**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 | | | | **Rehabilitation in Respiratory pathology** | | **RE1303** |
| 2.2. Teaching staff in charge with lectures | | | | **Associate Professor Radu Crișan, MD, PhD** | | |
| 2.3. Teaching staff in charge with practical activities | | | | **Assistant Professor Cristina Vicol, MD** | | |
| 2.4. Year of study | **III** | 2.5. Semester | **1** | 2.6. The type of assessment | **Exam, E1** | |
| 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 | **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 | | | | | 10 |  | |
| Tutorship | | | | | 2 |  | |
| Examinations | | | | | 4 |  | |
| 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 | Physiology, Physiopathology, Medical semiology and internal medicine |
| 4.2. of competences | Knowledge of the physiological and pathophysiological mechanisms that determine the manifestations of the main medical conditions, especially respiratory ones, and their recognition for the application of appropriate respiratory rehabilitation treatment |

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** | **C1.3** | Application of physical therapy programs correlated with the functional diagnosis and according to the doctor's instructions, also carrying out secondary prophylaxis |
| **C 3.3** | The use of appropriate parameters in all forms of electrotherapy, appreciating the analgesic, decontracting effects or the intensity of muscle contraction depending on the applied procedure specific to the respiratory system. |

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

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| 7.1. General objective | Explanation of respiratory diseases and syndromes, kinesitherapy programs, hydrothermotherapy, electrotherapy, functional assessment methods adapted to the region treated and the type of pathology. Recognition of the main respiratory symptoms and signs, assessment of the patient with respiratory diseases pre- and post-pulmonary rehabilitation, participation in some investigations. Interpretation of functional investigations |
| 7.2. Specific objectives | Evaluation and integration of physical therapy, hydrothermotherapy, electrotherapy procedures; the application of appropriate scores for the initial assessment and quantification of the reduction in respiratory functional deficit, increase of the quality of life and assessment of the socio-professional independence acquired after the applied therapies. Conducting "dosed exercise" techniques in respiratory diseases, general gymnastics, respiratory gymnastics, postural drainage, percussion, vibration, relaxation, posture, cough and expectoration education |

**8. Contents**

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| **8.1. Lectures** | | **Teaching methods** | **Observations** |
| 1 | Notions about the structure and physiology of the respiratory system. An Introduction to Pulmonary Rehabilitation. | Video projection, interactive discussions | 2 hours |
| 2 | Balneophysiokinetotherapy and recovery of chronic lung diseases with obstructive ventilatory dysfunction. | Video projection, interactive discussions | 2 hours |
| 3 | Balneophysiokinetotherapy and recovery of chronic lung diseases with restrictive ventilatory dysfunction. | Video projection, interactive discussions | 2 hours |
| 4 | Balneophysiokinetotherapy and recovery of chronic lung diseases with mixed ventilatory dysfunction. | Video projection, interactive discussions | 2 hours |
| 5 | Pulmonary recovery program (definition, components, infrastructure, facilities, equipment and recovery team). Types of recovery programs, selection of patients for inclusion in the program, indications and contraindications of pulmonary recovery. | Video projection, interactive discussions | 2 hours |
| 6 | Pharmacological treatment, long-term oxygen therapy, mechanical ventilation at home and pulmonary recovery. Education and treatment of patients with chronic respiratory diseases for smoking cessation and pulmonary recovery. | Video projection, interactive discussions | 2 hours |
| 7 | Pulmonary recovery in bronchial asthma and chronic obstructive pulmonary disease. | Video projection, interactive discussions | 2 hours |

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| **8.2. Practical activities - practical class** | | **Teaching methods** | **Observations** |
| 1 | General knowledge of respiratory mechanics and physiology, regulation of breathing, respiratory types, symptoms and functional respiratory disorders. | Case presentations, discussions, practical works | 2 hours |
| 2 | Clinical and paraclinical assessment of respiratory function from a kinetic point of view. Presentation of patients with persistent bronchial asthma and bronchiectasis undergoing balneo-physio-aerosol-speleo-kinetotherapy and pulmonary recovery. | Case presentations, discussions, practical works | 2 hours |
| 3 | Presentation of patients with chronic obstructive pulmonary disease (chronic bronchitis and pulmonary emphysema), with or without chronic respiratory insufficiency, undergoing balneo-physio-aerosol-speleo-kinetotherapy and pulmonary recovery. | Case presentations, discussions, practical works | 2 hours |
| 4 | Presentation of patients with chronic lung diseases with restrictive and mixed ventilatory dysfunction subjected to balneo-physio-kinetotherapy and pulmonary recovery. | Case presentations, discussions, practical works | 2 hours |
| 5 | Stages of the physical therapy session: relaxation, facilitation/drainage posture, corrective gymnastics, actual respiratory gymnastics. | Case presentations, discussions, practical works | 2 hours |
| 6 | Stages of the physical therapy session (continued): dosed effort training, cough training, speaking training. | Case presentations, discussions, practical works | 2 hours |
| 7 | Occupational therapy, aerosol therapy, speleotherapy, balneo-physiotherapy for patients with chronic respiratory conditions. | Case presentations, discussions, practical works | 2 hours |

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| **8.3. Bibliography:** |
| ***Mandatory:*** |
| 1. Lecture support materials – powerpoint presentation  2. Postolache P, Darcy D. Marciniuk (editors). Handbook of Pulmonary Rehabilitation. Nova Science Publishers, Inc., New York, 2021.  3. Clini E, Holland AE, Pitta F, Troosters T. Textbook of Pulmonary Rehabilitation. Ed. Springer, Cham, 2018.  4. American Association of Cardiovascular and Pulmonary Rehabilitation. Guidelines For Pulmonary 5. Rehabilitation Programs 4th Edition. Ed. Human Kinetics, 2018.  5. Practical works support materials – powerpoint presentation |
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| ***Elective:*** |
| 1. Guidelines for Cardiac Rehabilitation and Secondary Prevention Programs-5th Edition (with Web Resource), American Association of Cardiovascular & Pulmonary Rehabilitation, Human Kinetics, 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 | 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:  The application of appropriate scores for the initial evaluation and assessment of the reduction of respiratory functional deficit, increase of the quality of life and evaluation of the socio-professional independence acquired after the applied therapies | | | |

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| Date | Holder of course / signature, | Holder of practical activities / signature, |
| 14.09.2023 |  |  |

Associate Professor Radu Crișan, MD, PhD Assistant Professor Cristina Vicol, MD

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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 |