Appendix number 1.5 to The Rector UR Resolution No. 12/2019

SYLLABUS

concerning the cycle of education 2023-2029

(date range)

1.1. BASIC INFORMATION CONCERNING THIS SUBJECT / MODULE

Subject / Module	**Neurology**
Course code / module *	**N/E**
Faculty of (name of the leading direction)	**Medical College of Rzeszów University**
Department Name	**Medical College of Rzeszów University**
Field of study	**medical direction**
Level of education	**uniform master's studies**
Profile	**practical**
Form of study	**stationary / extramural**
Year and semester	**year IV, semester VII**
Type of course	**obligatory**
Coordinator	**Prof. Bartosik-Psujek**
First and Last Name of the Teacher	

* - According to the resolutions of the Faculty of Medicine

1.2. Forms of classes, number of hours and ECTS

Lecture	Exercise	Conversation	Laboratory	Seminar	ZP	Practical	Self-learning	**Number of points ECTS**
15	30	-	-	-	-	-	-	**2**

1.3. The form of class activities

☒classes are in the traditional form

☐classes are implemented using methods and techniques of distance learning

1.4. Examination Forms / module (exam, **credit with grade** or credit without grade)

2. REQUIREMENTS

Knowledge of the anatomy of the nervous system.
Knowledge of the physiology of the nervous system.

3. OBJECTIVES, OUTCOMES, AND PROGRAM CONTENT USED IN TEACHING METHODS

3.1. Objectives of this course/module

C1	Mastering theoretical knowledge and practical skills regarding the location and symptomatology of diseases of the central and peripheral nervous system.
C2	Familiarization with the specificity of diagnosis and treatment of the most common neurological diseases of children and adults (management of vascular, neoplastic diseases, inflammatory, degenerative spine, craniocerebral injuries and spinal cord and congenital malformations.
C3	Shaping the ability to carry out subjective and objective examination of a patient with a neurological disease.

3.2 OUTCOMES FOR THE COURSE / MODULE (TO BE COMPLETED BY THE COORDINATOR)

EK (the effect of education)	The content of the learning effect defined for the subject (module)	Reference to directional effects (KEK)
EK_01	He knows and can distinguish between the basic sets of neurological symptoms	E.W13.
EK_02	Knows and understands the causes, symptoms, principles of diagnosis and therapeutic treatment in the most common diseases of the nervous system, including: a) headaches: migraines, tension headaches and headache syndromes, as well as neuralgia of the nerve V, b) cerebrovascular diseases, in particular cerebral infarction, c) epilepsy, d) infections of the nervous system, in particular meningitis, Lyme disease, herpetic encephalitis, neurotransmission diseases, e) dementia, in particular Alzheimer's disease, frontal dementia, vascular dementia and other dementia syndromes, f) diseases of the basal ganglia, in particular Parkinson's disease, g) demyelinating diseases, in particular multiple sclerosis, h) diseases of the neuromuscular system, in particular amyotrophic lateral sclerosis and sciatica, i) cranial-cerebral injuries, in particular concussion.	E.W.14
EK_03	Performs a full and targeted physical examination of an adult patient.	E.U3.

EK_04	Carries out an indicative examination of hearing and visual field as well as an otoscopic examination.	E.U6.
EK_05	Evaluates the general condition, the state of consciousness and awareness of the patient.	E.U7.
EK_06	He is able to establish and maintain a deep and respectful contact with the patient	K.01

3.3 CONTENT CURRICULUM (filled by the coordinator)

A. Lectures

Course contents
Introduction to the nervous system: central (floors, functions), peripheral, nerve centers, nervous pathways (proprioception, exsteroception, pyramidal, extrapyramidal) - course, symptoms of damage.
Neurological examination. Discussing the scales and tests used in neurology.
Multiple sclerosis. Figures of the disease. Etiology and symptoms. Evaluation of the patient's functional status.
Parkinson's disease. Etiology and symptoms.
Stroke. Definition and symptoms. Brain circulation. Kinds and division. Risk factors. KT. Spasticity. Speech disorders. Comprehensive assessment of the condition of patients after stroke.
Aneurysms, angiomas. Brain tumors. Definition and symptoms. Types. Causes. Location. KT.
The general structure of the cerebellum. Function. Symptoms of damage.
Craniocerebral injuries. Mechanisms of injuries. Types. Symptoms. KT and RTG. Post-traumatic epilepsy. Discussing the scales to assess the consciousness and clinical condition of an injured patient (Glasgow, Matthew scale).

