*Attachment No. 2 to Rector’s ordinance No. 90 /2018*

**description of the course of study**

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| **Course code** |  |
| **Name of the course in**  | Polish | **Neurologia** |
| English | **Neurology** |

1. **LOCATION OF THE COURSE OF STUDY WITHIN THE SYSTEM OF STUDIES**

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| **1.1. Field of study** |  |  |  |  | medicine |
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| **1.2. Mode of study** |  |  |  |  | Full-time |
|  |  |  |  |  |  |  |
| **1.3. Level of study** |  |  |  |  | Uniform Master’s study |
| **1.4. Profile of study\*** |  |  |  |  | General academic |
|  |  |  |  |  |  |  |
| **1.5. Person/s preparing the course description** |  | dr n.med. Elzbieta Jasińska |
|  |  |  |  |  |
| **1.6. Contact** |  |  |  |  | ejasinska@ujk.edu.pl, +48 607570949 |

1. **General characteristicS of the course of study**

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| **2.2. Language of instruction** | English |
| **2.4. Prerequisites\*** | The basic knowledge of anatomy and physiology of the nervous system |

1. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

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| * 1. **Form of classes**
 | Lecture-15 (including 3 hours of e-learning), classes-15 , practical classes-30 |
| * 1. **Place of classes**
 | Courses in the teaching rooms of the UJK,Practical classes: CSM UJK, Department of Neurology Regional Hospital and Outpatient Clinic of Neurology RESMEDICA in Kielce |
| * 1. **Form of assessment**
 | Positive assessment of the case presentation written by a student, passing the practical exam, CSM practical exam, passing the final exam |
| * 1. **Teaching methods**
 | Verbal (lecture), viewing (demonstration, case demonstration, movie), practical (neurological examination, differential diagnosis, writing a medical history), CSM |
| * 1. **Bibliography**
 |  **Required reading** | * + 1. 1. Netter’s Concise Neurology –Karl Misulis, Thomas Head; 2017
		2. 2. A.H. Ropper , M.A.Samuels *– Adams and Victor’s Principles of Neurology*; McGraw-Hill Education; 11*th edition* 2019
		3. 3. Sara E.Hocker and Eelco F.M.Wijdicks *Simulation in acute neurology* 2019
 |
|  **Further reading** | 1. Neurology – Mark Mumenthaler; 20032..E.Louis,S.A. Mayer et al.- *Merritt‘s Neurology Wolterd Kluwert* 13*th edition* ,  (Oct 3, 2015)3.G.Fuller - *Neurological Examination Made Easy*Elsevier 2019, 6th edition4. J.S.Kass, E.M.Mizrahi - *Neurology secrets.* Elsevier *6th edition 2017*5. Michael J Aminoff and S.Andrew Josephson - *Aminoffs Neurology and General* Medicine 6th edition 20216. Bret L.,Cuccichiara and Raymond S. Price- *Decision making in adult neurology* 2020 |

1. **Objectives, syllabus CONTENT and intended LEARNING outcomes**

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| * 1. **Course objectives *(including form of classes)***

C-1 (knowledge) - providing students with knowledge of standards in neurology, familiarization with the principles of conducting interviews and clinical examination, acquiring knowledge about diagnosis and management of both common and rare neurological conditions, familiarize with ethical problems related to patient care, including end-of-life problems, termination of support for people with severe brain damage and palliative choices care. C-2 (skills) - the acquisition by students of the ability to observe and recognize a neurological condition and interpretation of tests used in neurology: Lumbar Puncture, Carotid Duplex Sonography, Computer Tomography, Magnetic Resonance, neurophysiological assessment: EEG, EMG, VEPs.C-3 (social competences) - familiarizing students with the specifics of work in neurological clinic and  showing the importance of communication skills, both with patients, families, and the hospital staff and colleagues in and outside the hospital. |
| * 1. **Detailed syllabus *(including form of classes)***

