**ACADEMIC DISCIPLINE OVERVIEW**

1. **Program data**

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| 1.1. Higher education institution | Grigore T. Popa University of Medicine and Pharmacy Iasi |
| 1.2. Faculty | Medical Bioengineering |
| 1.3. Department | Biomedical Sciences |
| 1.4. Field of study | Health |
| 1.5. The cycle of studies | Bachelor |
| 1.6. Study program / qualification | Balneo-physiokinetotherapy and rehabilitation – english language / Physiokinetotherapist |

**2. Discipline data**

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| 2.1. Name of the discipline / Code | | | | **Neurology** | | **RE1204** |
| 2.2. Teaching staff in charge with lectures | | | | **Lecturer Cristina Grosu, MD, PhD** | | |
| 2.3. Teaching staff in charge with practical activities | | | | **Lecturer Dan Trofin, MD, PhD** | | |
| 2.4. Year of study | **II** | 2.5. Semester | **1** | 2.6. The type of assessment | **Exam, E1** | |
| 2.7. Discipline type | | **Mandatory** | | **Domain discipline** | | |

**3. Estimated total time (hours/semester of didactic activity)**

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| 3.1. Number of hours / week: | | 3.2. Courses number of hours / week | | 3.3. Seminars / practical classes  number of hours / week | | | |
| Semester 1 | **2** | **1** | | **1** | | | |
| Semester 2 |  |  | |  | | | |
| 3.4. Total number of learning hours: | **28** | 3.5. Of which: Courses | **14** | 3.6. Of which: Seminars / practical classes: | | | **14** |
| 3.7. Distribution of individual study time: | | | | | Hours sem. 1 | Hours sem. 2 | |
| Study time using course book materials, bibliography and hand notes | | | | | 6 |  | |
| Supplementary documentation in the library, using specialised platforms via internet and by field work | | | | | 6 |  | |
| Preparation time for seminars / practical classes, study themes, reviews, portfolio and essays | | | | | 5 |  | |
| Tutorship | | | | | 2 |  | |
| Examinations | | | | | 2 |  | |
| Other activities | | | | | 5 |  | |
| Total hours of individual study (*without examinations*) | | | | | **22** |  | |
| 3.8. Total hours per semester | | | | | **50** |  | |
| 3.9. Number of credits | | | | | **2** |  | |

**4. Preconditions (where applicable)**

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| 4.1. of curriculum | Basic concepts of anatomy and physiology |
| 4.2. of competences | Knowledge of the macroscopic and microscopic structure of the body's organs and systems, the concepts, theories and fundamental notions of the physiological and pathological mechanisms of the human locomotor system, the recognition of clinical symptoms and signs, the identification of physiotherapy methods and techniques. The formulation of hypotheses and the operationalization of key concepts in order to explain locomotor system syndromes and/or diseases |

5. **Conditions (where applicable)**

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| 5.1. for lectures | Video logistics support |
| 5.2. for seminars / practical classes | Students will have protective equipment |

**6. Specific competences acquired**

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| **Professional competencies** | **C1.4** | The use of appropriate parameters in techniques for increasing joint mobility, muscle strength, coordination, balance, in improving some modified parameters (cardiovascular, respiratory, neuromuscular, etc.) |
| **C1.5** | Development and implementation of new physical therapy protocols. Programs for increasing control, coordination and balance. Coordination training. Re-education of sensitivity. |

7**.** **Objectives of the study discipline (according to the grid of specific competences acquired)**

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| 7.1. General objective | Understanding the etiology, risk factors and pathophysiological changes underlying the main neurological syndromes. |
| 7.2. Specific objectives | The context of the initiation of neuromotor rehabilitation therapy following different types of neurological deficits. |

**8. Contents**

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| **8.1. Lectures** | | **Teaching methods** | **Observations** |
| 1 | General data: the neuron, degeneration-regeneration reactions at the level of the central nervous system (CNS) and peripheral (PNS). Approach to the pathology of the nervous system (NS): CNS, PNS, Vegetative nervous system (SNV). Neuroplasticity. Etiology of neurological disorders. | Video projection, interactive discussions. | 2 hours |
| 2 | Cerebrovascular diseases: cerebrovascular anatomy, etiopathogenesis of ischemic/hemorrhagic stroke, classification of stroke, clinical manifestations of stroke, investigations performed in ischemic and hemorrhagic strokes, cerebral venous pathology. | Video projection, interactive discussions. | 2 hours |
| 3 | Extrapyramidal system: Parkinson's disease, chorea, dystonic syndromes (torticollis). | Video projection, interactive discussions. | 2 hours |
| 4 | Multiple sclerosis. Neuroinfections. Neurological pathology associated with HIV-AIDS. | Video projection, interactive discussions. | 2 hours |
| 5 | Peripheral pathology: nerves and plexuses – cervical, lumbar and sacral plexus. Mononeuropathies, polyneuropathies, polyradiculoneuritis. Diabetic neuropathy. Alcoholic neuropathy. | Video projection, interactive discussions. | 2 hours |
| 6 | Spinal pathology: myelitis, vertebral-medullary compressions and traumas, myelopathy due to vertebral causes. Amyotrophic lateral sclerosis. | Video projection, interactive discussions. | 2 hours |
| 7 | Muscular pathology: myasthenia, polymyositis; muscular dystrophies. | Video projection, interactive discussions. | 2 hours |