B. **Exercises**

Course contents
Neurological examination, subjective and objective examination. Discussing the conclusions of the neurological examination.
Additional tests (laboratory, electrophysiological, radiological and imaging). Cerebrospinal fluid examination, electroencephalography, electromyography, contrast radiological examination, computed tomography, magnetic resonance imaging, PET, SPCT, Doppler ultrasound. Research methodology and discussion of applications.
Ache. Discussing pain: head, face area, shoulder, cross, pain syndrome, psychogenic pain. Types of pain. Classification of headaches according to the

WHO International Headache Association. Sensation syndromes. Sensory disorders, paresthesia, psychogenic sensations.
Disorders of motor functions. Paresis and organic paralysis, paresis and functional paralysis (psychogenic), Asthenia, Akathisia, Apraxia, gait disturbance, involuntary movements, Tremor, Jaws, Myoclonus, muscle cramps, changes in muscle tone, ataxia
Observations, Short-term and long-term unconsciousness
Memory disorders, dementia. Visual and auditory disturbances (tinnitus), Weber's and Rinne's test in the indicative examination of hearing, differential diagnosis of more frequent forms of nystagmus.
Sphincter dysfunctions. Bladder activities. Bullous disorders. Rational diagnostics of neurogenic bladder disorders. Location of bullous disorders.
Speech disorder, aphasia, dysarthria, dizziness, sleep disorders. Differential diagnosis of dizziness.
Developmental defects of the nervous system, its fetal and early acquired damage. Developmental defects of the brain, spinal cord, tires and skull, hydrocephalus. Mental retardation. Cerebral palsy, Encephalopathy, Some chromosomal aberrations. Phakomatosis.
Infections of the nervous system, bacterial and viral neuroinfections. Chronic fatigue syndrome, transmissible spongiform encephalopathies (prion diseases), fungal infections of the nervous system, parasitic diseases of the nervous system, chronic forms of meningitis.
Brain diseases of the brain. Stroke, aneurysms and distortions of the cerebrovascular vessels, subarachnoid haemorrhage, acute hypertensive encephalopathy. Chronic forms of cerebrovascular atherosclerosis. Other cerebrovascular diseases.
Craniocerebral injuries, closed cranial trauma without brain damage, concussion.
Brain contusion, post-traumatic congestion and cerebral edema, epidural hematoma (extradural), subdural hematoma, Glasgow coma scale. The scale of Glasgow's consequences. Post-traumatic subjective syndrome (post-traumatic cerebrastia). Post-traumatic electroencephalopathy.
Brain tumors.
Poisoning of the nervous system. Some acute accident poisoning. Acute and chronic intoxication of the nervous system as a result of occupational exposure, nervous system damage as a result of undesirable effects of drugs, neurological aspects of chronic alcohol dependence, neurological syndromes associated with drug addiction.
Damage to the nervous system as a result of physical factors.
Parkinson's disease (febrile shiver), Parnisonism, spontaneous tremor. Degrees of Parkinson's syndrome (Webster scale). Differential diagnosis of tremor.

Huntington's chorea (disease) (hereditary or chronic chorea progressive).

3.4 TEACHING METHODS

Lecture: multimedia presentation.

Exercises: practical exercises, demonstration, lecture form.

Seminars: group work, case study, problem solving, discussion.

Student's own work: working with a book, preparing for classes and preparing for the test and exam

4 METHODS AND EVALUATION CRITERIA

4.1 Methods of verification of learning outcomes

Symbol of effect	Methods of assessment of learning outcomes (Eg.: tests, oral exams, written exams, project reports, observations during classes)	Form of classes
EK_ 01, EK_02	Written test	Lecture
EK_03, EK_04, EK_05, EK_06	Practical pass	Exercises

4.2 Conditions for completing the course (evaluation criteria)

Lectures (EK_01, EK_02):

1. test pass and open questions:

A: Questions in the field of messages to remember;

B: Questions in the field of speech to understand;

C: Solving a typical written task;

D: Solving an atypical writing task;

- for insufficient solution of tasks only from areas A and B = grade 2.0

- for solving tasks only from areas A and B, the possibility of obtaining max. rating 3.0

- for solving tasks from the area A + B + C, the possibility of obtaining max. evaluation 4.0

- for the solution of tasks in the area A + B + C + D, the possibility of obtaining a rating of 5.0

Knowledge assessment:

Written test

5.0 - has knowledge of each of the contents of education at the level of 90% -100%

4.5 - has knowledge of each of the content of education at the level of 84% -89%

4.0 - has knowledge of each of the content of education at the level of 77% -83%

3.5 - has knowledge of each of the content of education at the level of 70% -76%

3.0 - has knowledge of each of the content of education at the level of 60% -69%

2.0 - has knowledge of each of the contents of education below 60%

Classes, seminars (EK_03, EK_04, EK_05):

