**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 | | | | **Clinical Training** | | **RE1226** |
| 2.2. Teaching staff in charge with lectures | | | | **-** | | |
| 2.3. Teaching staff in charge with practical activities | | | | **M1: Lecturer Dragos Sardaru, PhD**  **Lecturer Ilie Onu, PhD**  **M2: Professor Mariana Rotariu, PhD**  **Lecturer Iustina Condurache, PhD**  **M3: Lecturer Cristina Grosu, PhD**  **Lecturer Dan Trofin, PhD**  **M4: Professor Sarbu Paul, MD, PhD**  **Assistant Professor Norin Forna, MD, PhD** | | |
| 2.4. Year of study | **II** | 2.5. Semester | **2** | 2.6. The type of assessment | **Colloquium, C2** | |
| 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 |  | **-** | | **-** | | | |
| 3.4. Total number of learning hours: | **120** | 3.5. Of which: Courses | **-** | 3.6. Of which: Seminars / practical classes: | | | **120** |
| 3.7. Distribution of individual study time: | | | | | Hours sem. 1 | Hours sem. 2 | |
| 3.8. Total hours per semester | | | | | **-** | **120** | |
| 3.9. Number of credits | | | | | **-** | **2** | |

**4. Preconditions (where applicable)**

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| 4.1. of curriculum | Balneology, Physiotherapy, Kinesiology, Massage, Nursing, Recovery (in orthopedic-traumatic diseases, in neurological diseases). |
| 4.2. of competences | The basic knowledge for choosing the means and methods of functional assessment and balneophysiokinetotherapy treatment in different pathological situations. |

5. **Conditions (where applicable)**

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| 5.1. for lectures | - |
| 5.2. for seminars / practical classes | Physiotherapy rooms in the centers and partner hospital units equipped with massage tables, trellis, mattresses, medicine balls, elastic bands, physiotherapy devices, etc.  Students will have appropriate equipment (medical equipment, medical clogs). |

**6. Specific competences acquired**

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| **Transversal**  **competencies** | **CT1** | Identification of the objectives to be achieved, the available resources, the conditions for their completion, the work stages, working times, related completion deadlines and related risks. |
| **CT2** | Identifying roles and responsibilities in a multidisciplinary team and applying effective communication and work techniques within the team. |

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

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| 7.1. General objective | - To practically carry out activities related to communication with the patient, to participate in the clinical activity.  - To have the ability to carry out a plan of investigations and balneophysiokinetotherapy treatment.  - To know and perform specific therapy maneuvers. |
| 7.2. Specific objectives | - The development of a complex set of skills necessary for the specialist in balneo-physiokinetics therapy so that he can develop and implement specific programs for various neurological and orthopedic-traumatic pathologies.  - Knowledge of the principles of balneophysiokinetotherapy treatment of pathology from the topic.  - Knowledge and application of massotherapy and electrotherapy techniques.  - Performing manipulations for therapeutic purposes.  - Knowing and interpreting the results of current investigations.  - Application of the balneophysiokinetotherapy program, in accordance with the rules of professional ethics and deontology.  - Understanding the role and developing collaboration capabilities in the multidisciplinary team: doctor - physiotherapist - psychologist - medical assistant – nurse. |

