**ACADEMIC DISCIPLINE OVERVIEW**

1. **Program data**

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| **1.1.** | **GRIGORE T. POPA UNIVERSITY OF MEDICINE AND PHARMACY IASI** |
| **1.2.**  | **FACULTY OF MEDICAL BIOENGINEERING**  |
| **1.3.** | **PROGRAMME:** Physio-kinetotherapy and rehabilitation |
| **1.4.**  | **STUDY FIELD:** Health |
| **1.5.** | **STUDY CYCLE**: UNDERGRADUATE |
| **1.6.** | **STUDY PROGRAMME:** INENGLISH |
| 1. **Subject data**
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| **2.1.** | **Subject: Rehabilitation in neurological diseases RE 1217** |
| **2.2.** | **Module leader: Lecturer Grosu Cristina, Ph-D** |
| **2.3.** | **Seminar leader:kinetoterapeut drd Piseru Andrei** |
| **2.4. Year of study** | **2** | **2.5. Semester in which is taught** | **II** | **2.6. Evaluation type** | Exam | **2.7. Subject status** | Mandatory/D.S.  |

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

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| **3.1.Number of hours / week** | 3 | **3.2. Courses number of hours / week** | 1 | **3.3. practical classes/ clinical training** | 2 |
| **3.4. Total number of learning hours** | 42 | **3.5. Courses** | 14 | **3.6. practical classes/ clinical training** | 28 |
| **3.7. Distribution of the available time** | Hours |
| **Study based on the manual, lecture support, bibliography and hand notes** | 11 |
| **Supplementary documentation in the library, using specialized platforms via internet and by field work** | 10 |
| **Preparation for seminars / practical classes, study themes, reviews, portfolio, and essays** | 12 |
| **Tutorship** | 2 |
| **Examinations** | 4 |
| **Other activities** |  |
| **3.8. Total hours of individual study** | 33 |
| **3.9. Total hours pes semester** | 75 |
| **3.10. Number of credits** | 3 |

1. **Preconditions (where applicable)**

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| **4.1.** of curriculum | Anatomy, physiology, pathophysiology |
| **4.2.** of competences | Knowing the macroscopic and microscopic structure of organs and body systems. Knowledge of specific medical devices and equipment operation |

1. **Conditions (where applicable)**

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| **5.1.** for lectures | Logistic video support  |
| **5.2.** for seminars / practical classes | Students will have the appropriate equipment |

1. **Specific competences acquired**

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| Professional competences (expressed as knowledge and abilities) | C1.2 Knowledge to explain the key syndromes and / or neurological diseasesC2.2 Basic knowledge of explanation and interpretation programs tailored physiotherapy treatment area and type of pathologyC3.1 Identify physiological mechanisms of thermoregulation, thermal factors effect on the human body organs and systems; the indication of hydro identification techniques (HTT), contraindications and precautions.C3.2 Knowledge of proper procedures for the election of a hydro therapy strategiesC1.3 Appling kinesiology programs related functional diagnosis and physician's discretion, making and secondary prophylaxis.C1.4. Using parameters appropriate techniques to increase joint mobility, muscle strength, coordination, balance, the improvement of the modified parameters (cardiovascular, respiratory, neuromuscular, etc.)C 1.5. Develop and implement of new protocols for physiotherapyC2.1 Defending effects of general and local medical massage, massage techniques for a description of various body regions, with their indications and contraindicationsC2.3 Applying appropriate massage programs pathology and treatment areaC2.4 Analysis using parameters of intensity and duration of massage techniques tailored pathology, assessing muscle tone, a painful sensitivity before and after massage.C2.5 Implementation of new protocols for massageC3.3 Assessment and integration of hydro procedures in the therapeutic program, the type of pathology and objectives.C 3.4 Evaluation parameters appropriate application of all forms of hydro establishing associations between opportunity and procedures.C3.5 Developed and developing new protocols HTTC4.3 Application procedures for electrotherapy, phototherapy, magnetic, ultrasono-therapy; utilizes the parameters and timetable of applications tailored pathology and treatment area.C4.4 Use appropriate parameters in all forms of electrotherapy, assessing analgesic effects, muscle contraction or intensity depending on the procedure appliedC4.5 Implement various strategies to develop new protocols for electrotherapyTop of Form |
| Transverse competences (of role, of professional development, personal) | Identifying roles and responsibilities in a multidisciplinary team and application techniques and effective work relationships within the team and the relationship with the patient |

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

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| **7.1.** General objective | Application programs of physiotherapy, massage, hydro, electrotherapy, phototherapy, magnetic, ultasonoterapie correlated with functional diagnosis and physician's discretion, making and secondary prophylaxis |
| **7.2.** Specific objectives | Explaining concepts enabling understanding, analyzing, handling and design of new medical devices, as well as familiarity with the professional activities carried out in this area.Using parameters appropriate types of recovery in neurological diseases, assessing analgesic effects, muscle contraction depending on the procedure applied |

