

**MINISTRY OF HEALTH OF UKRAINE  
ODESA NATIONAL MEDICAL UNIVERSITY**

**Faculty of stomatology, international**

**Department of Neurology and Neurosurgery**

**Syllabus of the academic discipline  
OK23 «Neurosurgery»**

<b>Amount academic discipline</b>	Total number of hours per discipline: 30 hours, 1 credits. Semesters: VII - VIII. 4th year of study.
<b>Days, time, place conducting an educational discipline</b>	According to the schedule of classes. Department of Neurology and Neurosurgery. Odesa, st. Tinista 8, Center for Reconstructive and Restorative Medicine (University Clinic), 3rd floor
<b>Teacher(s)</b>	Anatoliy Son, MD., DSci, professor, head of the department Vasyl Dobrovolskyi, MD., PhD., Associate Professor Julia Solodovnikova, MD., PhD., Associate Professor Olena Kolesnik, assistant Iryna Hnatyuk, assistant Ksenia Yarova, assistant
<b>Contact information</b>	phone (048) 7500318 e-mail: neurology@onmedu.edu.ua Consultations by the teacher on duty according to the schedule. Online consultations are held using the Ms Teams platform by prior arrangement.

## **COMMUNICATION**

Communication with applicants will be conducted in the classroom (face-to-face).

During distance learning, communication is carried out through the Microsoft Teams platform, as well as through e-mail correspondence, Telegram, Viber messengers (through the groups created in the messenger for each study group, separately through the head of the group).

## **ABSTRACT OF THE EDUCATIONAL DISCIPLINE**

*The subject of studying the discipline* is the regularity of the functioning of the nervous system; features of clinical manifestations, topical diagnosis and principles of treatment of neurological diseases.

*Prerequisites and post-requisites of the discipline (place of the discipline in the educational program):*

*Prerequisites:* Ukrainian language (by professional direction), foreign language (by professional direction), Latin language and medical terminology, medical biology, medical and biological physics, biological and bioorganic chemistry, human anatomy, histology, cytology and embryology, physiology, microbiology, virology and immunology, life safety; basics of bioethics and biosafety, pathomorphology, pathophysiology, pharmacology, medical psychology, otorhinolaryngology, ophthalmology, psychiatry, narcology, dermatology, venereology.

*Postrequisites:* internal medicine, surgery, obstetrics and gynecology, infectious diseases, epidemiology and principles of evidence-based medicine, oncology and radiation medicine, traumatology and orthopedics, phthiology, anesthesiology and intensive care, emergency and urgent medical care, hygiene and ecology, palliative and hospice medicine , general practice (family medicine).

*The purpose of the discipline:* acquisition by the student of additional knowledge and mastering of professional competences and skills in the diagnosis, treatment and prevention of neurological diseases.

*Tasks of the discipline:*

1. Formation of communication skills and abilities, moral-ethical and deontological qualities during professional communication with the patient.
2. Acquisition of knowledge of the structure, functioning, diagnosis of clinical manifestations of disorders, principles of treatment and prevention of diseases of the nervous system.
3. Acquisition of skills and abilities to examine a neurological patient and record the results in the relevant medical documentation;

*Expected results:*

*As a result of studying the academic discipline, the applicant must:*

*To know:*

- symptoms of central and peripheral paresis.
- movement disorders with damage to the motor path at different levels.
- anatomical-physiological, biochemical data of the extrapyramidal system and syndromes of its damage.
- anatomical and physiological features of the cerebellum and syndromes of its damage.
- clinical classification of sensitivity, types of sensitive disorders, topical types of sensitive disorders.
- anatomical and physiological features and pathology of cranial nerves.
- pathology of the autonomic nervous system.
- cerebral cortex damage syndromes.
- changes in cerebrospinal fluid and meningeal symptom complex.
- anatomical features of the blood supply of the brain and spinal cord.
- principles of classification of vascular diseases of the brain.
- principles of prevention and treatment of acute disorders of cerebral circulation.
- modern classification of epileptic and non-epileptic paroxysmal states.
- the main types of cephalgia and the tactics of their treatment.
- modern ideas about the mechanisms of action of chemical and physical agents on the nervous system.
- principles of classification of infectious diseases of the nervous system.
- clinic of the main nosological forms of infectious diseases.
- manifestations of damage to the nervous system in the presence of HIV infection.

- modern aspects of etiopathogenesis, clinical forms, treatment of demyelinating diseases.
- principles of formation of vertebral and non-vertebral diseases of the peripheral nervous system.
- clinical features of perinatal damage to the nervous system.
- neurological manifestations of hereditary degenerative diseases of the neuromuscular, extrapyramidal, pyramidal, cerebellar systems.
- neurological syndromes in diseases of internal organs, paraneoplastic syndromes.
- congenital defects of the spine and spinal cord.
- groups of drugs that are used in patients with a neurological profile.