**A. Lectures**1. Interview and clinical syndromes in neurology - 3h Headache and facial pain – 1 h2. Stroke – 2 h Epilepsy and other episodic disorders of neurologic function – 2h3. Demyelinating diseases – 1h Parkinson disease and other common extrapyramidal diseases– 2h Motor neuron disease -1h4. Polyradiculitis and polyneuropathy – 1,5 h Myopathy, myositis and disorder of neuromuscular transition – 1.5h**B. Classes**1. The importance of medical interviev in neurology. Knowledge and consolidation of knowledge about the neurological diseases, neurological tests and assessment of the functional state of a neurological patient.2. Diagnostic methods used in neurology: computed tomography, magnetic resonance imaging, cerebrospinal fluid examination, carotid and vertebral artery tests, neurophysiological tests.3. Differential diagnosis of neurological diseases.4. Intensive therapy in neurology. Rules for the management of patients after head trauma, with brain tumors, intracranial haemorrhage, status epilepticus,, Guillain – Barre syndrom 3. Diagnosis and treatment of vascular diseases of the brain and spinal cord.4. Diagnosis and treatment of extrapyramidal system diseases, neurodegenerative diseases, neuromuscular diseases, demyelinating diseases, spinal diseases and radiculopthy5. Prevention of nervous system diseases.6. Rules for the treatment of acute and chronic pain7. Neurological symptoms in internal diseases.8. Rules of rehabilitation treatment. **C. Practical Classes:**1. Approach to diagnosis. Neurological examination: reflexes, symptoms and neurological syndromes. Examination of the unconscious patient and assessment of life-threatening conditions.2. Management of suspected stroke, neuroinfection, status epilepticus, intoxication, psychoactive substances, consequences of craniocerebral trauma, myasthenic crisis, and relapses of multiple sclerosis.3. Principles of diagnostics and treatment of basic neurological diseases.4. Differential diagnosis of the most common neurological diseases.5. Behavioral disorders, confusion and agitation in neurological diseases - methods of managementand immediate patient protection.**D. CSM Medical Simulatory Center**1. Expanding the knowledge of emergencies in neurology (vascular diseases, consciousness disorders, epilepsy,G-B syndrome, myasthenia gravis).2. Acquisition of practical skills in dealing with emergencies in neurology, especially in conditions ER.3. Raising social competences, building a team, acquainting with the role of a leader. |

**4.3 Intended learning outcomes**

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| **Code** | **A student, who passed the course** | **Relation to teaching****outcomes** |
| within the scope of **knowledge**, the graduate knows and understands: |
| W01 | environmental and epidemiological conditions for the most common diseases; | E.W1. |
| W02 | basic neurological syndromes; | E.W13. |
| W03 | causes, symptoms, principles of diagnosis and therapeutic management of the most common diseases of the nervous system, including:1) headaches: migraine, tension headaches and bands headaches and trigeminal neuralgia of nerve V; 2) vascular diseases of the brain, in particular the stroke;3) epilepsy;4) infection of the nervous system, in particular meningitis, Lyme disease, HSV encephalitis, neurotransmitter disorders;5) dementia, in particular in Alzheimer's disease, frontotemporal dementia, vascular dementia, and other types of dementia; 6) diseases of the basal ganglia, in particular Parkinson's disease; 7) demyelinating diseases, in particular multiple sclerosis; 8) diseases of the neuromuscular system, in particular amyotrophic lateral sclerosis and sciatica; 9) cranio-cerebral trauma, in particular concussion; | E.W14. |

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| within the scope of **ABILITIES**, the graduate knows how to: |
| U01 | conduct full and targeted physical examination of the adult patient; | E.U3. |
| U02 | conduct indicative study of hearing and sight as well as the otoscopic examination; | E.U6. |
| U03 | assess patient’s general condition, consciousness and awarenes; | E.U7. |
| U04 | perform differential diagnosis of the most common diseases in adults and children; | E.U12. |
| U05 | assess and describe the somatic and mental state of patients; | E.U13. |
| U06 | recognize states of a direct threat to life; | E.U14. |
| U07 | plan diagnostic, therapeutic and preventive procedures; | E.U16. |
| U08 | conduct analysis of the potential side effects of each drug and the interaction between them; | E.U17. |
| U09 | qualify the patient for home treatment and hospitalization; | E.U20. |
| U10 | recognize states in which functional status of the patient's or his/her preferences restrict the treatment in accordance with specific guidelines for the disease; | E.U21. |
| U11 | interpret laboratory tests/results and identify the reasons for deviations; | E.U24. |
| U12 | assist when the following procedures and medical treatments are performed: 1) transfusions of blood and blood products,2) drainage of the pleural cavity, 3) puncture of the pericardium, 4) puncture of the peritoneal cavity, 5) lumbar puncture, 6) needle biopsy, 7) epidermal tests, 8) intradermal and scarification tests and interpret their results; | E.U30. |
| U13 | plan specialist consultations; | E.U32. |
| U14 | evaluate decubitus and apply appropriate dressings; | E.U35. |
| U15 | comply with the aseptic and antiseptic rules; | F.U3. |

