International School of Medicine
Department of "Special Clinical Disciplines"

SYLLABUS

"Neurology with the course of Neurosurgery"

main educational program
in the specialty General Medicine (for foreign citizens)

graduate qualification: general practitioner

Full-time education

Year	3
Semester	5
Credit / Exam (semester)	18h

Bishkek 2022

1. The work program of the academic discipline

1.1. Explanatory note

Mission of ISM IUK - *training of competent specialists in the field of medicine, corresponding to international standards and traditions of medical ethics, ready for continuous professional growth using modern achievements of science and practice, to solve public health problems.*

Annotation of the academic discipline

Neurology is the branch of medicine concerned with the diagnosis and treatment of all categories of conditions and disease involving the brain, the spinal cord and the peripheral nerves, the mechanisms and patterns of their occurrence and development, methods of their prevention, diagnosis and treatment.

The purpose and objectives of the discipline

The purpose of the discipline

Neurology course should give basic knowledge about topographic diagnosis, neurological symptom theory, neurological syndromes, diseases and injuries in adults and basic medical treatment of these conditions.

Discipline objectives:

The task of the Department of Neurology in the 4th year is to train a general practitioner who knows the basics of clinical research of a neurological patient with the subsequent determination of the level and localization of lesions of the nervous system, knowledge of the main neurological symptoms and syndromes.

- Gather a neurological history relevant to the patient presentation;
- Perform a complete neurological examination;
- Describe basic anatomy, embryological development, physiology and pathology of the nervous system;
- Localize a neurological lesion to the correct region of the nervous system;
- Identify relevant pathophysiologic categories and combine with history, localization, and time course to generate a broad differential diagnosis.

Place of discipline in the structure of MEP (prerequisites, post-requisites)

The discipline "Neurology" is included in the basic part of the professional cycle of the ISM IUK for the specialty "General Medicine" (code 560001). This discipline is studied by students of the specialty General Medicine (for foreign citizens) and is included in the mandatory scope of the studied disciplines of the State Educational Institution of Higher Professional Education.

For the successful development of this discipline, students must master the following disciplines:

- Latin language
- Normal anatomy
- Pathological anatomy
- Biophysics
- Normal and pathological physiology
- Propedpediatrics
- Propaedeutic of Internal Medicine
- Bioethics
- History of medicine
- Psychology and pedagogy
- Medical informatics
- Pathophysiology, clinical pathophysiology
- Radiology
- Hygiene
- Public health and health care, health economics
- Epidemiology
- Clinical pharmacology

Competencies of students, formed as a result of mastering the discipline, the planned results of mastering the discipline -

Graduate in the specialty "General Medicine" with the assignment of the qualification of a specialist "Doctor of general practice" in accordance with the Governmental Educational Institution of Higher Professional Education and the Main Educational Program and the tasks of professional activity, must have the following professional competencies:

Code	Content of competence
PC-4	able to apply aseptic and antiseptic methods, use medical instruments, master the technique of caring for sick adults and children.
PC-6	is able to apply up-to-date information on the health indicators of the population at the level of health care facilities.

- Planned results of mastering the academic discipline "Neurology" are determined by the competencies acquired by the student, i.e. his ability to apply knowledge, skills and personal qualities in accordance with the goals of the educational program and the tasks of professional activity:

PO1 - the ability to apply basic knowledge from the field of social and humanitarian, natural sciences, economics and biomedical disciplines in their professional activities.

After mastering the discipline "Neurology" student:

will know

- Medical tactics and be able to provide first aid for urgent and life-threatening neurological conditions;
- Main clinical manifestations (symptoms, syndromes) of the studied neurological diseases;
- Methods of conducting basic neurosurgical interventions;
- Principles of conservative and surgical treatment of patients with diseases of the nervous system;
- Principles of rehabilitation of neurological and neurosurgical patients.

will be able to

- Perform a complete neurological examination including relevant special clinical maneuvers;
- Make a clinical diagnosis of major neurological and neurosurgical diseases, include those of a hereditary nature in adults and children;
- Apply knowledge of the clinical and biomedical sciences relevant to Neurology
- determine the most appropriate procedures or therapies.

will own

- Examination of muscle strength, muscle tone;
- Technique of the Barre test;
- Research of deep tendon reflexes;
- Sensitivity research methods;
- Examination of co-ordination
- Examination of meningeal symptoms;
- Bedside myasthenia gravis assessment;
- Lumbar puncture with liquor dynamic tests and CSF analysis;
- Methodology for applying basic neurosurgical bandages and dressings;
- Methods of primary surgical management of head injury;
- Methods of immobilization and transportation of emergency neurosurgical patients.

will be able to analyze

- Analyze and recognize common manifestations, classification of and clinical approach to manifestations of neurological diseases;
- Elicit a history, perform a physical exam, select appropriate investigations, and interpret their results for the purpose of diagnosis and management, disease prevention, and health promotion;

- Identify patients at risk factors, epidemiology, pathology, pathogenesis, clinical features including symptoms and signs, natural history, investigation, management and prognosis of neurological conditions;
- Identify neurological emergencies and respond in a timely fashion.

will be able to synthesize

- Basic principles of investigation and diagnostic assessment of neurological disorders (indications and limitations of EEG, EMG/NCS, Indications for, and contraindications and limitations of neuroimaging, including the selection of magnetic resonance studies and indications for functional neuroimaging, interpretation of results and other diagnostic investigations.

will be able to assess

- Neurological and neurosurgical emergencies, predict and manage patients at risk for acute deterioration.