*Be able:*

- diagnose paresis and paralysis; detect signs of central and peripheral paresis.
- diagnose sensitivity disorders.
- to diagnose meningeal syndrome and determine the indications for performing a lumbar puncture.
- identify signs of bulbar syndrome.
- to diagnose the symptoms of damage to the cranial nerves.
- conduct coordination tests, diagnose symptoms of cerebellar lesions.
- to diagnose language disorders.
- diagnose status epilepticus and provide emergency care.
- to diagnose neurological manifestations of craniocerebral and spinal trauma.
- perform a neurological examination of patients.

## **DESCRIPTION OF THE EDUCATIONAL DISCIPLINE**

*Forms and methods of education*

The discipline will be taught in the form of lectures (4 hours), practical classes (14 classroom hours), organization of independent work of the student (12 hours).

*Teaching methods:* interview, solution of clinical situational problems, examination of the patient, instruction and practice of skills.

*Content of the academic discipline*

*Thematic plan of lectures*

1. Traumatic lesions of the nervous system. Closed craniocerebral injury. Open craniocerebral injury, clinic, diagnostics. Spinal cord injury. Traumatic injuries of the peripheral nervous system.
2. Vascular pathology of the brain, accompanied by hemorrhagic stroke. Vascular pathology of the brain, accompanied by ischemic stroke. Pathology of spinal cord vessels.

*Thematic plan of practical classes*

1. Traumatic lesions of the nervous system. Closed craniocerebral injury (CCI). Open CCI, clinic, diagnostics. Spinal cord injury. Traumatic injuries of the peripheral nervous system.
2. Brain tumors. Hydrocephalus.
3. Vascular pathology of the brain, accompanied by hemorrhagic type of stroke.
4. Vascular pathology of the brain accompanied by ischemic stroke. Pathology of spinal cord vessels.
5. Tumors of the spinal cord.
6. Osteochondrosis.
7. Functional and restorative neurosurgery. Surgical treatment of pain syndromes. Final control.

*Independent work of a student of higher education*

<i>№</i>	<i>Title of the Theme / types of tasks</i>	<i>Number of hours</i>
	Independent study of Themes that are not part of the classroom lesson plan:	
1	Theme 1. Stages of development of neurosurgery.	1
2	Theme 2. Additional methods of examination in neurosurgery.	1
3	Theme 4. Gunshot wounds to the skull and brain.	2
4	Theme 6. Peculiarities of management of incurable patients and the use of palliative treatment methods in neurosurgical practice.	2
5	Theme 7. Abscesses of the brain, epiduritis.	2
6	Theme 13. Malformations of the brain and spinal cord.	2
	<i>Total in discipline</i>	<i>12</i>

### *Recommended literature*

#### *Basic:*

- Handbook of Neurosurgery 9th Edition by Mark S. Greenberg / Publisher : Thieme; 9th edition (October 23, 2019).- 1784 p. ISBN-10 : 1684201373 ISBN-13 : 978-1684201372
- Neurology: 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. – 624 p.
- Netter Atlas of Human Anatomy: Classic Regional Approach: Professional Edition with NetterReference Downloadable Image Bank (Netter Basic Science) 8th Edition By Frank H. Netter MD / Publisher : Elsevier; 8th edition (April 25, 2022). - 712 p. ISBN-10 : 0323793738 ISBN-13 : 978-0323793735
- Neuroanatomy through Clinical Cases 3rd Edition By Hal Blumenfeld / Publisher : Sinauer Associates is an imprint of Oxford University Press; 3rd edition (February 28, 2021).- 1056 p. ISBN-10 16053596299: ISBN-13 : 978-1605359625
- Pocket Neurology (Pocket Notebook Series) Third Edition By M. Brandon Westover MD PhD Publisher : LWW; Third edition (October 16, 2021). - 390 p. ISBN-10 : 1975169034 ISBN-13 : 978-1975169039

#### *Additional:*

- Topical Diagnosis in Neurology. Anatomy, Physiology, Signs, Symptoms / Mathias Baehr, Michael Frotscher (6 edition) – Thieme, 2019 - 332 p.
- Adams and Victor's Principles of Neurology / Allan Ropper, Martin Samuels, Joshua Klein, Sashank Prasad (11th edition). - McGraw-Hill, 2019. - 1664 p.
- Clinical Neuroanatomy Made Ridiculously Simple: Color Edition 6th Edition by Stephen Goldberg M.D. / Publisher: MedMaster; 6th edition (September 14, 2022).- 112 p. ISBN-10 : 1935660519 ISBN-13 : 978-1935660514

- Clinical Neurology and Neuroanatomy: A Localization-Based Approach, Second Edition 2nd Edition by Aaron Berkowitz / Publisher : McGraw Hill / Medical; 2nd edition (July 21, 2022).- 384 p. ISBN-10 : 1260453367 ISBN-13 : 978-1260453362

*Electronic information resources*

- Medical Books On-line Library (Neurology) – free download  
<http://medbookshelf.info/category/neurology/>

**EVALUATION**

*Ongoing control:* oral survey, testing, assessment of performance of practical skills, solution of situational clinical tasks, assessment of activity in class.

