**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 | | | | **Pain management elements** | | **RE1314** |
| 2.2. Teaching staff in charge with lectures | | | | **Lecturer Luminița – Georgeta Confederat MD, PhD** | | |
| 2.3. Teaching staff in charge with practical activities | | | | **Lecturer Luminița – Georgeta Confederat,MD, PhD** | | |
| 2.4. Year of study | **III** | 2.5. Semester | **1** | 2.6. The type of assessment | **Exam, E1** | |
| 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 | **4** | **2** | | **2** | | | |
| Semester 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 specialised 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 | Pharmacology, Basic of internal medicine |
| 4.2. of competences | Knowing the main indications and contraindications of certain classes of drugs, diagnosis and treatment of medical disorders involving pain symptoms, as well as the scientific, ethical and legal knowledge underpinning of the pain therapy. |

5. Conditions (where applicable)

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| 5.1. for lectures | Videos logistic support |
| 5.2. for seminars / practical classes | Demonstrations on laboratory animals (where appropriate) |

6. Specific competences acquired

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| **Professional**  **competences** | **C 4.4.** | The use of appropriate parameters in all forms of pain therapy, appreciating the analgesic, decontracting effects or the intensity of muscle contraction depending on the applied procedure  Analysis of the intensity and duration of pain treatment techniques depending on the individual characteristics of the patient |
| **C.4.5.** | The implementation of programs adapted to the treated region and the type of pathology and different strategies for the development of new pain therapy protocols |

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

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| 7.1. General objective | The acquisition of basic knowledge related to the pathophysiology of acute pain, chronic pain and illness. |
| 7.2. Specific objectives | The acquisition of basic knowledge relating to the main classes of drugs as painkillers (structures, mechanisms of action, indications, contraindications).  To provide students with clear and simple criteria for choice of an analgesic for a given pathology. |

8. Contents

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| **8.1. Lectures** | | **Teaching methods** | **Observations** |
| 1 | C1. Pain  1.1 Definition and classification  1.2 Pathophysiology of acute and chronic pain. Nociception pathways  1.3 Mediators involved în pain | Interactive lecture, critical acclaim | 4 hours |
| 2 | C2. Analgesic-Antipyretic drugs (NSAIDs)  2.1 Definition and classification  2.2. Pharmacokinetics and mechanism of action  2.3. Indications, contraindications  2.4. Side effects | Interactive lecture, critical acclaim | 4 hours |
| 3 | C3. Anti-inflammatory drugs (NSAIDs) – classical and selective inhibitors of COX-2  3.1 Definition and classification  3.2. Pharmacokinetics and mechanism of action  3.3. Indications, contraindications  3.4. Side effects | Interactive lecture, critical acclaim | 4 hours |
| 4 | C4. Endogenous opioid system. Opioid analgesics  4.1. Definiton and classification  4.2. Pharmacokinetics and pharmacodinamics  4.3. Indications, contraindications, side effects | Interactive lecture, critical acclaim | 4 hours |
| 5 | C5. Chronic pain of joint diseases. Art=hrosis.  5.1. Etiopathogenesis of arthrosis.  5.2. Role of analgesic drugs in the recovery of the patient with arthrosis. | Interactive lecture, critical acclaim | 4 hours |
| 6 | C6. Pain în rheumatology diseases .  6.1. Rheumatoid polyarthritis, ankylopoietic spondylitis.  6.2. Managament of pain în rheumatology. | Interactive lecture, critical acclaim | 4 hours |
| 7 | C7. Gout. Managament of pain în the eldery patient.  7.1. Etiopathogenesis of gout.  7.2. Management of gout.  7.3. Particularities în the management of pain în the eldery patient. | Interactive lecture, critical acclaim | 4 hours |

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| **8.2. Practical activities - practical class** | | **Teaching methods** | **Observations** |
| 1 | Experimental models of pain  1.1 "Hot plate" test | Seminar. Practical demonstration (mouse) | 4 hours |
| 2 | 2. Experimental models of pain  2.1 "Tail flick" test | Seminar. Practical demonstration (mouse) | 4 hours |
| 3 | 3. Experimental models of pain  3.1 Immersion test | Seminar. Practical demonstration (mouse) | 4 hours |
| 4 | 4. Experimental models of pain  4.1 Experimental model of pain by mechanical and chemical stimulus | Seminar. Practical demonstration (mouse) | 4 hours |
| 5 | 5. Experimental models of pain  5.1 Neuropathic pain (tibial nerve ligation in Wistar rats) | Seminar. Practical demonstration (mouse) | 4 hours |
| 6 | 6. Pain management. Discussions on clinical cases | Clinical cases | 4 hours |
| 7 | 7. Pain management. Discussions on clinical cases | Clinical cases | 4 hours |

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| **8.3. Bibliography:** |
| ***Mandatory:*** |
| 1. Discipline courses (posted on the e-learning platform) 2. Coordonatori științifici: Ostin C. Mungiu, Dorel Săndesc; Coordonator editorial: Aurel F. Marin, Terapia durerii. Ediția a 4a (revizuită și adăugită), Editura "Gr. T. Popa" UMF Iaşi, 2019 3. Practical Management of pain. H.T. Benzon, J.P. Rathmell, C.L. Wu, D.C. Turk, C.E. Argoff, R.W. Hurley. 2016, Elsevier Mosby. |

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| ***Elective:*** |
| 1. Leon M.M., Mungiu O.C. Pain therapy – current aspects, Ed. Gr.T.Popa, 2014 2. Katzung B.G. — Basic & Clinical Pharmacology, Prentice Hall International Inc.,London,   2012   1. U.S. Department of Health and Human Services. Pain Management Best Practices Inter-Agency Task Force Report, 2019 (available at discipline) |
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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. |

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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 the main classes of analgesics; indications, contraindications and their side effects. | | | |

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| Date | Holder of course / signature, | Holder of practical activities / signature, |
| 06.09.2023 | Lecturer Luminița Confederat, MD, PhD | Lecturer Luminița Confederat, MD, PhD |

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| Date of approval in the Department Council/Teaching Council, | | |
| 14.09.2023 |  | Department director / signature, |
|  |  | Conf. Univ. Dr. Daniela-Viorelia Matei |