline

№	Theme	Quantity of hours
Section 1. Neurology.		
1	Vascular diseases of the brain.	2
Section 2. Neurodentistry.		
2	Headache	2
3	Vegetative nervous system and syndromes of its affection	2
4	Main neurodentistry diseases and syndromes	2

5	Disease of the peripheral nervous system	2
	Total hours of the discipline	10

V. Subject plan of practical classes and seminars of the discipline

№	Theme	Quantity of hours
Section 1. Neurology.		
1	The main stages of the neurological sciences. The principles of the structure and functioning of the nervous system.	2
2	Voluntary movements and their disorders. Pyramidal system. Symptoms of central and peripheral paresis. Extrapyramidal system and syndromes of damage. Cerebellum, syndromes of damage.	2
3	Sensitive system and symptoms of injury. Kinds and types of sensory loss.	2
4	Localization of functions in the cerebral cortex. Syndromes of affection. Cerebro-spinal fluid, its change. Meningeal syndrome.	2
5	Epilepsy and nonepileptic paroxysmal states.	2
6	Vascular diseases of the brain.	2
7	Infectious diseases of the nervous system.	2
Section 2. Neurodentistry.		
8	Cranial nerves I, II, III and syndromes of damage	2
9	Cranial nerves V, VII, VIII and syndromes of damage	2
10	Cranial nerves IX, X, XI, XII and syndromes of damage. Bulbar and pseudobulbar syndromes.	2
11	Headache. Functional diagnosis of diseases of the nervous system.	2
12	Pathology of the autonomic nervous system	2
13	Neuropathy of the trigeminal nerve and its individual branches. Iatrogenic trigeminal neuropathy.	2
14	Disease of the peripheral nervous system.	2
15	Practical skills. Final control – differentiated test.	2
	Total hours of the practical classes and seminars of the discipline	30

VI. The forms of the individual students' work (ISW) in the discipline

№	Theme	Quantity of hours	Type of control
1.1	Cranial nerves I, II, III and syndromes of damage	1	Differentiated test
1.2	Cranial nerves V, VII, VIII and syndromes of damage	1	Differentiated test
1.3	Cranial nerves IX, X, XI, XII and syndromes of damage. Bulbar and pseudobulbar syndromes.	1	Differentiated test
1.4	Neuropathy of the trigeminal nerve and its individual	2	Differentiated test

	branches. Iatrogenic trigeminal neuropathy.		
	Total hours of the ISW of the discipline	5	

VII. Enumeration of practical work and tasks for the final control of the module

1. Examination of the scope of active and passive motions.
2. Examination of tone and force of muscles.
3. Examination of tendon, periostal, skin reflexes (stylo-carpo- radial, of the biceps, based on the triceps, knee, achilles, abdominal).
4. Examination of pathologic reflexes (Babinsky, Oppenheim, Gordon, Schaeffer, Rossolimo, Bekhterev, Zhukovskiy, etc) and synkinesias.
5. Examination of the motor coordination (finger-nose, knee-heel tests, diadochokinesis, test for dysmetria), development of static, dynamic ataxia.
6. Examination of sensitivity (surface, deep and folded configurations).
7. Examination of the symptoms of tension for the ischiadic and femoral nerves..
8. Examination of olfaction and taste.
9. Examination of visual acuity, fields of vision, colour perception.
10. Examination of the function of the perimotor nerves.
11. Examination of the functions of CN V.
12. Examination of the functions of CN VII.
13. Examination of the functions of CN IX- X.
14. Examination of the functions of CN XI- XII.
15. Examination of the vegetative nervous system.
16. Examination of meningeal symptoms (rigidity of the occipital muscles, signs of Kernig, Brudzinski), reactive painful phenomena: Mendel's symptom, site of outlet of the small and large occipital nerves.
17. Examination of speech, praxis, gnosis, writing, reading, calculation.
18. Treatment of the basic indices of the auxiliary methods of examination in the neurologic clinic (electro-physiological, ultrasonic, roentgenologic, computer-tomographic).

VIII. Forms of control and evaluation of students from training discipline «Neurology including Neurodentistry»

Control forms and evaluation system implemented to comply with the discipline and Instruction about the system of evaluation of educational activity of students in credit-modular system of educational process.