**Criteria of ongoing assessment at the practical class**

<b>Score</b>	<b>Assessment criterion</b>
Excellent «5»	The student is fluent in the material, takes an active part in discussing and solving a situational clinical problem, confidently demonstrates practical skills during patient examination and interpretation of clinical, laboratory and instrumental research data, expresses his opinion on the subject of the lesson, demonstrates clinical thinking.
Good «4»	The student has a good command of the material, participates in the discussion and solution of a situational clinical problem, demonstrates practical skills during a patient examination, interpretation of clinical, laboratory and instrumental research data with some errors, expresses his opinion on the subject of the class, demonstrates clinical thinking.
Satisfactory «3»	The student does not have sufficient knowledge of the material, is unsure of participating in the discussion and solution of the situational clinical problem, demonstrates practical skills during the examination of the patient and the interpretation of clinical, laboratory and instrumental research data with significant errors.
Unsatisfactory «2»	The student does not possess the material, does not participate in the discussion and solution of the situational clinical problem, does not demonstrate practical skills during the examination of the patient and the interpretation of clinical, laboratory and instrumental research data.

Final control in the form of credits is evaluated on a two-point scale:

- the grade «passed» is awarded to the applicant who has completed the work program of the educational component and has no academic debt; the level of competence is high (creative);
- the grade «failed» is given to the applicant who has not completed the work program of the educational component, has academic debt (average score lower than 3.0 (120 points) and/or missed classes); the level of competence is low (receptive-productive).

**Distribution of points, obtained by the student**

The average grade in the discipline is converted to the national grade and converted to points on a multi-point scale (200-point scale).

Conversion of traditional assessment into 200-point is carried out by the information and technical department of ONMedU by the special program by the formula:  
Average score (current academic performance) x 40.

### Conversion table of traditional to multi-point

National score for the discipline	The sum of scores for the discipline
Excellent («5»)	185 – 200
Good («4»)	151 – 184
Satisfactory («3»)	120 – 150
Unsatisfactory («2»)	Less than 120

According to the ECTS rating scale, students' achievements in educational discipline, who study on the same course of one specialty, according to their scores, are assessed by means of rank, namely:

Conversion of the traditional evaluation and and ECTS scores

Score on the ECTS scale	Statistical indicator
A	The best 10% students
B	Next 25% students
C	Next 30% students
D	Next 25% students
E	Next 10% students

## INDEPENDENT WORK OF HIGHER EDUCATION ACQUIRES

Independent work involves preparation for the relevant topics of the study of the discipline according to the thematic plan.

### EDUCATIONAL DISCIPLINE POLICY

#### *Deadlines and Rescheduling Policy:*

- Absences of classes for non-respectable reasons are worked out according to the schedule of the teacher on duty.
- Absences due to valid reasons are processed according to an individual schedule with the permission of the dean's office.

#### *Academic Integrity Policy:*

Applicants must observe academic integrity, namely:

- independent performance of all types of work, tasks, forms of control provided for by the work program of this educational discipline;
- references to sources of information in the case of using ideas, developments, statements, information;
- compliance with the legislation on copyright and related rights;
- provision of reliable information about the results of one's own educational (scientific) activity, used research methods and sources of information.

Unacceptable in educational activities for participants of the educational process are:

- using family or official ties to obtain a positive or higher grade during any form of control of learning outcomes or academic performance;
- use of prohibited auxiliary materials or technical means (cheat sheets, notes, micro-earphones, telephones, smartphones, tablets, etc.) during control measures;
- passing procedures for control of training results by fake persons.

For violation of academic integrity, students may be held to the following academic responsibility:

- a decrease in the results of assessment of control work, assessment in class, credit, etc.;
- retaking the assessment (control work, credit, etc.);
- appointment of additional control measures (additional individual tasks, control works, tests, etc.);
- conducting an additional inspection of other works authored by the violator.

*Attendance and Tardiness Policy:*

Uniform: a medical gown that completely covers the outer clothing, or medical pajamas, a cap, a mask, and a change of shoes.

State of health: applicants suffering from acute infectious diseases, including respiratory diseases, are not allowed to attend classes.

A student who is late for class can attend it, but if the teacher has put "nb" in the journal, he must complete it in the general order.

*Use of mobile devices:*

Mobile devices may be used by students with the teacher's permission if they are needed to complete the task.

*Behavior in class:*

The behavior of students and teachers in the classrooms should be working and calm, strictly comply with the rules established by the Regulations on academic integrity and ethics of academic relations at Odessa National Medical University, in accordance with the Code of Academic Ethics and University Community Relations of Odessa National Medical University, Regulations on Prevention and detection of academic plagiarism in the research and educational work of students of higher education, scientists and teachers of Odessa National Medical University.