**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 | | | | **Traumatic and Orthopedic rehabilitation** | | **RE1216** |
| 2.2. Teaching staff in charge with lectures | | | | **Professor Paul Sîrbu, MD, PhD** | | |
| 2.3. Teaching staff in charge with practical activities | | | | **Assistant Professor Norin Forna, MD, PhD** | | |
| 2.4. Year of study | **II** | 2.5. Semester | **2** | 2.6. The type of assessment | **Exam, E2** | |
| 2.7. Discipline type | | **Mandatory** | | **Specialty 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 | **2** | **1** | | **1** | | | |
| 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 | | | | |  | 10 | |
| Tutorship | | | | |  | 4 | |
| Examinations | | | | |  | 2 | |
| Other activities | | | | |  |  | |
| 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 | Anatomy, physiology, physiopathology, radiology, orthosis techniques |
| 4.2. of competences | Knowledge of the macroscopic and microscopic structure of the body's organs and systems. Knowledge of the functioning of specific medical devices and devices, the structures and forms of the human locomotor system, the recognition of clinical symptoms and signs, the identification of physical therapy methods and techniques. Understanding the conditions and explaining the syndromes and/or diseases of the locomotor system through the knowledge of the anatomical structures involved. |

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 2.2** | Basic knowledge for explaining and interpreting the opportunity of physical therapy programs adapted to the region treated and the type of pathology |
| **C 4.5** | Implementation of different strategies for the development of new protocols used in orthopedic-traumatic diseases |

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

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| 7.1. General objective | The accumulation of general and specialized knowledge and skills in the field of physical recovery for various orthopedic-traumatic conditions, which allow understanding and familiarization with the professional activities carried out in the field. |
| 7.2. Specific objectives | The ability to synthesize some information from the orthopedic-traumatic field and from its collateral fields in order to establish various programs, procedures and recovery methods specific to each pathological situation;  Acquiring knowledge and skills in handling prostheses and medical devices used in the recovery of patients with orthopedic conditions;  Acquiring the necessary skills to work in a recovery service for patients with orthopedic-traumatic conditions. |

**8. Contents**

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| **8.1. Lectures** | | **Teaching methods** | **Observations** |
| 1 | Functional re-education - generalities; The place and manner of re-education; The means of functional re-education; | Interactive lecture,  Discussions, Explanations | 2 hours |
| 2 | Functional re-education in traumatology of the upper limb - Functional recovery of the shoulder; Posttraumatic elbow; Posttraumatic hand; | 2 hours |
| 3 | Functional recovery in traumatology of the lower limb - Posttraumatic hip; post-traumatic knee, post-traumatic leg Restoring muscle balance; Restoring joint mobility; Restoring the plantar arch; Restoring the alignment of the foot. | 2 hours |
| 4 | Functional recovery in spine trauma, in musculoskeletal trauma - Muscle rupture; | 2 hours |
| 5 | Traumatic meniscal injuries - Pathological anatomy; Production mechanism; Symptoms and diagnosis; Imaging; Treatment. | 2 hours |
| 6 | Treatment; Functional re-education after hip arthroplasty - Simple prostheses (cervico-cephalic); Intermediate bipolar prostheses; | 2 hours |
| 7 | Functional re-education after hip arthroplasty - Total hip prosthesis; Functional recovery after hip osteotomies; | 2 hours |

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| **8.2. Practical activities - practical class** | | **Teaching methods** | **Observations** |
| 1 | Functional recovery of the posttraumatic shoulder and elbow; | Interactive lecture,  Discussions, Explanations | 2 hours |
| 2 | Functional recovery of the posttraumatic hand; | Interactive lecture,  Discussions, Explanations | 2 hours |
| 3 | Functional recovery of the posttraumatic balance; | Interactive lecture,  Discussions, Explanations | 2 hours |
| 4 | Functional recovery of the posttraumatic knee; Physiotherapy for patients with traumatic meniscal injuries; | Interactive lecture,  Discussions, Explanations | 2 hours |
| 5 | Functional recovery of the posttraumatic leg | Interactive lecture,  Discussions, Explanations | 2 hours |
| 6 | Recovery management in spine traumatology;  The principles of using medical devices in the recovery and physical therapy of patients with orthopedic-traumatic diseases; | Interactive lecture,  Discussions, Explanations | 2 hours |
| 7 | The principles of the use of prostheses in the recovery and physical therapy of the patient with orthopedic-traumatic diseases; | Interactive lecture,  Discussions, Explanations | 2 hours |

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| **8.3. Bibliography:** |
| ***Mandatory:*** |
| 1. The course and practical works on the E-learning platform 2. Sîrbu PD,W.D. Belangero, W. Friedl,N. Schwarz,M. List, Osteosinteza biologica cu placi, Editura “Gr.T.Popa”, Iasi Romania-2017 3. Clinical Orthopaedic Rehabilitation A Team Approach, 4e by Charles E Giangarra MD, Robert C. Manske PT DPT SCS MEd ATC CSCS (z-lib.org), Elsevier Publishing House, Philadelphia 2018 4. David Seligson, Cyril Mauffrey, Craig Roberts, External Fixation in Orthopedic Traumatology, Springer, 2012. 5. Fabrizio Margheritini, Roberto Rossi, Orthopedic Sports Medicine, Springer, 2011. |
| ***Elective:*** |
| Ghid de medicina fizică și recuperare medicală. Autori: Mircea Beuran, Georgiana-Ozana Tache Editura Scripta, Bucuresti, 2017  Rehabilitation for the Postsurgical Orthopedic Patient, 3eby Lisa Maxey, Jim Magnusson, Elsevier Publishing House, St. Louis, 2013  Paul-Dan Sirbu, Wilhelm Friedl, Dan Mihailescu, Liliana Savin, Andrei Scripcaru, Norin Forna, Mihnea Theodor Sirbu, Mihaela Pertea, Razvan Cosmin Tudor; Clinical and Experimental Biomechanical Studies Regarding Innovative Implants in Traumatology, IntechOpen Limited, 2020, March 17th; DOI: 10.5772/intechopen.91728 |

**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:   * Presentation and use of medical devices for the diagnosis and treatment of the studied pathologies | | | |

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| Date | Holder of course / signature, | Holder of practical activities / signature, |
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|  |  |  |
| 14.09.2024 | Professor Paul Sîrbu, MD, PhD | Assistant Professor Norin Forna, 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 |