**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 | | | | **Pediatric rehabilitation** | | **RE1318** |
| 2.2. Teaching staff in charge with lectures | | | | **Lecturer Elena Hanganu, MD, PhD** | | |
| 2.3. Teaching staff in charge with practical activities | | | | **Lecturer Elena Hanganu, MD, PhD** | | |
| 2.4. Year of study | **III** | 2.5. Semester | **2** | 2.6. The type of assessment | **Exam, E2** | |
| 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 |  |  | |  | | | |
| Semester 2 | **4** | **2** | | **2** | | | |
| 3.4. Total number of learning hours: | **56** | 3.5. Of which: Courses | **28** | 3.6. Of which: Seminars / practical classes: | | | **28** |
| 3.7. Distribution of individual study time: | | | | | Hours sem. 1 | Hours sem. 2 | |
| Study time using course book materials, bibliography and hand notes | | | | |  | 10 | |
| Supplementary documentation in the library, using specialized platforms via internet and by field work | | | | |  | 5 | |
| Preparation time for seminars / practical classes, study themes, reviews, portfolio and essays | | | | |  | 4 | |
| Tutorship | | | | |  | 2 | |
| Examinations | | | | |  | 2 | |
| Other activities | | | | |  |  | |
| Total hours of individual study (*without examinations*) | | | | |  | **19** | |
| 3.8. Total hours per semester | | | | |  | **75** | |
| 3.9. Number of credits | | | | |  | **3** | |

**4. Preconditions (where applicable)**

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| 4.1. of curriculum | Medical semiology and internal medicine, surgical semiology and surgery |
| 4.2. of competences | Knowledge of clinical symptoms and signs. Knowledge about the diagnosis and treatment of pediatric surgical conditions. Description of concepts, theories and fundamental notions of physiological and pathological mechanisms, recognition of clinical symptoms and signs. Formulation of hypotheses and operationalization of key concepts in order to explain 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 appropriate equipment |

**6. Specific competences acquired**

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| **Professional competencies** | **C 3.3** | Using suitable parameters in the techniques aiming to increase the mobility of joints, muscular strength, coordination, balance, in improving some changed parameters (osteoarticular, respiratory, cardiovascular, neuromuscular, etc.) |
| **C 4.4** | Development and implementation of new physical therapy protocols  Analysis of the use of parameters of intensity and duration of the massage techniques adapted to the pathology, considering the muscle tone, the pain sensitivity, before and after the massage. |
| **C 4.5** | Evaluation of the suitable parameters in applying all the forms of hydro thermotherapy,  electrotherapy, phototherapy, magnetotherapy, ultrasound therapy; use of parameters and a timetable of applications adapted to the pathology and the treated area. |

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| **Transversal**  **competencies** | **CT2** | Identification of the objectives to be achieved, of the available resources, of the conditions for their completion, of the work phases, the working time, related deadlines and risks  Identification of roles and responsibilities in a multidisciplinary team and the application of the techniques of networking and effective work within the team and in the relationship with the patient. |

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

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| 7.1. General objective | Explanation of pediatric syndromes and diseases specific for pediatric traumatology and pediatric surgical pathology, kinetic therapy programs, hydro thermotherapy, electrotherapy, functional assessment methods adapted to the treated area and the type of pediatric surgical pathology |
| 7.2. Specific objectives | Assessment and integration of the kinetic therapy procedures, hydro thermotherapy, electrotherapy, applying appropriate scores for initial assessment and for assessing the functional deficit reduction, after the applied therapies |

