MIMINISTRY OF EDUCATION AND SCIENCE OF THE KYRGYZ REPUBLIC
OSH STATE UNIVERSITY
INTERNATIONAL MEDICAL FACULTY
DEPARTMENT OF CLINICAL DISCIPLINES №3

TRAINING PROGRAM
(Syllabus)

Specialty (direction)	**« General medicine »**	**Course code**	**560001**
Language of instruction	**English**	**Discipline**	**Neurosurgery**
Academic year	**2025-2026 y.**	**Number of credits**	**3**
Teacher	**Barbyshov I.J.**	**Semester**	**VII**
E-Mail	**barbyshovislam@gmail.com**	**Myedu application schedule**	**https://myedu.oshsu.kg/#/teacherSchedules**
Consultations	**Every day 10:00-15:00/ 110 room no.**	**Location (building/room**	**IMF 3/ 110 r.**
Form of study (daytime/correspondence/evening/distance learning)		**Course type: (compulsory/elective)**	**Compulsory**

Head of the Main Educational Program
of IMF Assoc. Proff. Bugubaeva M.M. _____

Osh – 2025-2026 a/y.

1. **Course characteristics:**

Neurosurgery is a cycle of disciplines - special ones. Neurosurgery is an important clinical discipline that studies diseases of the central and peripheral nervous system.

Students learn to recognize and understand the manifestations of diseases such as stroke, epilepsy, traumatic brain injuries, brain tumors, osteochondrosis with radiculopathy, hydrocephalus, and other neurological conditions. They also get acquainted with the basics of neurosurgical interventions, indications for surgery and postoperative management of patients.

The study of these disciplines forms clinical thinking, develops attention to detail, the ability to make quick decisions and logically analyze symptoms. These qualities are especially important for future doctors of any profile, since neurological symptoms occur in various medical specialties.

2. **Objective of the course:**

The main objective of the course on nervous diseases is to teach students the theoretical foundations, methods of examining neurological patients, the methodology of making a neurological diagnosis and developing treatment tactics. Training specialists who are proficient in modern standards of treatment and prevention of diseases of the nervous system. Formation of the foundations of the doctor's medical competence and motivation for continuous improvement of their professional level.

Prerequisites	Latin language, biochemistry, biology, normal anatomy, normal physiology, pathological physiology, pharmacology, internal diseases 1, surgical diseases 1.	
Postrequisites	Internal diseases 3, 4, surgical diseases 2, pediatrics 2, obstetrics and gynecology, family medicine, clinical pharmacology, neurology, family medicine and other clinical disciplines.	
Learning outcomes of the discipline		
By the end of the course the student:		
RO (learning outcome	**RO discipline**	**Competencies**
RO-7	**Knows and understands:** - anatomical and physiological features of the nervous system and its pathways. - functions of individual structures of the central and peripheral nervous system **Can:** - analyze and interpret the obtained data of an objective examination, laboratory and instrumental data using modern research methods.	**Professional competences (PC)-15** - is able to analyze the patterns of functioning of individual organs and systems, use knowledge of anatomical and physiological features, basic techniques of clinical and laboratory examination and assessment of the functional state of the body of an adult

	Able to: - the skill of substantiating topical diagnostics. - the skill of diagnosing somatic diseases and pathological conditions	and children, for timely diagnosis of diseases and pathological processes;
RO-8	**Knows and understands:** - The principles of diagnosis and treatment of common diseases in adults and children - Current clinical guidelines and protocols - The importance of timely diagnosis and treatment - The consequences of delayed or improper medical care **Can**: - Perform patient examination and formulate a preliminary diagnosis - Prescribe primary treatment according to standards and protocols **Able to:** - Acting under time constraints (in emergency situations) - Collaborating effectively with medical staff - Explaining treatment plans and preventive measures to patients	**Professional competences (PC)-17** - able and ready to perform basic therapeutic measures for the most common diseases and conditions (in adults and children in outpatient and hospital settings;
	Knows and understands: -The basics of providing primary medical care - Algorithms for emergency and life-threatening conditions (acute pain, shock, stroke, respiratory arrest, etc.) - Indications for planned and emergency hospitalization **Can**: - Assess the severity of a patient's condition - Perform first aid: secure airway, stop bleeding, provide CPR, etc. - Make decisions regarding the need for hospitalization **Able to:** - Acting clearly and quickly in emergency situations - Organizing pre-medical measures before ambulance arrival - Coordinating with emergency services	**Professional competences (PC)-19** - capable and ready to provide initial medical care in emergency and life-threatening conditions, and to refer patients for hospitalization in both planned and urgent cases.
RO-11	**Knows and understands:** - Principles of evidence-based medicine - Methods for critical appraisal of clinical studies	**Professional competences PC-31** is capable and ready to analyze and publicly present medical information

