**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 | | | | **Balneo - climatology** | | **RE1201** |
| 2.2. Teaching staff in charge with lectures | | | | **Associate Professor Constantin Munteanu, PhD** | | |
| 2.3. Teaching staff in charge with practical activities | | | | **Associate Professor Constantin Munteanu, PhD** | | |
| 2.4. Year of study | **II** | 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 | | | | | 10 |  | |
| 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 | | | | | 6 |  | |
| Tutorship | | | | | 2 |  | |
| 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, Pathophysiology |
| 4.2. of competences | Knowledge of communication mechanisms morpho-functional unit of living matter with the extracellular environment |

5. **Conditions (where applicable)**

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| 5.1. for lectures | Video logistical support. Recovery Clinic Hospital amphitheater Iasi |
| 5.2. for seminars / practical classes | BIM treatment basis |

**6. Specific competences acquired**

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| **Professional competencies** | **C3.1** | Identify physiological mechanisms of balneotherapy. Assessment and integration of balneotherapy procedures according to the type of pathology and objectives.  Identifying the physiological mechanisms of thermoregulation, the effects of thermal factors on the devices and systems of the human body; identification of balneo-climatology techniques with indications, contraindications and precautions. |
| **C 3.2** | Evaluation parameters appropriate application of all forms of balneotherapy establishing associations between opportunity and scheduled procedures.  Use of knowledge regarding hydrothermotherapy procedures for the appropriate choice of a therapy strategy. |

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

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| 7.1. General objective | Familiarizing students with various techniques and methods of balneology |
| 7.2. Specific objectives | Theoretical and practical knowledge of natural and artificial physical factors, the techniques and methods used in balneotherapy for rheumatologic disorders, posttraumatic, neurological, cardiovascular, and respiratory pathology. |

**8. Contents**

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| **8.1. Lectures** | | **Teaching methods** | **Observations** |
| 1 | Balneotherapy: definition, history, Natural Therapeutic Factors | PPT presentation | 2 hours |
| 2 | Spa tourism. Spas - legal framework, characteristics, terminology. | PPT presentation | 2 hours |
| 3 | Therapeutic mineral waters. | PPT presentation | 2 hours |
| 4 | Pelotherapy - use, mode of action, indications, contraindications | PPT presentation | 2 hours |
| 5 | Mofettes - types, mechanisms of action, methodology, indications | PPT presentation | 2 hours |
| 6 | Climatotherapy: definition, indications, and contraindications. | PPT presentation | 2 hours |
| 7 | Thalassotherapy: definition, indications, and contraindications. | PPT presentation | 2 hours |

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| **8.2. Practical activities - practical class** | | **Teaching methods** | **Observations** |
| 1 | Occupational safety and health training. Spa cure treatment. | PPT presentation | 2 hours |
| 2 | Mineral waters. Therapy with mineral waters | PPT presentation | 2 hours |
| 3 | Therapeutic muds - pelotherapy | PPT presentation | 2 hours |
| 4 | Speleotherapy: definition, indications, and contraindications | PPT presentation | 2 hours |
| 5 | Thalassotherapy | PPT presentation | 2 hours |
| 6 | Aerosol therapy - application, indications, contraindications | PPT presentation | 2 hours |
| 7 | Balneary resorts | PPT presentation | 2 hours |

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| **8.3. Bibliography:**  *Mandatory bibliography* |

1. Discipline lectures;
2. Constantin Munteanu, Mariana Rotariu, Mihaela-Iustina Condurache – Balneoclimatologie, Editura Universității „Grigore T. Popa” Iași, 2021
3. Cassandra Cavanah - Guide to Hydrothermal Spa & Wellness Development Standards, Second Edition 10/2016 by Global Wellness Institute, ISBN 978-0-578-17820-2
4. Barbara J. Behrens, Holly Beinert - Physical agents : theory and practice, Third edition, ISBN 978-0-8036-3816-7

*Selective bibliography*

1. MUNTEANU Constantin, Delia Cinteză - Cercetarea ştiinţifică a factorilor naturali terapeutici, Bucureşti : Editura Balneară, 2011, ISBN 978-606-92826-8-7;
2. MUNTEANU Constantin - Talasoterapie : „Marea te cheamă la ea” Balneologie, Bucureşti : Editura Balneară, 2020, ISBN 978-606-8705-15-6
3. Gabriela Dogaru, MUNTEANU Constantin - Mofete: Gaze terapeutice, Bucureşti : Editura Balneară, 2020, ISBN 978-606-8705-16-3
4. MUNTEANU Constantin – Balneoterapia, Bucureşti : Editura Balneară, 2013, ISBN 978-606-93550-4-
5. MUNTEANU Constantin - Nămolul terapeutic, Bucureşti : Editura Balneară, 2012, ISBN 978-606-93159-1-0
6. MUNTEANU Constantin - Ape minerale terapeutice,- Bucureşti : Editura Balneară, 2013, ISBN 978-606-93550-6-0

**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:   * Knowledge of balneology techniques and methods used in the recovery of rheumatological, post-traumatic, neurological, cardiovascular and respiratory conditions | | | |

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| Date | Holder of course / signature, | | | Holder of practical activities / signature, |
| 14.09.2024 | Associate Professor Constantin Munteanu, PhD | | | Associate Professor Constantin Munteanu, PhD |
| Date of approval in the Department Council/Teaching Council, | | | | |
| 19.09.2024 | |  | Department director / signature, | |
|  | |  | Associate Professor Daniela-Viorelia Matei, MD, PhD | |