**8. Contents**

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| **8.1. Lectures** | | **Teaching methods** | **Observations** |
| 1 | General data, classification, therapeutic management and rehabilitation in obstetrical trauma. | PowerPoint presentations, interactive courses | 2 hours |
| 2 | Bronchopulmonary malformations, diagnosis, therapeutic management and rehabilitation.  Therapeutic management and rehabilitation in congenital diaphragmatic hernia. | PowerPoint presentations, interactive courses | 2 hours |
| 3 | Esophageal atresia, therapeutic management and rehabilitation.  General data, therapeutic management and rehabilitation in pleuro-pulmonary infections. | PowerPoint presentations, interactive courses | 2 hours |
| 4 | Necrotizing enterocolitis, generalities, therapeutic possibilities, management of the patient with ileo-/colostomy, rehabilitation of the patient with short bowel syndrome | PowerPoint presentations, interactive courses | 2 hours |
| 5 | Cystic fibrosis and meconium ileus, general data, therapeutic management and rehabilitation. | PowerPoint presentations, interactive courses | 2 hours |
| 6 | Congenital megacolon and secondary megacolon, generalities, therapeutic possibilities and the role of physical therapy. | PowerPoint presentations, interactive courses | 2 hours |
| 7 | Osteoarticular trauma, generalities, classification, treatment and rehabilitation possibilities in pediatric patient | PowerPoint presentations, interactive courses | 2 hours |
| 8 | Particularities of the osteo - articular system in children. Particularities of fractures in children. Techniques and methods of rehabilitation. | PowerPoint presentations, interactive courses | 2 hours |
| 9 | Chronic pulmonary pathology: bronchiectasis, treatment and rehabilitation possibilities  Congenital muscular torticollis, definition, symptoms, possibilities and techniques of conservative treatment and rehabilitation. | PowerPoint presentations, interactive courses | 2 hours |
| 10 | Arthritis and osteoarthritis in pediatric pathology, classification, particularities of diagnosis and treatment, the role of physiokinetotherapy in patient recovery.  Vascular malformations and vascular tumors. Classification, therapeutic management and rehabilitation | PowerPoint presentations, interactive courses | 2 hours |
| 11 | Short bowel syndrome in children, definition, multidisciplinary treatment and rehabilitation possibilities  Acute respiratory failure and pneumothorax, classification, clinical manifestations, treatment and the role of respiratory gymnastics in patient's rehabilitation. | PowerPoint presentations, interactive courses | 2 hours |
| 12 | Osteoarticular pain, differential diagnosis, evaluation and rehabilitation techniques.  Obstetrical thoracic, abdominal and limb traumas, definition, diagnosis and treatment and rehabilitation possibilities | PowerPoint presentations, interactive courses | 2 hours |
| 13 | Multidisciplinary approach and rehabilitation of pediatric patient with Down syndrome.  Polytrauma in pediatric patient, multidisciplinary therapeutic management and the role of physiokinetotherapy in patient's rehabilitation | PowerPoint presentations, interactive courses | 2 hours |
| 14 | Burns in children, definition, classification, therapeutic interventions, techniques and methods of rehabilitation | PowerPoint presentations, interactive courses | 2 hours |