Instruction is based on the current regulatory framework, particularly on the laws of Ukraine:

- "On education" from 01.07.2014 № 1556-VII 17
- "On the principles of domestic and foreign policy"
- Order of Ukraine from 16.10.2009 № 943 "On the introduction of the higher educational institutions of Ukraine of the European Credit Transfer System", guidelines on the introduction of the European credit transfer system and its key documents in higher education (Letter of Ukraine from 26.02.2010 № 1 / 9-119)
- Order of Ukraine from 02.06.1993 № 161 "On approval of the organization of educational process in higher education"
- Order of Ukraine from 24.05.2013 № 584 "On approval of the establishment and organization of the State Examination Commission at higher educational institutions of Ukraine"
- Order the Ministry of Health of Ukraine of 31.01.2005 № 53 "On approval of the organization and procedure of state certification of students enrolled in higher educational institutions III-IV accreditation in the direction of" Medicine "

Also included in the Regulations key principles and provisions of the European Credit Transfer System (user guide European Credit Transfer System (ECTS), Brussels, 06.02.2009) and the experience of the evaluation system during 2005 - 2014.

Evaluation of the discipline

Score discipline is determined by the sum of estimations of current educational activity (the mean current performance) and test scores (traditional evaluation), which is proposed at the evaluation of theoretical knowledge and practical skills according to lists defined discipline program.

Thus, the share of results of assessment of current educational activity and final module control are respectively 50% and 50%.

Evaluation of current educational activity

Evaluation of the success of the study each topic subjects performed the traditional 4-point scale.

On a practical lesson to be interviewed at least 50% of students, and the seminar - at least 30%. At the end of the semester (cycle) estimates the number of marks in the group average should be the same.

At the end of the current success of the discipline is calculated as the average current score, that is the arithmetic mean of all received marks for student traditional scale, rounded to two (2) decimal places, eg 4.75.

Example:

	<i>theme 1</i>	<i>theme 2</i>	<i>theme 3</i>	<i>theme 4</i>	<i>theme 5</i>	<i>theme 6</i>	<i>theme 7</i>	<i>current performance</i>
Андреев		5	5		5	5	5	5,0
Борисов	4	3	4	3	4	3	4	3,33
Васильев	4	4		4			4	4,0
Гончаров	3			3		3		3,0

On the last practical lesson the teacher is required to announce the results of their current student academic achievement, academic debt (if any).

Until final certification allowed only those students who have academic debts and have a grade point average for current educational activity at least 3,00.

Final control of knowledge in the discipline

Score for discipline - a 50% success of the current (mean current estimates of all students) and 50% - score on differentiated test.

To assess discipline a 4-point traditional (national) scale initially calculated the average mark for the discipline as an average of two components:

- 1) the current point average as arithmetic mean of all current estimates (calculated as number with two (2) decimal places, for example, 4,76);
- 2) Traditional score on the differentiated test.

Average score for discipline is translated into traditional assessment on discipline on a 4-point scale and is regarded as the ratio of the arithmetic mean percent to mastering the required body of knowledge on the subject.

Average score for discipline	The ratio of the average score obtained by the student discipline to the maximum possible value of this indicator	Evaluation of disciplines a 4-point scale (traditional evaluation)
4,45 – 5,0	90-100%	5
3,75 – 4,44	75-89%	4
3,0 – 3,74	60-74%	3

Example:

- Current average score – 4,75
- Score on the exam (differentiated test) – 4
- Average score for discipline – $(4,75+4) : 2 = 4,38$
- Traditional score for discipline - 4

Conversion of traditional score for discipline by multi-score scale

Of particular importance is the methodological questions conversion result of studying the discipline a student for the 200-point scale and the subsequent ranking by rating scale (ECTS). It is necessary for the implementation of academic mobility of students, giving students the possibility to continue training in the discipline in another university or in another country.

The resulting average mark for the discipline allows for the conversion of a mark for 200-point scale.

Example:

Average score for discipline	Score 200-point scale
5,0	200
4,38	X

$$X = (4,38 \times 200) : 5 = 175 \text{ points}$$

Thus, if the subject ends with ***differentiated test*** student receives **two** evaluations: ***the first*** - the traditional 4-point scale and ***the second*** 200-point system.