1.2. Recommended educational technologies

For the development of students of the academic discipline "Neurology", obtaining knowledge and forming professional competencies, the following educational technologies are used:

- lecture with elements of discussion, problem statement;
- lectures - visual presentations;
- analysis of specific situations;
- role play "doctor - patient";
- lecture-visualization,
- problem lecture,
- lesson-conference,
- training,
- debate,
- brainstorm,
- Master Class,
- small group method,
- classes using simulators,
- computer simulation,
- analysis of clinical cases,
- situational tasks,
- medical history preparation and defense,
- use of computer training programs,
- interactive atlases,
- attending medical conferences, consultations,

- participation in scientific and practical conferences, congresses, symposia,
- educational research work of a student,
- conducting subject Olympiads,
- preparation of written analytical works,
- preparation and defense of abstracts.

1.3. The scope of the discipline and types of educational work

According to the curriculum 2021	**5 sem.**	**Total**	
		in hours	**in credits**
Lectures	4	8	
Practical lessons	5	10	
Final control type	exam		

1.4. Structure of the discipline

Neurology – Nervous system

No.	Name sections and topics disciplines (lectures and practical exercises)	Auditory lessons				Total hours for classroom work	SRSP	Student's independent work	Formed competencies	Used educational technologies, ways and methods of teaching	dummies	Forms of the current and frontier control academic performance
		lectures	Seminars	workshops	laboratory works							
1	Research methods of the motor system. Reflex sphere. Pyramidal system. Central and peripheral paralysis. Patient supervision.	*2*		2		4	2	4	*PC 4, PC 6*	*lecture using video materials* *practice:* *development of practical skills; The doctor-patient game*		*Evaluation of mastering practical skills (skills)*

2	Extrapyramidal system. Research methods and Movement disorders.	2		2		4	2	2	*PC 4, PC 6*	*problematic lecture* *practice:* *Round table;* *analysis of clinical cases.*		*Testing, control work.* *Evaluation of mastering practical skills (skills). Solution of situational problems*
3	Research methods and syndromes of cerebellar lesions.	2		2		4	2	4	*PC 4, PC 6*	*visualization lecture* *practice:* *development of practical skills;* *forum type discussion*		*Evaluation of mastering practical skills (skills).*
4	Sensory system. Examination of superficial, deep and complex types of sensation.	2		2		4	2	2	*PC 4, PC 6*	*lecture using video materials* *practice:* *brainstorm;* *analysis of clinical cases.*		*Oral survey with consolidation of material*

5	Cranial nerves. Examination of 1-12 Cranial Nerves. Syndromes. Alternating syndromes.			2		4	2	2	*PC 4, PC 6*	*practice:* *The game "consilium";* *development of practical skills.*		*Classes with the use of simulators, simulators. Testing.*

Examples of educational technologies, ways and methods of teaching (with abbreviations):*traditional lecture (L), visualization lecture (LV), problematic lecture (PL), lecture–press conference (LPC), lesson–conference (LC), training (T), debate (D), brainstorming (MS) , master class (MC), "round table" (RT), activation of creative activity (ATD), regulated discussion (RD), discussion of the forum type (F), business and role-playing educational game (DI, RI), small group method (SG), classes using simulators, simulators (Tr), computer simulation (CS), analysis of clinical cases (CS), preparation and defense of a medical history (MH), use of computer training programs (CTP), interactive atlases (IA), visiting medical conferences, consultations (VC), participation in scientific and practical conferences (SPC), congresses, symposiums (Sim), student research work (SRW), conducting subject Olympiads (O),preparation of written analytical papers (AR), preparation and defense of abstracts (P), project technology (PT), excursions (E), distance learning technologies (DLT).*

Approximate forms of current and boundary control of progress (with abbreviations):*T - testing, Pr - assessment of the development of practical skills (skills), SV - solving situational problems, CW - control work, CT - control task, MH - writing and defending a medical history, CL - writing and defending a curatorial list, P - writing and defense of the abstract, C - interview on control questions, D - preparation of the report, etc.*

1.4.2. Evaluative Assessment Tools

Current and milestone (modular) control

Current control of students' knowledge represents:
oral questioning;
solving situational tasks;
assessment of the development of practical skills on dummies;
control task; test;
checking the completion of written homework;
checking abstracts, reports, presentations.

Abstract topics:

1. Impaired consciousness and acute confusion
2. Disturbances of memory, cognitive function, and behavior
3. Disturbances of speech and language
4. Developmental delay and regression
5. Hyperkinetic or hypokinetic movements
6. Sleep disturbances
7. Headache and craniofacial pain
8. Ataxia, incoordination and disturbances of gait
9. Dizziness and vertigo
10. Altered hearing
11. Disturbances of vision, eye movement, and pupillary and eyelid function
12. Dysphagia
13. Disturbances of smell and taste
14. Sensory disturbances
15. Regional pain
16. Muscle weakness, paralysis, and cramps
17. Spasticity and Rigidity

COURSE POLICY AND EVALUATION CRITERIA:

Type of control (current, milestone, final)	Control form	Assessment of learning outcomes
Attendance	For one missed lesson minus 2 points	20 points
Current control	Oral surveey, written work	20 points
IWS+IWW	Perfoming assignments, work with literature	20 points

Milestone control (modul submission)	Testing, control tasks	40 points
Final control (differential test)	Conversation, examination (test.edu.kg)	100 points

Scale of correspondence between grades and scores on the final control (exam)	
Score	**Grade**
90-100	«excellent»
76-89	«good»
60-75	«satisfactory»
0-59	«unsatisfactory»