	- Basics of medical statistics **Can:** - Evaluate the quality of scientific publications - Interpret research results - Draw conclusions based on evidence **Able to:** - Present clinical data at conferences - Write analytical reviews - Apply evidence in clinical practice	based on evidence-based medicine;

3. Recommended technological map for one module within one semester (M1):

Discipline	**credit**	**Audit. classes**	**SW**	**1 Module (50 points)**				**Exam. (50 points)**
		40%	60%	**Audit.hours**		SW/ SWwT	Module (r)	**Exam.** (E)
				Lec.	Prac.			
ООЦ	3	36	54	14	22	54		
Points accumulation card				8	8	16	18	
Module and exam results				(M=tcp.+r+s) до 50/ 50				50
				Rдоп. = M1 (30-50)				
Final assessment				I = Rдоп. + E				100

5. Calendar and thematic plan of lectures and seminars (practical,) classes
VII semester

Week		**Topic list**	**Number of hours**		**Points**
			Lecture	**Practical classes**	
Lec.	**Prac.**				
1-module					
1	1	Meningitis (meningococcal, tuberculosis, secondary). https://www.youtube.com/watch?v=gIHUJs2eTHA&pp=ygU1TWVuaW5naXRpcyAobWVuaW5nb2NvY2NhbCwgdHViZXJjdWxvc2lzLCBzZWNvbmRhcnkpLiA%3D	2	2	4+4
-	2	Demyelinating diseases (Multiple sclerosis, Acute Disseminated Encephalomyelitis, Acute leukoencephalitis, Transverse Myelitis). https://www.youtube.com/watch?v=yzH8ul5PSZ8&pp		2	4