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| * 1. **Methods of assessment of the intended learning outcomes**
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| **Teaching** **outcomes*****(code)*** | **Method of assessment (+/-)** |
| **Exam oral/written\*** | **Test\*** | **Project\*** | **Effort** **in class\*** | **Self-study\*** | **Group work\***  | **Others\*** |
| ***Form of classes*** | ***Form of classes*** | ***Form of classes*** | ***Form of classes*** | ***Form of classes*** | ***Form of classes*** | ***Form of classes*** |
| *L* | *C* | *...* | *L* | *C* | *...* | *L* | *C* | *...* | *L* | *C* | *...* | *L* | *C* | *...* | *L* | *C* | *...* | *L* | *C* | *...* |
| W01 | ***+*** |  |  |  |  |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |
| W02 | ***+*** |  |  |  |  |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |
| W03 | ***+*** |  |  |  |  |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |
| U01 |  |  |  |  | ***+*** |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |
| U02 |  |  |  |  | ***+*** |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |
| U03 |  |  |  |  | ***+*** |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |
| U04 |  |  |  |  | ***+*** |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |
| U05 |  |  |  |  | ***+*** |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |
| U06 |  |  |  |  | ***+*** |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |
| U07 |  |  |  |  | ***+*** |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |
| U08 |  |  |  |  | ***+*** |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |
| U09 |  |  |  |  | ***+*** |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |
| U10 |  |  |  |  | ***+*** |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |
| U11 |  |  |  |  | ***+*** |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |
| U12 |  |  |  |  | ***+*** |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |
| U13 |  |  |  |  | ***+*** |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |
| U14 |  |  |  |  | ***+*** |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |
| U15 |  |  |  |  | ***+*** |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |
| K01 |  |  |  |  |  |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |
| K02 |  |  |  |  |  |  |  |  |  | + | + |  |  |  |  |  |  |  |  |  |  |

***\*delete as appropriate***

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| * 1. **Criteria of assessment of the intended learning outcomes**
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| **Form of classes** | **Grade** | **Criterion of assessment** |
|  **lecture (L)** | **3** | 61-68% The student sufficiently knows the symptoms of neurological diseases, performs a neurological examination.. |
| **3,5** | 69-76% The student sufficiently knows the basic symptoms of neurological diseases, performs a neurological examination, plans therapies. |
| **4** | 77-84% The student knows the pathogenesis, symptoms of neurological diseases well, performs differential diagnosis and neurological examination, plans therapies. |
| **4,5** | 85-92% The student has more than good knowledge of the etiology, pathogenesis and symptoms of neurological diseases, performs differential diagnosis and neurological examination, plans therapies. He has good contact with the patient and staff. |
| **5** | 93-100% The student perfectly knows the pathogenesis, symptoms of neurological diseases, carries out differential diagnosis, neurological examination and plans therapies. He establishes a very good contact with the patient and staff |
| **classes (C)\*** | **3** | The student knows the symptoms of neurological diseases sufficiently and performs a neurological examination. 61-68% |
| **3,5** | The student sufficiently knows the basic symptoms of neurological diseases, carries out a neurological examination, plans therapies. 69-76% |
| **4** | The student knows the pathogenesis, symptoms of neurological diseases well, carries out differential diagnosis and neurological examination, plans therapies. . 77-84% |
| **4,5** | The student knows the etiology, pathogenesis and symptoms of neurological diseases more than well, carries out differential diagnosis and neurological examination, plans therapies. He has good contact with the patient and staff. 85-92% |
| **5** | The student perfectly knows the pathogenesis, symptoms of neurological diseases, carries out differential diagnosis, neurological examination and plans therapies. Establishes a very good contact with the patient and staff 93-100% |
| **others (...)\*** | **3** | 61-68% |
| **3,5** | 69-76% |
| **4** | 77-84% |
| **4,5** | 85-92% |
| **5** | 93-100% |

1. **BALANCE OF ECTS CREDITS – STUDENT’S WORK INPUT**

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| **Category** | **Student's workload** |
| **Full-time****studies** |
| *NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/* | ***60*** |
| *Participation in lectures\** | 15 |
| *Participation in classes, seminars, laboratories\** | 45 |
| *Preparation in the exam/ final test\** |  |
| *Others\** |  |
| *INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/* | ***40*** |
| *Preparation for the lecture\** | 5 |
| *Preparation for the classes, seminars, laboratories\** | 20 |
| *Preparation for the exam/test\** | 15 |
| *Gathering materials for the project/Internet query\** |  |
| *Preparation of multimedia presentation* |  |
| *Others (please specify e.g. e-learning)\** |  |
| *TOTAL NUMBER OF HOURS* | ***100*** |
| ECTS credits for the course of study | **4** |

***\*delete as appropriate***

***Accepted for execution*** *(date and legible signatures of the teachers running the course in the given academic year)*

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