1. **Contents**

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| **8.1. Lecture** | **Teaching methods** | **Observations** |
| The neural degeneration-regeneration side of the central and peripheral nervous system. Neuroplasticity. The etiology of motor neuron disease neurologice. Central peripheral neurologic syndrom. Evolutionary approach and recuperative techniques. | Projectors, interactive discussions | 2 hours |
| Peripheral nerves and plexi pathology- plexus cervical, lumbar and sacral; median nerve, radial nerve, cubital, femoral nerve, the sciatic nerve.Recovery Principles. Peripheral pathology: mononeuropathies, polyneuropathy, polyradiculoneuritis. Neuropathy diabetica. Alcoholic neuropathy Rehabilitation treatment. | Projectors, interactive discussions | 2 hours |
| Multiple sclerosis. Neuroinfections. HIV-associated neurological pathology of AIDS. Rehabilitation treatment. | Projectors, interactive discussions | 2 hours |
| Bone marrow pathology: myelitis, spinal cord compression and trauma, spinal myelopathy cause. Amyotrophic Lateral Sclerosis. Rehabilitation treatment. Cranial nerve paralysis of the facial nerve peripheral rehabilitation. | Projectors, interactive discussions | 2 hours |
| Extrapyramidal system: Parkinson's disease, chronic chorea, dystonic syndromes (torticollis). Tratament recovery | Projectors, interactive discussions | 2 hours |
| Cerebrovascular Diseases: cerebral vascular anatomy, etiopathogeny: ischemic stroke / hemorrhagic stroke classification, clinical manifestations of stroke. Therapeutic approach to acute stroke and chronic, primary and secondary prevention of stroke rehab stages | Projectors, interactive discussions | 2 hours |
| Higher brain functions: dementia; aphasias, apraxii, agnozii. Specific rehabilitation treatment: cognitive recovery. Muscle pathology: myasthenia, polymyositis; muscular dystrophies. Specific rehabilitation treatment | Projectors, interactive discussions | 2 hours |
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| **8.2.Practical classes** | **Teaching methods** | **Obs** |
| Specific aspects of clinical neurological examination, medical history, comorbidities neurologica. Importanta which could aggravate the clinical neurological (rheumatism, orthopedic) - General importance of clinical examination for physiokinetotherapists. | Presentation of cases, films, discussions, explanations, experimental demonstrations | 2 hours |
| Specific aspects of clinical neurological examination, medical history, comorbidities neurologica.Importanta which could aggravate the clinical neurological (rheumatism, orthopedic) - General importance of clinical examination for physiokinetotherapists. | Presentation of cases, films, discussions, explanations, experimental demonstrations | 2 hours |
| Muscle tone: Elements of functional anatomy; semiology: muscle weakness, pyramidal and extrapyramidal hypertonia. Rehabilitation spasticity and hypotony. | Presentation of cases, films, discussions, explanations, experimental demonstrations | 2 hours |
| Coordination: semiotics ataxias. Cerebellar syndrome. Tabet syndrome. Static and dynamic balance. Recovery of coordination disorders | Presentation of cases, films, discussions, explanations, experimental demonstrations | 2 hours |
| Trophicity muscle: semiotics trophic disorders cause neurological and non-neurological. Etiopathogenetic differential diagnosis between neurogenic and myogenic atrophies. Trophic disorders of the skin tissue and osteoarticular | Presentation of cases, films, discussions, explanations, experimental demonstrations | 2 hours |
| Sensitivity: types of sensory syndromes. Thalamic syndromes. Medullary syndromes: functional anatomy and topographic marrow (horses up and down); Total section marrow syndrome, syndrome hemisection medulara. | Presentation of cases, films, discussions, explanations, experimental demonstrations | 2 hours |
| Extrapyramidal system: functional anatomy; parkinsonian syndrome and Parkinson's disease. Involuntary movements: chorea, athetosis, dystonia, myoclonus; SDR rehab in parkinsonian and involuntary movements. | Presentation of cases, films, discussions, explanations, experimental demonstrations | 2 hours |
| Cranial nerves: facial nerve paralysis, peripheral facial paralysis recovery. Swallowing disorders in neurological diseases and principles of recovery. Approach to the Patient with impaired vision and hearing impairments | Presentation of cases, films, discussions, explanations, experimental demonstrations | 2 hours |
| Senior examination: consciousness, cognition, language. Aphasia, dysarthria. Praxiei exam: apraxiile. Cortical syndromes (frontal, parietal, occipital, temporal). | Presentation of cases, films, discussions, explanations, experimental demonstrations | 2 hours |
| Epilepsy - clinical elements (types of crisis; diagnostic elements); elements of achievement and interpretation of EEG | Presentation of cases, films, discussions, explanations, experimental demonstrations | 4 hours |
| Recap notions accumulated practical discussions related cases | Presentation of cases, films, discussions, explanations, experimental demonstrations | 2 hours |
| Laboratory explorations with respect to neurological pathology. CSF examination: Electrophysiological Examinations (electrodiagnosticul classic, evoked potentials), Doppler ultrasound. Imaging (CT, MRI); Cerebral angiography (carotid and vertebral-basilar) | Presentation of cases, films, discussions, explanations, experimental demonstrations | 4hours |
| **Bibliography****mandatory**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 », ISBN: 978-606-544-288-7, 2015, 317 paginiNeurologie – curs sub redactia prof. Dr. Felicia Stefanache, Litografia UMF, 1997**selective**2. Neurologie – I.Cambier, Masson M., Ed.Masson, 19943. Fundamentals of Neurology, an Illustrated Guide, M. Mumenthaler, Ed. Thieme, 20064. Examinarea clinica neurologica, G.Fuller, Editura medicala Callisto, Bucuresti 20075. Semiologie neurologica, G. Pendefunda, Editura Contact International, Iasi 1992 |

1. **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. |

1. **Evaluation**

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| **Type of activity** | **Type of activity** | **Evaluation methods** | **Contribution to the final grade** |
| **Lecture** | Acquiring theoretical aspects and concepts presented in the course | Written exam | 50% |
| **Seminar/practical classes** | Practical works topics | Colloquium for practical work | 40% |
| Activity during the semester |  | 10% |
| **Minimal performance standard:****-** Presentation and application of methods and techniques for the diagnosis and treatment of pathologies studied |

**Date: Signature of head of discipline**

Lecturer Grosu Cristina, Ph-D

23.09.2019

**Department approval date**

30.09.2019

 **Signature of department director**

Lecturer Daniela-Viorelia Matei, Ph-D