		=ygWAAURlbXllbGluYXRpbmcgZGlzZWFzZXMgKE11bHRpcGxlIHNjbGVyb3NpcywgQWN1dGUgRGlzc2VtaW5hdGVkIEVuY2VwaGFsb215ZWxpdGlzLCBBY3V0ZSBsZXVrb2VuY2VwaGFsaXRpcywgVHJhbnN2ZXJzZSBNeWVsaXRpcyku			
2	3	Inflammatory diseases of the peripheral nervous system (neuralgia, neuritis, polyneuritis). Osteochondrosis of the spine. Radiculitis. Intervertebral hernia. Sciatica. https://www.youtube.com/watch?v=OVEhbTfG3CY&pp=ygWoAUluZmxhbW1hdG9yeSBkaXNlYXNlcyBviB0aGUgcGVyaXBoZXJhbCBuZXJ2b3VzIHN5c3RlbSAobmV1cmFsZ2lhLCBuZXVyaXRpcywgcG9seW5ldXJpdGlzKS4g0J5zdGVvY2hvbmRyb3NpcyBviB0aGUgc3BpbmUuIFJhZGljdWxpdGlzLiBJbnRlcnZlcnRlYnJhbCBoZXJuaWEuIFNjaWF0aWNhLg%3D%3D	2	2	4+4
3	4	Epilepsy Convulsive conditions. Status epileptics https://www.youtube.com/watch?v=YMOjfxfzEO4&pp=ygUxRXBpbGVwc3kgQ29udnVsc2l2ZSBjb25kaXRpb25zLiBTdGF0dXMgZXBpbGVwdGljcw%3D%3D	2	2	4+4
4	5	Progressive diseases of the nervous system (parkinsonism, ALS syringomyelia, myasthenia gravis) https://www.youtube.com/watch?v=_pZmMU2xLM8&pp=ygVfUHJvZ3Jlc3NpdmUgZGlzZWFzZXMgb2YgdGhlIG5lcnZvdXMgc3lzdGVtIChwYXJraW5zb25pc20sIEFMUyBzeXJpbmdvbXllbGlhLCBteWFzdGhlbmlhIGdyYXZpcyk%3D	2	2	4+4
5	6	Neurogenetics (definition, classification, diagnostic methods). Wilson – Konovalov disease, Huntington,s disease mutation. https://www.youtube.com/watch?v=dChD9BlofQY&pp=ygV8TmV1cm9nZW5ldGljcyAoZGVmaW5pdGlvbiwgY2xhc3NpZmljYXRpb24sIGRpYWdub3N0aWMgbWV0aG9kcykuIFdpbHNvbiBigJMgS29ub3ZhbG92IGRpc2Vhc2UsIEh1bnRpbmd0b24scyBkaXNlYXNlIG11dGF0aW9uLg%3D%3D	2	3	4+4
6	7	Vascular diseases of the brain and spinal cord Encephalopathy. Aterovenous malformation (classification, clinic, diagnosis, treatment). Transient ischemic attack. Ischemic strokes. Hemorrhagic stroke https://www.youtube.com/watch?v=7lpqxDEfszY&pp=ygXHAVZhc2N1bGFyIGRpc2Vhc2VzIG9mIHRoZSBicmFpbiBhbmQgc3BpbmFsIGNvcmQgRW5jZXBoYWxvcGF0aHkuIEF0ZXJvdmVub3VzIG1hbGZvcm1hdGlvbiAoY2xhc3NpZmljYXRpb24sIGNsaW5pYywgZGlhZ25vc2lzLCB0cmVhdG1lbnQpLiBUcmFuc2llbnQ	2	3	4+4

		gaXNjaGVtaWMgYXR0YWNrLiBJc2NoZW1pYyBzdHJva2VzLiBIZW1vcnJoYWdpYyBzdHJva2U%3D			
7	8	Brain tumors. Clinic, treatment. Spinal cord tumors. Clinic, treatment. https://www.youtube.com/watch?v=cSeXJKSQpiI&pp=ygVHQnJhaW4gdHVtb3JzLiBDbGluaWMsIHRyZWF0bWVudC4gU3BpbmFsIGNvcmQgdHVtb3JzLiBDbGluaWMsIHRyZWF0bWVudC7SBwkJ_AkBhyohjO8%3D	2	3	4+4
-	9	Traumatic brain injury. Classification, etiology, clinic, treatment, prognosis. https://www.youtube.com/watch?v=i7GidKRUzrY&pp=ygVPVHJhdW1hdGljIGJyYWluIGluanVyeS4gQ2xhc3NpZmljYXRpb24sIGV0aW9sb2d5LCBjbGluaWMsIHRyZWF0bWVudCwgcHJvZ25vc2lzLg%3D%3D		3	4
		Итого:	**14h**	**22h**	

6. Plan for organizing independent work of students

	Topic of the SWwT	Task for the SW	Hours	Assessment tools	Score	Educational resources	Place (building/classroom)	Deadline
1	**Encephalitis.**	- Perform a neurological examination for signs of meningeal irritation -Interpret CT/MRI findings in cases of encephalitis - Familiarize yourself with the treatment protocol for herpes encephalitis - Analyze clinical case studies (medical histories)	6h	Summary of SW, preparation of situational tasks, articles	8 p.	1) «Merritt's Neurology» Elan D. Louis, Stephan A. Mayer, James M.noble , Fourteenth edition , 2022y. 2) «Localization in clinical neurology» Paul W.brazis , Joseph C.masdeu , José biller , Eighth edition , 2022y.	IMF3 (110)	08.09 - 13.09
2.	**Neuromyelitis optica (NMO).**	- Interpret MRI findings in NMO (lesions of the optic nerve and spinal cord) - Create a differential diagnosis algorithm for NMO and multiple sclerosis - Study the international diagnostic criteria for NMO (Wingerchuk criteria)	6h.	Preparing presentations, searching for new scientific data on the topic.	8p .	1) «Pocket neurology» Marcelo Matiello, Michael P.bowley, Sahar F.zafar , M.Brandon westover , Third edition , 2022y. 2)«Neurology A	IMF3 (110)	15.09 – 20.09