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| **8.2. Practical activities - practical class** | | **Teaching methods** | **Observations** |
| 1 | General labor protection norms in practical laboratory activity. Neurological observation sheet. | Clinical case presentations, films, discussions, explanations, experimental demonstrations. | 2 hours |
| 2 | Semiology of motor deficits. Muscle tone: elements of functional anatomy; semiology: muscular hypotonia, pyramidal and extrapyramidal hypertonia. | 2 hours |
| 3 | Semiology of trophic disorders due to neurological causes. Etiopathogenic differential diagnosis between neurogenic and myogenic atrophies. | 2 hours |
| 4 | The semiology of sensitivity. Types of sensitive syndromes. Thalamic syndromes. Spinal cord syndromes: functional and topographical anatomy of the cord (ascending and descending pathways); syndrome of total section of the marrow, syndrome of medullary hemisection. | 2 hours |
| 5 | Notions of semiology of cranial nerves. Paralysis of the facial nerve; recovery of peripheral facial paralysis. Swallowing disorders in neurological diseases and principles of recovery. Approach to the patient with vision and hearing disorders | 2 hours |
| 6 | Extrapyramidal system: functional anatomy; parkinsonian syndrome and Parkinson's disease. Involuntary movements: chorea, athetosis, dystonia, myoclonus; | 2 hours |
| 7 | Examination of higher functions: consciousness, cognitions, language. Aphasia, dysarthria. Apraxias. Cortical syndromes. | 2 hours |

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| **8.3. Bibliography:** |
| ***Mandatory:*** |
| 1. Course notes and LP on the e-Learning platform UMF Iasi |
| 2. Popescu CD, Constantinescu A, Ignat EB, Matei D, Alexa D, Bolboceanu O, Grosu C, Popescu D. Neurology for medical students. Second edition. Eds CD Popecu. Editura "Gr. T. Popa" UMF Iaşi, 2015;  3. B. Ignat - Lobii cerebrali – in "Curs de neurologie". Aurora Constantinescu, Dan Iulian Cuciureanu. Iaşi : Editura Gr.T. Popa, 2018; ISBN 978-606-544-556-7  4. B. Ignat - Bolile demielinizante ale sistemului nervos central – in "Curs de neurologie". Aurora Constantinescu, Dan Iulian Cuciureanu. Iaşi : Editura Gr.T. Popa, 2018; ISBN 978-606-544-556-7  5. EB Ignat, C Grosu, DA Spinu. Probleme neurologice legate de consumul de alcool. In “Alcoolul si patologia medicala”. Florin Mitu, Maria Magdalena Leon Constantin - Editura "Gr. T. Popa", U.M.F. Iasi, 2021 |
| ***Elective:*** |
| Fundamentals of Neurology, an Illustrated Guide, M. Mumenthaler, Ed. Thieme, 2017. |

**9. *Correlation of the discipline contents with the expectations of the epistemic community, professional associations, and representative employers from the afferent program field***

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| Knowledge and abilities are established as didactic objectives and specified as such in the analytic programs that are revised yearly. After their analysis by the study discipline staff, these are discussed and approved in the Curricular Committee, towards curricular harmonization among the various study disciplines. Along this entire process systematic evaluation is performed, directly if possible, regarding the correspondence of the contents to the expectations of the academic community and of the representatives of the social community, professional associations, and employers. |

**10. Evaluation**

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| Type of activity | Assessment criteria | Evaluation methods | Contribution to the final grade |
| Lectures | Acquiring theoretical notions and presented in the course | Written exam.  MCQ Examination | 80 % |
| Practical activities | Activities carried out in laboratory and conducted quality essays. | Colloquium practical activity | Admitted/ Rejected |
| Individual study | Preparation time for seminars / practical classes, study themes, reviews, portfolio and essays.  Study time using coursebook materials, bibliography and hand notes, documentation in the library, using specialised platforms via internet and by field work. | Tests during the semester | 20 % |
| Minimal performance standard:  • Knowledge of the neurological semiology. | | | |

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| Date | Holder of course / signature, | Holder of practical activities / signature, |
| 11.09.2024 | Lecturer Cristina Grosu, MD, PhD | Lecturer Dan Trofin, MD, PhD |

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| Date of approval in the Department Council/Teaching Council, | | |
| 19.09.2024 |  | Department director / signature, |
|  |  | Associate Professor Daniela-Viorelia Matei, MD, PhD |