**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: Pharmacology RE 1213** | | | | | | | |
| **2.2.** | **Module leader: Lecturer Ovidiu Bredetean, MD, Ph-D** | | | | | | | |
| **2.3.** | **Seminar leader: Lecturer Ovidiu Bredetean, MD, Ph-D** | | | | | | | |
| **2.4. Year of study** | | **2** | **2.5. Semester in which is taught** | **2** | **2.6. Evaluation type** | C2 | **2.7. Subject status** | Mandatory/ D.F. |

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 / l 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** | | | | | 10 |
| **Supplementary documentation in the library, using specialized platforms via internet and by field work** | | | | | 8 |
| **Preparation for seminars / practical classes, study themes, reviews, portfolio, and essays** | | | | | 4 |
| **Tutorship** | | | | | 2 |
| **Examinations** | | | | | 2 |
| **Other activities** | | | | | - |
| **3.8. Total hours of individual study** | | | | | 22 |
| **3.9. Total hours per semester** | | | | | 50 |
| **3.10. Number of credits** | | | | | 2 |

1. **Preconditions (where applicable)**

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| **4.1.** of curriculum | Physiology, Biochemistry |
| **4.2.** of competences | Students should have basic Knowledge regarding the main physiologic functions of human body and their regulation; also, students should have knowledge of the most important signaling pathways related to cell to cell communication. |

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) | Students should be able to: (a) list and discuss the common routes of drug administration and excretion, (b) compute the half-life of a drug based on its clearance and volume of distribution and (c) give examples of pharmacologic agonists and antagonists. |
| Transverse competences (of role, of professional development, personal) | Identification of the roles and responsibilities in a team and effective work within the team. |

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

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| **7.1.** General objective | Is to give basic knowledge of pharmacokinetics and pharmacodynamics. |
| **7.2.** Specific objectives | Are to teach students on absorption, transport, distribution, metabolism and excretion as well as on the mechanisms of action of some classes of drugs. |

1. **Contents**

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| **8.1. Lecture** | **Teaching methods** | **Observations** |
| Pharmacokinetics | Interactive lecture, critical acclaim | 2 hours |
| Pharmacodynamics | Interactive lecture, critical acclaim | 2 hours |
| Receptors and signaling pathways | Interactive lecture, critical acclaim | 2 hours |
| Autonomic drugs: cholinoceptor activating and cholinoceptor blockers | Interactive lecture, critical acclaim | 2 hours |
| Sympathomimetic | Interactive lecture, critical acclaim | 2 hours |
| Adrenoceptor blockers | Interactive lecture, critical acclaim | 2 hours |
| Drug interactions | Interactive lecture, critical acclaim | 2 hours |
| **Bibliography**   1. Anthony J. Trevor, Bertram Katzung, Susan B. Masters – Pharmacology (at discipline) 2. Discipline courses (posted on the *e-learning* platform) | | |
| **8.2. Seminar / practical classes** | **Teaching methods** | **Observations** |
| Routes of drug administration | Seminar. Practical demonstration | 2 hours |
| Dose-effect relationship | Seminar. Practical demonstration | 2 hours |
| Structure-effect relationship | Seminar. Practical demonstration | 2 hours |
| Cholinoceptor blockers and activating drugs | Seminar. Practical demonstration | 2 hours |
| Sympathomimetic | Seminar. Practical demonstration | 2 hours |
| Adrenoceptor blockers | Seminar. Practical demonstration | 2 hours |
| Drug evaluation and drug regulation | Seminar | 2 hours |
| **Bibliography**   1. Katzung B.G. — Basic & Clinical Pharmacology, Prentice Hall International Inc., London, 2012 2. Smith and Reynard –Textbook of Pharmacology, An HBJ International Edition, W.B.Saunders Company, 1992 (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:** Describe the pharmacokinetic stages and the mechanism of action of a particular drug. | | | |

**Date: Signature of head of discipline**

25.09.2019 Lecturer Bredetean Ovidiu, MD, Ph-D

**Department approval date**

30.09.2019

**Signature of department director**

Lecturer Daniela-Viorelia Matei, Ph-D