						clinician's approach» Andrew Tarulli , Third edition , 2021y.		
3.	**Guillain-Barre syndrome.**	- Perform a neurological examination for muscle strength and reflexes - Familiarize yourself with the treatment protocol for GBS - Interpret electromyography (EMG) findings in GBS	6h.	Reports, articles, search for new literature	8 p.	1) «Merritt's Neurology» Elan D. Louis, Stephan A. Mayer, James M.noble , Fourteenth edition , 2022y. 2) Methodological instruction	IMF3 (110)	22.09-27.09.
4.	**Headache. Migraine.**	- Create a differential diagnosis flowchart for headaches - Familiarize yourself with the migraine treatment algorithm	6h.	Report, presentations, articles	8 p.	1«Merritt's Neurology» Elan D. Louis, Stephan A. Mayer, James M.noble , Fourteenth edition , 2022y. 2) Methodological instruction	IMF3 (110)	29.09-04.10.
5.	**Disorder of spinal blood circulation**	- Study the types of spinal vascular syndromes - Analyze MRI images in spinal cord ischemia - Develop a rehabilitation plan for a patient after spinal stroke	6h.	Preparation of presentation, report.	8 p.	1«Merritt's Neurology» Elan D. Louis, Stephan A. Mayer, James M.noble , Fourteenth edition , 2022y. 2 Methodological instruction	IMF3 (110)	06.10.-11.10.
6.	**Back and neck pain.**	- Interpret spinal X-ray or MRI with signs of degenerative changes - Create a treatment plan (medications, physical therapy, posture correction) - Teach basic stretching and ergonomic exercises for back/neck pain prevention	6h.	Selection of scientific literature.	8 p.	1«Merritt's Neurology» Elan D. Louis, Stephan A. Mayer, James M.noble , Fourteenth edition , 2022y. 2) Methodological instruction .	IMF3 (110)	13.10-18.10
7.	**Myopathies.**	- Perform muscle testing (Manual Muscle Testing – MMT) - Study typical EMG findings in myopathies - Interpret blood test results (CK,	6h.	Taking notes, selecting statistical data**.**	8 p.	1«Merritt's Neurology» Elan D. Louis, Stephan A. Mayer, James M.noble , Fourteenth	IMF3 (110)	20.10-25.10

		myoglobin)				edition , 2022y. 2) Methodological instruction		
8.	**Charco-Marie-Tooth disease.**	- Definition and hereditary forms of CMT - Genetic mutations most commonly associated with the disease (e.g., PMP22) - Main symptoms: distal muscle weakness, atrophy, foot deformities (pes cavus), and sensory loss	6h	Summary of SW, preparation of situational tasks, articles	8p	2) «Pocket neurology» Marcelo Matiello, Michael P.bowley, Sahar F.zafar , M.Brandon westover , Third edition , 2022y. 2)«Neurology A clinician's approach» Andrew Tarulli , Third edition , 2021y	IMF3 (110)	27.10.-01.11.
9.	**Disorders of equilibrium.**	- Perform the Romberg test, finger-to-nose test, heel-to-shin test, and Unterberger test - Assess the patient's gait (ataxic, cerebellar, etc.) - Familiarize yourself with the basics of vestibular rehabilitation	6h	Preparing presentations, searching for new scientific data on the topic**.**	8p	3) «Pocket neurology» Marcelo Matiello, Michael P.bowley, Sahar F.zafar , M.Brandon westover , Third edition , 2022y. 2)«Neurology A clinician's approach» Andrew Tarulli , Third edition , 2021y	IMF3 (110)	03.11-08.11.