1. full participation and activity in the exercises

2. written partial credits

Range of ratings: 2.0 - 5.0

Skill assessment

5.0 - the student actively participates in the classes, is well prepared, has a very good knowledge of theoretical knowledge and practical skills regarding the location and symptomatology of diseases of the central and peripheral nervous system, properly performs neurological examination and makes appropriate conclusions

4.5 - the student actively participates in the classes, has a good knowledge of theoretical knowledge and practical skills regarding the location and symptomatology of diseases of the central and peripheral nervous system, properly performs neurological examination and makes appropriate conclusions

4.0 - the student actively participates in the classes, is improved, has a good degree of theoretical knowledge and practical skills regarding the location and symptomatology of diseases of the central and peripheral nervous system, properly conducts neurological examination and makes appropriate conclusions

3.5 - the student participates in classes, his scope of preparation does not allow for a comprehensive presentation of the discussed problem, is corrected, has sufficiently acquired theoretical knowledge and practical skills regarding the location and symptomatology of diseases of the central and peripheral nervous system, performs neurological examination and makes appropriate conclusions,

3.0 - the student participates in the classes, has sufficiently acquired theoretical knowledge and practical skills regarding the location and symptomatology of diseases of the central and peripheral nervous system, performs neurological examination, but often makes mistakes and makes incorrect conclusions, often corrects

2.0 - the student passively participates in the classes, the statements are incorrectly substantive, did not sufficiently acquire theoretical knowledge and practical skills regarding the location and symptomatology of diseases of the central and peripheral nervous system, improperly performs neurological examination and makes inadequate conclusions

5. Total student workload required to achieve the desired result in hours and ECTS credits

Activity	Hours / student work
Hours of classes according to plan with the teacher	45
Preparation for classes	10
Participation in the consultations	2

The time to write a paper / essay	
Preparation for tests	5
Participation in colloquia	**1**
Other (e-learning)	**-**
SUM OF HOURS	**63**
TOTAL NUMBER OF ECTS	**2**

6. TRAINING PRACTICES IN THE SUBJECT / MODUL

Number of hours	-
Rules and forms of apprenticeship	-

6. LITERATURE

READING:

1. Timothy A.Pedley, Rowland L.P, wyd. Pol. H. Kwieciński, Neurologia Merritta, tom 1-3. Wrocław 2012,
2. NEUROLOGIA Podręcznik dla studentów medycyny Wojciech Kozubski, Paweł P. Liberski Wydawnictwo Lekarskie PZWL, 2011
3. Neurologia praktyczna Antoni Prusiński. Wydawnictwo Lekarskie PZWL, 2011,
4. Anatomia czynnościowa ośrodkowego układu nerwowego Bogusław K. Gołąb Wydawnictwo Lekarskie PZWL, 2004
5. Atlas neurologii klinicznej G. David Perkin, Douglas C. Miller, Russell Lane, red. wyd. pol. Danuta Ryglewicz, Elsevier Urban & Partner, 2012

Additional literature:

1. Kwolek A. Rehabilitacja medyczna, Urban & Partner Wrocław 2003
2. Losy J. Stwardnienie rozsiane. Czelej 2011.
3. Kwolek A. Rehabilitacja w udarze mózgu, Wydawnictwo Uniwersytetu Rzeszowskiego 2009
4. Prusiński A. Podstawy neurologii klinicznej, PZWL, Warszawa 1989
5. Prusiński A. Neurologia praktyczna, PZWL, Warszawa 2007
6. Follereau A. R., Usprawnianie po udarze mózgu – poradnik dla terapeutów i pracowników podstawowej opieki zdrowotnej, Wydawnictwo Elipsa – Jaim, Kraków 2004
7. pod red. Michałowicz R., Neurologia dziecięca w praktyce, PZWL, Warszawa 2000
8. pod. red. Michałowicz R., Mózgowe porażenie dziecięce, PZWL, Warszawa 2002
9. Stany nagłe w neurologii - od objawu do rozpoznania. Gregory L. Henry, Neal Little, Andy Jagofa, Thomas R. Pellegrino, red. wyd. pol. Wojciech Kozubski Wydawnictwo Lekarskie PZWL 2007
10. Aspekty diagnostyczne i terapeutyczne neurozwyrodnienia w chorobie Alzheimera, otępieniu, starzeniu. Wanda Dobryszycka, Jerzy Leszek. Continuo 2007

11. Atlas EEG i semiologii napadów padaczkowych. Bassel Abou-Khalil, Karl E. Misulis, red. wyd. pol. Joanna Jędrzejczak. Elsevier Urban & Partner 2010

Acceptance Unit Manager or authorized person