**ACADEMIC DISCIPLINE OVERVIEW**

1. **Program data**

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| **1.1.** | **GRIGORE T. POPA UNIVERSITY OF MEDICINE AND PHARMACY IASI** | | | | | | | |
| **1.2.** | **FACULTY OF MEDICAL BIOENGINEERING** | | | | | | | |
| **1.3.** | **PROGRAMME:** Physio-kinetotherapy and rehabilitation | | | | | | | |
| **1.4.** | **STUDY FIELD:** Health | | | | | | | |
| **1.5.** | **STUDY CYCLE**: UNDERGRADUATE | | | | | | | |
| **1.6.** | **STUDY PROGRAMME:** INENGLISH | | | | | | | |
| 1. **Subject data** | | | | | | | | |
| **2.1.** | **Subject: Pain Therapy (RE1301)** | | | | | | | |
| **2.2.** | **Module leader: Lecturer, Ovidiu Bredetean, MD, PhD** | | | | | | | |
| **2.3.** | **Seminar leader: Lecturer, Ovidiu Bredetean, MD, PhD** | | | | | | | |
| **2.4. Year of study** | | **3** | **2.5. Semester in which is taught** | **1** | **2.6. Evaluation type** | Exam | **2.7. Subject status** | Mandatory |

1. **Estimated total time (hours/semester of didactic activity)**

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| **3.1.Number of hours / week** | 2 | **3.2. Courses number of hours / week** | 1 | **3.3.Seminar / practical classes** | 1 |
| **3.4. Total number of learning hours** | 28 | **3.5. Courses** | 14 | **3.6. Seminar / practical classes** | 14 |
| **3.7. Distribution of the available time** | | | | | Hours |
| **Study based on the manual, lecture support, bibliography and hand notes** | | | | | 8 |
| **Supplementary documentation in the library, using specialised platforms via internet and by field work** | | | | | 8 |
| **Preparation for seminars / practical classes, study themes, reviews, portofolio, and essays** | | | | | 4 |
| **Tutorship** | | | | |  |
| **Examinations** | | | | | 2 |
| **Other activities** | | | | |  |
| **3.8. Total hours of individual study** | | | | | 22 |
| **3.9. Total hours pes semester** | | | | | 50 |
| **3.10. Number of credits** | | | | | 2 |

1. **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. |

1. **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) |

1. **Specific competences acquired**

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| Professional competences (expressed as knowledge and abilities) | Therapeutic use of drugs with evaluation of the analgesics, sedatives effects in specific pathology.  Implementation of various therapeutic protocols and/or design of new strategies of pharmacotherapy in pain management |
| Transverse competences (of role, of professional development, personal) | Identification of the roles and responsibilities in a multidisciplinary team and effective work within the team in the relationship with the patient |

1. **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. |

1. **Contents**

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| **8.1. Lecture** | **Teaching methods** | **Observations** |
| C1. Pain  1.1 Definition and classification  1.2 Pathophysiology of acute and chronic pain  1.3 Symptom-pain and disease-pain | Interactive lecture, critical acclaim | 2 hours |
| C2. Anti-inflammatory-Analgesic-Antipyretic drugs (NSAIDs)  2.1 Acetylsalicylic acid acetylsalicylic derivatives: sodium salicylate, salsalate, diflunisal, sulfasalazine, olsalazine.  2.2. P-aminophenol derivatives: acetaminophen, phenacetin.  2.3. Indolic derivatives: indomethacin, sulindac, etodolac.  2.4. Ether-acryl-acetic acids: tolmetin, diclofenac, ketorolac. | Interactive lecture, critical acclaim | 2 hours |
| C3. Anti-inflammatory-Analgesic-Antipyretic drugs (NSAIDs)  3.1. Arylpropionic acids: ibuprofen, naproxen, ketoprofen, fenoprofen, flurbiprofen, oxaprozin.  3.2. Anthranilic acids: meclofenamic acid, flufenamic acid, diclofenac, niflumic acid.  3.3. Enolic acids: oxicam, piroxicam, tenoxicam, pyrazolidinedione, dipyrone, oxyphentetrazone.  3.4. Alkanone: nabumetone. | Interactive lecture, critical acclaim | 2 hours |
| C4. Endogenous opioid system. Opioid analgesics  4.1. Enkephalin, endorphins, dynorphine  4.2. Therapy with opioids in chronic non-malignant pain.  4.3. Intra-articular administration of opioids in arthritis | Interactive lecture, critical acclaim | 2 hours |
| C5. Chronic pain of joint diseases.  5.1. Etiopathogenesis of arthrosis.  5.2. Role of analgesic drugs in the recovery of the patient with arthrosis. | Interactive lecture, critical acclaim | 2 hours |
| C6. Chronic pain of joint diseases. Arthritis.  6.1. Etiopathogenesis of arthritis.  6.2. Role of analgesic drugs in the recovery of the patient with arthritis. | Interactive lecture, critical acclaim | 2 hours |
| C7. Gout  7.1. Etiopathogenesis of gout  7.2. Analgesic therapy of patient with gout | Interactive lecture, critical acclaim | 2 hours |
| **Bibliography**   1. Mungiu O.C. (under the editorial board) – Basic Elements of Pharmacology, Ed.UMF Iasi, 1995 (UMF Iasi library) 2. Mungiu O.C. (under the editorial board) – Basic of pharmaco-graph and drug testing, Ed.UMF Iasi, 1996 (UMF Iasi library) 3. Current protocols, 1998, (on CD, at discipline) 4. Discipline courses (posted on the *e-learning* platform) | | |
| **8.2. Seminar / practical classes** | **Teaching methods** | **Observations** |
| Pc1. Experimental models of pain  1.1 "Hot plate" test | Seminar. Practical demonstration (mouse) | 2 hours |
| Pc2. Experimental models of pain  2.1 "Tail flick" test | Seminar. Practical demonstration (mouse) | 2 hours |
| Pc3. Experimental models of pain  3.1 Immersion test | Seminar. Practical demonstration (mouse) | 2 hours |
| Pc4. Experimental models of pain  4.1 Experimental model of pain by mechanical stimulus | Seminar. Practical demonstration (mouse) | 2 hours |
| Pc5. Experimental models of pain  5.1 Experimental model of pain by chemical stimulus (contortion test) | Seminar. Practical demonstration (mouse) | 2 hours |
| Pc6. Experimental models of pain  6.1 Neuropathic pain (tibial nerve ligation in Wistar rats) | Seminar. Practical demonstration (rat) | 2 hours |
| Pc7. Experimental models of pain  Model of non-infectious arthritis in Wistar rats | Seminar. Practical demonstration (rat) | 2 hours |
| **Bibliography**   1. Current protocols, 1998, (on CD, at discipline) | | |

1. **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. |

1. **Evaluation**

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| **Type of activity** | **Type of activity** | **Evaluation methods** | **Contribution to the final grade** |
| **Lecture** | Basic concepts and theoretical aspects of knowledge presented in the course | Sample written | 50% |
| **Seminar/practical classes** | The activity in the laboratory and the quality of essays made | Sample practice | 40% |
| Tests during the semester |  | 10% |
| **Minimal performance standard:** Knowledge of the main classes of analgesics; indications, contraindications and their side effects. | | | |

**Date of completion: Signature of head of discipline**

20.01.2017 Lecturer Bredetean Ovidiu, MD, PhD

**Department approval date**

30.01.2017 **Signature of department director**

Lecturer Daniela-Viorelia Matei, Ph-D