7. Consultation plan of the SWwT

No.	**Topics**	**The form of SWwT**	**Hours**	**The method for scoring**	**Educational resources**	**Place (audit/building)**	**Date**
1.	**Encephalitis.**	Summary of SWwT, preparation of situational tasks, articles	1 hour	-report -presentation defense -discussion	1. «Merritt's Neurology» Elan D. Louis, Stephan A. Mayer, James M.noble , Fourteenth edition , 2022y. 2. «Localization in clinical neurology» Paul W.brazis , Joseph	IMF3 (110)	08.09-13.09

					C.masdeu , José biller , Eighth edition , 2022y.		
2.	**Neuromyelitis optica (NMO).**	Preparing presentations, searching for new scientific data on the topic**.**	1 hour	-report -presentation defense -discussion	1.«Pocket neurology» Marcelo Matiello, Michael P.bowley, Sahar F.zafar , M.Brandon westover , Third edition , 2022y. 2)«Neurology A clinician's approach» Andrew Tarulli , Third edition , 2021y.	IMF3 (110)	15.09-20.09
3.	**Guillain-Barre syndrome.**	Reports, articles, search for new literature	1 hour	-report -presentation defense -discussion	3) «Merritt's Neurology» Elan D. Louis, Stephan A. Mayer, James M.noble , Fourteenth edition , 2022y. 4) Methodological instruction	IMF3 (110)	22.09-27.09
4	**Headache. Migraine.**	Report, presentations, articles	1 hour	-report -presentation defense -discussion	1«Merritt's Neurology» Elan D. Louis, Stephan A. Mayer, James M.noble , Fourteenth edition , 2022y. 2) Methodological instruction	IMF3 (110)	29.09-04.10
5	**Disorder of spinal blood circulation**	Preparation of presentation, report.	1 hour	-report -presentation defense	1«Merritt's Neurology» Elan D. Louis, Stephan A.	IMF3 (110)	06.10-11.10

				-discussion	Mayer, James M.noble , Fourteenth edition , 2022y. 2 Methodological instruction		

Course Grading and Requirements for Successful Completion

I. Module Evaluation

After Completion of the Module 1 in the required curriculum, students should get minimum 1 and maximum 25 points (table 6).

The grade for the Module 1 is defined as the summary of the assessments of the current educational activity (in points).

- Module 1: There are two current controls and one summary control (module).
  For 1st Current control maximum 25 points, for 2nd Current control maximum 25 points and for summary control 25 points, in total max 30 points.

Further, in one current control there are 4 lessons and one control work. In one practical lesson, the maximum 1 point and in the control maximum 25 points, respectively, in the first current control 30 points.

Test questions will be regarding to lecture, practical and students self work materials, in the form of situational tasks, interpretation of data from laboratory and instrumental examination, demonstrate their skills in establishing a preliminary diagnosis based on physical examination, substantiate a clinical diagnosis, make a treatment plan. Summary control will be at the end of the 8th topic.

- Module 2: It is estimated the same way as in the first module. The grade for a module is defined as the sum of the assessments of the current educational activity and the evaluation of the boundary modular control (final exam), expressed on a multi-point scale (50 points).

A) Evaluation of current educational activities.

When evaluating the mastery of each topic module student points for attendance and activity in the class. This takes into account all types of work provided methodological development to study the topic.

The main difference of the control tasks from the current practical classes is that the student must demonstrate the ability to synthesize theoretical and practical knowledge acquired in one control task (semantic module). During the control tasks, the control questions, tests and situational tasks proposed in the methodological developments for students are reviewed, and practical skills are consolidated and monitored on the topics of the semantic module. Oral interview takes place on the materials of practical and extracurricular courses, lecture in the form of testing

B) The Summary control (module) takes place in two stages:

1. Oral questions
2. Written test control or situational tasks;

Evaluation of extracurricular work of students (self-work of students).