**8. Contents**

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| **8.2. Practical activities – practical class** | | | **Teaching methods** | | **Observations** |
| **MODULE 1 = 30 hours** | | | | | |
| 1. | | The practical implementation of the massage at the level of the lower and upper limb segments. | Students will be required to observe, perform and apply specific physical therapy methods  The practice coordinator explains the specifics and principles of the methods used and demonstrates practically the various maneuvers and techniques used and then guides and supervises the students in the correct and safe performance of these methods and techniques. | The students will be organized in small groups of 4-5 people, and each group will be present weekly at the practice offices in the partner units of UMF Iasi, and will carry out the practice supervised by  Specialty:  - Physiokinetherapy and recovery center Iasi, Foundation Gr. T. Popa Fzkt. Kovacs Cristina-Nadia  - S.C. Analda S.R.L., Iasi, Medical recovery - Centrum Gym workplace  Fzkt. Loghin Irina Ioana  Fzkt. Bărbulescu Constantin  - Iasi Kinetera Medical Center  Kt. Andreea Bordeianu  Kt. Dima Gabriela  - TBRCM SA – Nicolina Branch  Balneary Treatment and Recovery of Working Capacity  Fzkt. Butnaru Mihai Corneliu | |
| 2. | | Practical performance of back, neck and face massage. |
| 3. | | Practical execution of massage on the chest wall and abdomen. |
| 4. | | Practical performance of reflex massage. |
| 5. | | Practical performance of deep transverse massage – Cyriax. |
| 6. | | Practical performance of connective tissue massage; Lymphatic drainage. |
| 7. | | Application of balneology knowledge |
| 8. | | Application of aerosols. |
| 9. | | Therapeutic salt pans. |
| 10. | | Aplicarea cunostintelor de hidrotermoterapie, Spa and Wellness. |
| **MODULULE 2 = 30 hours** | | | | | |
| 1. | Application of galvanic currents, low frequency currents. | | Verbal methods: the explanation  Intuitive methods: observation, demonstration  Practical methods: practical applications  The practice coordinator explains the specifics and principles of the methods used and demonstrates practically the various maneuvers and techniques used and then guides and supervises the students in the correct and safe performance of these methods and techniques. | Verbal methods: the explanation  Intuitive methods: observation, demonstration.  Practical methods: practical applications.  The practice coordinator explains the specifics and principles of the methods used and demonstrates practically the various maneuvers and techniques used and then guides and supervises the students in the correct and safe performance of these methods and techniques.  - C.F.R. Hospital Iasi  Fzkt. Vasluianu Roxana  Fzkt. Ignat Sorin  - Clinical Recovery Hospital  Fzkt. Piseru Emanuel Andrei  Fzkt. Bondar Teodora  - RED Hospital - "St. Sava" Hospital Iasi  Recumedis medical recovery and balneophysiotherapy hospital  Fzkt. Sava Anca  Fzkt. Ciubotaru Catalin  - IMC Hospital - Medical Recovery Clinic  Fzkt. Zapodeanu Felix | |
| 2 | Application of galvanic currents, medium frequency currents. | |
| 3 | Application of galvanic currents, high frequency currents. | |
| 4 | Application of ultrasound. | |
| 5 | Application of low frequency magnetic fields. | |
| 6 | Application of phototherapy. | |
| 7 | Application of relaxation techniques. | |
| 8 | It measures heart rate and blood pressure. | |
| 9 | Carrying out oscillometry measurements. | |
| 10 | Evaluate the ankle-brachial index. | |
| **MODULULE 3 = 30 hours** | | | | | |
| 1 | | Application of neuro-muscular stretching. | Students will be required to observe, perform and apply specific physical therapy methods  The practice coordinator explains the specifics and principles of the methods used and demonstrates practically the various maneuvers and techniques used and then guides and supervises the students in the correct and safe performance of these methods and techniques. | The students will be organized in small groups of 4-5 people, and each group will be present weekly at the practice offices in the partner units of UMF Iasi, and will carry out the practice supervised by Specialty.  - Clinical Recovery Hospital  Fzkt. Piseru Emanuel Andrei  Fzkt. Bondar Teodora  - "Sf Spiridon" County Emergency Clinical Hospital  Fzkt. Diana thought  Fzkt. Sofron Gheorghiță  - RED Hospital - "St. Sava" Hospital Iasi  Recumedis medical recovery and balneophysiotherapy hospital  Fzkt. Sava Anca  Fzkt. Ciubotaru Catalin  - "Prof. Dr. Nicolae Oblu" Emergency Clinical Hospital in Iasi  Fzkt. Rostas Abel | |
| 2 | | Application of techniques to improve joint movement. |
| 3 | | Application of techniques to improve muscle strength. |
| 4 | | Application of techniques to increase coordination and balance. |
| 4 | | The application of resistive exercises. |
| 5 | | Application of neuro-proprioceptive facilitation techniques. |
| 6 | | Rehabilitation techniques in spasticity and hypotonia. |
| 7 | | Complex rehabilitation of parkinsonian and involuntary movements.. |
| 8 | | Application of complex rehabilitation techniques in cerebral stroke. |
| 9 | | Application of rehabilitation and care techniques for patients with severe neurological deficiencies (tetraplegia, paraparesis, hemiparesis, choreoathetosis, etc. Comatose) and intensive care regimen. |
| 10 | | Developing a personalized recovery plan for a patient with neuromuscular disease. |
| **MODULE 4 = 30 hours** | | | | | |
| 1 | | Application of therapeutic physical exercise in the management of soft tissue injuries. | Students will be required to observe, perform and apply specific physical therapy methods.  The practice coordinator explains the specifics and principles of the methods used and demonstrates practically the various maneuvers and techniques used and then guides and supervises the students in the correct and safe performance of these methods and techniques. | The students will be organized in small groups of 4-5 people, and each group will be present weekly at the practice offices in the partner units of UMF Iasi, and will carry out the practice supervised by specialty:  - "Sf Spiridon" County Emergency Clinical Hospital  Fzkt. Diana thought  - S.C. Analda S.R.L., Medical recovery Iași, Centrum Gym work point  Fzkt. Loghin Irina Ioana  Fzkt. Bărbulescu Constantin  - Iasi Kinetera Medical Center  Kt. Andreea Bordeianu  Kt. Dima Gabriela  - "Sfânta Maria" Emergency Clinical Hospital for Children  Fzkt. Little Ana | |
| 2 | | The application of therapeutic physical exercise in the management of joint, connective tissue and bone dysfunctions. |
| 3 | | Functional re-education in traumatology of the upper limb: post-traumatic shoulder, elbow, hand recovery. |
| 4 | | Functional re-education in traumatology of the lower limb: hip, knee, post-traumatic leg. |
| 5 | | Restoring muscle balance. |
| 6 | | Restoration of joint mobility. |
| 7 | | Restoring the alignment of the foot. |
| 8 | | Preparation of a personalized plan for the recovery of a patient with musculoskeletal disorders. |
| 9 | | Application of upper and lower limb orthoses. |
| 10 | | Application of trunk/spine orthoses. |