Converting traditional evaluation of discipline and total points on a scale ECTS

Further calculations produces the Information Centre of the University.

In accordance with the points on a 200-point scale, students are evaluated on a rating scale ESTS. Students enrolled in one course (a specialty) based on the number of points gained in the discipline, are ranked on a scale ESTS as follows:

Assessment ECTS	Statistical index
«A»	Best 10 % students
«B»	Next 25 % students
«C»	Next 30 % students
«D»	Next 25 % students
«E»	Latest 10 % students

Multi-score and four-point scale describing the actual progress of each student's assimilation of the course. ECTS scale is relative, comparative, rating, which sets student belonging to the group better or worse among the reference group of fellow students (faculty, specialty). Therefore, grade "A" scale ECTS can not equal the evaluation "excellent" rating and "B" - the assessment "good" and so on. Typically, the conversion of multi-score scale limits guest «A», «B», «C», «D», «E» scale ECTS does not coincide with the boundaries of assessments "5", "4", "3" on the traditional scale.

Students who have received assessment «FX» and «F» («2») are not made to the list of students who ranked even after retake the module. These students will automatically receive after the retake score «E».

Ratings on discipline «FX», «F» («2») are exhibited to students who have not passed at least one module from discipline after studying it.

Grade «FX» assigned to students who score a minimum number of points for current educational activity, but who are not enrolled in the final control.

Grade «F» assigned to students who attended all auditory lessons of module, but did not reach the average score (3.00) for the current academic activities and not admitted to the final control.

Evaluation of **“excellent”** is put when the student knows the full content of lessons and lectures, illustrating various examples of answers; gives exhaustively accurate and specific answers without any leading questions; teaching material without errors and inaccuracies; free solve problems and perform practical tasks of different complexity.

Evaluation of **“good”** is given when the student knows the content of the classes and well understood, the question is answered correctly, consistently and systematically, but the answers are not exhaustive, although the student answers additional questions without mistakes; solves all problems and perform practical tasks, feeling difficulties only in the most severe cases.

Assessment **“satisfactory”** refers to the student based on his knowledge to one and all content in satisfactory understanding of it. The student is able to solve modified (simplified) problem using leading questions; solves tasks and performs practical skills feeling difficulties in simple cases; independently systematically failing to reply, but direct questions answers correctly.

Grade **“unsatisfactory”** is put when the student's knowledge and skills do not meet the requirements of **“satisfactory”** evaluation.

IX. A list of literature.

Basic literature:

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2. Неврологія з нейростоматологією : Навч. посібник для студ. стомат. факультетів вищ. мед. навч. закладів / за ред Л.І. Соколової. - К. : ВСВ «Медицина», 2018. - 126 с.
3. Топічна діагностика патології нервової системи. Алгоритми діагностичного пошуку. Шкробот С.І., Салій З.В., Бударна О.Ю. Укрмедкнига, 2018. – 156с.
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7. «Загальна та спеціальна неврологія» // Навчально-методичний посібник для студентів 4-го курсу медичного факультету, ОНМедУ, 2017 р.- 337с.
8. Neurology - Неврологія: textbook / I.A. Hryhorova, L.I. Sokolova, R.D. Herasymchuk et al.; edited by I.A. Hryhorova, L.I. Sokolova. – Kyiv : AUS Medicine Publishing, 2017. – 624p.
9. Муратова Т.М., Стоянов О.М., Добровольський В.В. та ін. // «Неврологія, в тому числі нейростоматологія». Навчально-методичний посібник для студентів 4-го курсу стоматологічного факультету. – Одеса, ВМВ, 2018. – 278с.

Additional literature:

1. Неврологія : підручник для вищ. навч. закл. I-III р. акред. / Т. І. Кареліна, Н. М. Касевич ; за ред. Н. В. Литвиненко. - 2-ге вид., виправлене. - К. : Медицина, 2017. - 288с.
2. Актуальные вопросы неврологии/под. ред. В.Л.Голубева. М.:МЕДдепрессинформ,2019.-488с.
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