Explanations: self work of students consists of two components: classroom and extracurricular (compulsory for all students and optional) work. Students will get maximum 31 points.

Notes: Format of students self work should be deferent kind of creative work as the diagrams, posters, essay, tables, MCQs, case studies.

Alert: self work of student should be given on time according to thematic plan.

A) Classroom work. Evaluation of students self work. Self work of students, which is provided for the topic along with classroom work, is assessed during the control task.

Classroom work includes: the main didactic tasks of self work of students under the guidance of a teacher:
- Knowledge and skills acquired in the course of studying the academic course in lectures and practical classes;
- Prevent their forgetting;
- Expansion and deepening of educational material;
- Development of independent thinking and creative abilities of students.

B) Evaluation of the self work (assignment) of the student.

Students (optional) can choose one of the individual tasks on the topic of the module.
This may be:
1. Preparing a review of the scientific literature (abstract); review of Internet sources
2. Preparation of illustrative materials (Multimedia presentation, make of tables, charts, pictures, etc.);
3. Conducting research in the student scientific circle;
4. Publication of scientific reports, reports at scientific conferences, etc.;
5. Participation in Olympiads.

Points for self works are awarded to a student only if they are successfully completed and defended (prizes at relevant competitions). The number of points accrued for individual work is added to the amount of points scored by the student during the delivery of the module.

II. Final control - exam.

The final control is carried out upon completion of the study of all topics of academic course. Students who has attendance all the classroom training sessions provided for by the curriculum (practical classes, lectures) are allowed to take the final control and, when in total (1^{st} and 2^{nd} modules) taken minimum 25 points. (See Bulletin 19 OshSU).

The final control is carried out at the end of the cycle in the form of computer testing. The number of tests depends on the number of credits. For 1 credit will be from 80 to 100 test questions. The maximum in the final control is gaining up to 50 points.

Criteria for Grading Scale students' knowledge

1. Criteria for evaluating the final (intermediate) control of knowledge in the form of computer testing.

To the exam (test knowledge in several sections) are allowed
students who does not have debts for the semester and scored for current ratings and mid-term controls in the semester of at least 25 points. If a student's knowledge is rated as "unsatisfactory"(less than 30 points), then he is not allowed to the final control (exam).

The Grading Scale

Rating (Points)	**Based on letter system**	**The digital equivalent of assessment**	**Based on the traditional system**
87 – 100	A	4,0	Excellent
81– 86	B	3,33	Good
74 – 80	C	3,0	
65 -73	Д	2,33	satisfactorily
60 – 64	E	2,0	
31-60	FX	0	unsatisfactorily
0 - 30	F	0	

2. Criteria for evaluating test control

The rating of "excellent" - 87-100% overlap with the standards of answers.
The rating of "good" - 74-86% overlap with the standards of answers.
The rating of "satisfactory" - 60-73% overlap with the standards of answers.
The rating of "unsatisfactory" less than 60% overlap with the standards of answers.

Course policy
Requirements:
a) Mandatory attendance of classes;
b) Activity during lectures and practical classes;
c) Preparation for classes, homework and self work;
d) dress code.
Unacceptable:
a) Being late and leaving classes;
b) Using phones during classes;
c) Deception and plagiarism.
d) Untimely delivery of tasks.

"Good" deserves a response that contains:
- Knowledge of the key problems of the program and the main content of the lecture course;
- The ability to use conceptual and conceptual apparatus in the analysis of the main problems the program;
- Knowledge of the most important works in the list of recommended reading;
- The ability to perform tasks under the program;
- In general it is logically correct, but not always accurate and reasoned statement of the answer;
- Possession of knowledge on a subject matter of the full program, but has some gaps in the difficult sections, and partly on their own when leading questions gives a more or less complete answers to exam questions;
- In their answers less logical than an A student, it is not always the most significant highlights, but does not allow serious errors in the answers can solve moderately severe situational theoretical and practical tasks;
- Ownership of research methods, introduction to some of the literature of the discipline;- The student has sufficient ideological thinking and outlook
The bonus points consist of activity in the classroom, the performance of extracurricular independent work by students, scientific work, and the attendance of lectures.