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| **8.3. Bibliography:** |
| ***Mandatory:*** |
| 1. Diaconu A., Manual de tehnica a masajului terapeutic si kinetoterapia complementara, Vol. I + II, a XIII-a editie a lucrarii, revizuita si completata, [Editura Universitaria](https://www.librarie.net/cautare-rezultate.php?editura_id=235" \o "Editura Universitaria), Bucuresti 2017. 2. Constantin Munteanu, Mariana Rotariu, Mihaela-Iustina Avram, Balneoclimatologie, Editura "Gr. T. Popa" UMF Iaşi, 2021 3. MUNTEANU Constantin, Gabriela Dogaru - Bioclimatologie: Bioclimatologie umana, Bucureşti : Editura Balneară, 2020, ISBN 978-606-8705-18 4. Rădulescu A. Electroterapie, Editura Medicală, București, 2014. 5. Stratulat I.S.  Mijloace fizice utilizate în medicina fizică și de reabilitare. Vol. I, Editura "Gr. T. Popa" UMF Iaşi, 2019. 6. Sardaru D, Onu I, Matei D. Evaluarea amplitudinilor articulare, Ed Gr T. Popa, Iasi 2021. 7. 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; 8. G.Fuller. Examinarea clinica neurologica, Editia a III a, Editura medicala Callisto, Bucuresti 2017. 9. Kiss I. Fizio-kinetoterapia și recuperarea medicală în afecțiunile aparatului locomotor, Ed. Medicală, București, 2012; 10. Engrich E, Kinetoterapia pe înţelesul tuturor, Ediția 2, Ed. Medicală, București, 2019. 11. [Sbenghe](https://www.librariadelfin.ro/autor/tudor-sbenghe--i28846) T, [Berteanu](https://www.librariadelfin.ro/autor/mihai-berteanu--i28847) M,  [Savulescu](https://www.librariadelfin.ro/autor/simona-elena-savulescu--i28848) SE, Kinetologie, Ed. Medicală, București, 2019. 12. Stanca D, Caciulan E, Facilitare-inhibare în kinetoterapie. Ghid practic, Ed. Moroșan, București, 2017. 13. Zoltan P, Rolul stretching-ului în normalizarea functiei stato-kinetice, Ed. Corson, Iași, 2017. 14. Mircea Beuran, Georgiana-Ozana TacheGhid de medicina fizică și recuperare medicală. Editura Scripta, Bucuresti, 2017 15. Kevin K. Chui, Milagros Jorje, Shen-Che Yen, Michele M. Lusardi. Orthotics and Prosthetics in Rehabilitation, Fourth Edition. Elsevier, 2019. 16. M.A. Jacobs, Noelle M. Austin. Orthotic Intervention for the Hand and Upper Extremity: Splinting Principles and Process. Editura Lippincott Williams & Wilkins. 2013. |
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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 notions and presented in the course | Written exam.  MCQ Examination |  |
| Practical activities | Activities carried out in laboratory and conducted quality essays. | Colloquium practical activity | 80 % |
| 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:   * Minimum promotion condition: application of therapeutic programs using different recovery procedures from neurological and orthopedic-traumatic pathology. | | | |

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| Date | Holder of course / signature, | Holder of practical activities / signature, |
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| 11.09.2024 |  | M1: Lecturer Dragos Sardaru, PhD  Lecturer Ilie Onu, PhD  M2: Professor Mariana Rotariu, PhD  Lecturer Iustina Condurache, PhD  M3: Lecturer Cristina Grosu, PhD  Lecturer Dan Trofin, PhD  M4: Professor Sarbu Paul, 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 |