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| **8.2. Practical activities - practical class** | | **Teaching methods** | **Observations** |
| 1 | Presentation of the consultation sheet for children and adolescents (data collection, history of the disease, examination of systems and apparatuses, the interpretation of the laboratory data, anthropometric measurements, formulation of the diagnosis). | Discussions, case presentations, practical demonstrations, experimental work | 2 hours |
| 2 | Examination and preparation of a custom plan for the rehabilitation of a patient with bronchopulmonary malformation. Examination and preparation of a custom plan for the rehabilitation of a patient with congenital diaphragmatic hernia. | Discussions, case presentations, practical demonstrations, experimental work | 2 hours |
| 3 | Evaluation of the patient with pleuropulmonary suppurations (clinical methods in a health unit), physical therapy in respiratory failure: individualized rehabilitation plan. Preparation and practical application of a rehabilitation plan for patients with acute respiratory failure. | Discussions, case presentations, practical demonstrations, experimental work | 2 hours |
| 4 | Physiokinetotherapy in rehabilitation of pediatric patient with thoracotomy: special methods of approaching the child and the family; compliance with the implementation of an individualized physiokinetotherapy program. | Discussions, case presentations, practical demonstrations, experimental work | 2 hours |
| 5 | Presentation of management strategies regarding rehabilitation of children with cystic fibrosis and meconium ileus. | Discussions, case presentations, practical demonstrations, experimental work | 2 hours |
| 6 | Presentation of management strategies in rehabilitation of pediatric patient with a stoma and of patient with short bowel syndrome | Discussions, case presentations, practical demonstrations, experimental work | 2 hours |
| 7 | Management strategies of patient with congenital megacolon or chronic constipation | Discussions, case presentations, practical demonstrations, experimental work | 2 hours |
| 8 | The role and importance of physiokinetotherapy and rehabilitation in treatment of surgical and traumatic pathology in children - introduction | Discussions, case presentations, practical demonstrations, experimental work | 2 hours |
| 9 | Clinical examination of pediatric patient with polytrauma - case presentation  Physiokinetotherapy in obstetrical trauma. | Discussions, case presentations, practical demonstrations, experimental work | 2 hours |
| 10 | The importance of physiokinetotherapy in the recovery of movement amplitude and motion limitations (joint stiffness) after particular fractures in children - case report, exercise programs | Discussions, case presentations, practical demonstrations, experimental work | 2 hours |
| 11 | Clinical examination of the patient with congenital muscular torticollis- case presentation.  Physiotherapy in the treatment of patients with osteoarticular pain - case presentation, drawing up exercise programs | Discussions, case presentations, practical demonstrations, experimental work | 2 hours |
| 12 | The importance of physiokinetotherapy and rehabilitation in treatment of burns in children | Discussions, case presentations, practical demonstrations, experimental work | 2 hours |
| 13 | The role and importance of physical therapy in the treatment of patients with Down syndrome - physiokinetotherapy programs, case presentation | Discussions, case presentations, practical demonstrations, experimental work | 2 hours |
| 14 | The role of physiokinetotherapy in chronic pulmonary pathology and bronchiectasis. | Discussions, case presentations, practical demonstrations, experimental work | 2 hours |

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| **8.3. Bibliography:** |
| ***Mandatory:*** |
| 1.UMF „Gr. T. Popa” E-learning platform - Hanganu Elena – the courses  2.Pediatric Surgery Gavrilescu Simona ; Elena Hanganu, Iulia Straticiuc-Ciongradi, Ioan Sârbu, Elena Tarcă. – Iaşi : Editura Gr.T. Popa, 2019 Bibliogr. ISBN 978-606-544-591-8  3. Chirurgie Pediatrica, S.G. Aprodu, Ed Gr. T. Popa Iaşi, 2013  4. Anton-Paduraru Dana-Teodora Pediatric Rehabilitation. Editura “Gr.T.Popa”, UMF Iasi, 2020.  5. Almăjan Guţă Bogdan. Tehnici moderne de kinetoterapie in mucoviscidoză. Editura de Vest, Timişoara 2013. |
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| ***Elective:*** |
| 1**.** Paediatric Surgery – Ashcraft, Keith W.; Holocomb, George W.; Murphy, J. Patrick, 7nd edition, Saunders 2019  2. Lovell and Winters- Pediatric Orthopaedics Eighth Edition, Wolters Kluwer 2021  3.Tachdjian's Pediatric Orthopaedics**,** 6-th Edition, John Herring, Elsevier, 2020, eBook ISBN: 9780323566957.  4.Alexander Michael, Matthews Dennis. Pediatric Rehabilitation. Principles and Practice. Fifhth Edition. Demos Medical Publishing 2015.  5.Effgen Susan. Meeting the Physical Therapy Needs of Children. Second Edition. 2013.  6.Tecklin Jan. Pediatric Physical Therapy. Fifth Edition. Wolters Kluwer, 2015. |
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**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 knowledge 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 specialized platforms via internet and by field work. | Tests during the semester | 20 % |
| Minimal performance standard:   * Basic knowledge in practical activity | | | |

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| Date | Holder of course / signature, | Holder of practical activities / signature, |
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5.09.2023 Lecturer Elena Hanganu, MD, PhD Lecturer Elena Hanganu, MD, PhD

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| Date of approval in the Department Council/Teaching Council, | | |
| 14.09.2023 |  | Department director / signature, |
|  |  | Associate Professor Daniela-Viorelia Matei, MD, PhD |