Penalty points are formed from the points obtained for dishonesty, inactivity, absenteeism, etc.

Reworks
If student has had absences of studies (practical classes, lectures), due to valid reason allowed to do rework within 2 weeks following the admission. For students who missed studies without valid reason and have 3 or more passes, the decision to work out them is taken individually by the dean's office, and penalties are also charged (-2 points for 1 pass of classes or lectures).

The following procedures and technologies are used to evaluate learning outcomes in the form of knowledge: multiple choice questions (MCQs), case studies (CS) individual interview on test questions (C), written answers to questions — control work (CW), writing and protection of the abstract (P), preparation of a report (R), Colloquium (C) (interview of the teacher with the student).

EVALUATION CRITERIA (total 4 point)

- Present in class- **1 point**
- Brain storm(checking previous knowledge) 5 min- 0,5 **point**
    a) Quick answer- 0,5 p.
    b) Answer within 5 min- 0.25p.

- Team work (active learning and explanation of new topics 30 min – **1 point**

  a) active team work- 0.5 p.
  b) ability to work in a group – 0,5 p.
  c) respect and listen groupmades – -0,25 p.
  d) ability to explain new material - 0,25.
- Demonstration of practical skills 20 min – **1 point**
  a) Follow the rules of deontology – 0,5 p.
  b) Correctly demonstrate neurological examination – 0,5 p.
- Test control of the final level of knowledge 10 min – 1 **point**
  a. More than 7 correct answer – 1 p.
  b. Less than 7 correct answer - 0,25 p.
- Extra point – excellent work- 2 **p**.
- Penalty point- -**3 p.**
  a) Make noise - -1 point
  b) Late – -1 point
  c) Not active – -1 poin

Educational resources

Main literature:

1) "Neurological clinical examination" John Morris , Joseph Jankovic ,Victor Fun , Fourth edition , 2023y.
2) «Merritt's Neurology» Elan D. Louis , Stephan A. Mayer , James M.noble , Fourteenth edition , 2022y.
3) «Localization in clinical neurology» Paul W.brazis , Joseph C.masdeu , José biller , Eighth edition , 2022y.
4) «Pocket neurology» Marcelo Matiello, Michael P.bowley, Sahar F.zafar , M.Brandon westover , Third edition , 2022y.
5) «Neurology A clinician's approach» Andrew Tarulli , Third edition , 2021y.
6) «On Call Neurology, Mayer» Marshall , Fourth edition , 2021y.
7) Case-based Approach to Common neurological disorders, 2024y.
8) Mayo clinic neurology board review, 2022y.
9) Principles of Neurology, 2023y.

Addition literature:

1) «Neuroradiology A Case-Based Guide» Swati goyal , First edition , 2021y
2) «Aminoff's neurology and general medicine» Michael J.Aminoff, S.Andrew josephson , Sixth edition , 2021y.
3) «Principles of neural science» Eric R.kandel, John D.koester, Sarah H.Mack,Steven A.siegelbaum , Sixth edition , 2021y.
4) «Neuroradiology A Case-Based Guide» Swati goyal , First edition , 2021y.
5) «Oxford case histories in neurosurgery» Harutomo hasegawa , matthew crocker, Pawan singh minhas , first edition , 2013y.
6) Top 100 Diagnoses in Neurology, 2021y.

7) Neurology Clinical cases uncovered, 2021y.

I-net resources:

1. https://www.elsevier.com/search-results?query=neurology
2. https://www.sciencedirect.com/search?qs=neurology
3. https://pubmed.ncbi.nlm.nih.gov/?term=neurology
4. https://ibooks.oshsu.kg/book/

The Head of Department of CD 3
Assoc. Proff. Abdurahmanov B.O. _____

Chair of the Educational and Methodological
Council of IMF Assoc. Proff. Bazieva A.M. _____