

## COURSE OUTLINE

### (1) GENERAL

SCHOOL	SCHOOL OF MEDICINE		
ACADEMIC UNIT	MEDICINE		
LEVEL OF STUDIES	GRADUATE STUDIES		
COURSE CODE	NEURO-106	SEMESTER	1 <sup>st</sup>
COURSE TITLE	Drug Development		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>		<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>
LECTURES/TESTS		4 HOURS/WEEK (4 weeks)	2
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Specialized general knowledge		
<b>PREREQUISITE COURSES:</b>	No		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	English		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBSITE (URL)</b>			

### (2) LEARNING OUTCOMES

<p><b>Learning outcomes</b></p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> <li>• <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i></li> <li>• <i>Descriptors for Levels 6, 7 &amp; 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i></li> <li>• <i>Guidelines for writing Learning Outcomes</i></li> </ul> <p>The aim of this course is to introduce students to the basic concepts of Pharmacology required for the design of new drugs as well as their evaluation, development, and clinical application. Specifically, students will learn the design of new molecules (drug candidates) based on the structure of existing drugs and the structure of their receptors. The course will emphasize the importance of the selective interaction of new drugs with specific types of receptors since receptor selectivity reduces the side effects of a drug. In addition, the students will learn the methodology and the steps required for a new molecule to reach its clinical application from its design.</p>
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### General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	Project planning and management
Adapting to new situations	Respect for difference and multiculturalism
Decision-making	Respect for the natural environment
Working independently	Showing social, professional and ethical responsibility and sensitivity to gender issues
Team work	Criticism and self-criticism
Working in an international environment	Production of free, creative and inductive thinking
Working in an interdisciplinary environment	.....
Production of new research ideas	Others...
	.....

The course aims at the following competences:

- Adapting to new situations
- Working independently
- Teamwork
- Production of new research ideas
- Criticism
- Production of free, creative, and inductive thinking

### (3) SYLLABUS

1. Principles of Drug discovery and development
2. Principles of Pharmacology-Pharmacodynamics
3. Pathologies of the CNS, receptors involved and drugs that target the disease: The example of schizophrenia.
4. Structure and Function of Drug Receptors
5. Receptor-Based drug design I
6. Receptor-Based drug design II
7. Virtual screening in drug discovery
8. Design of innovative pharmaceutical products based on the structure of the molecule : The use of nanotechnology to create carriers for drug delivery.

### (4) TEACHING and LEARNING METHODS - EVALUATION

<b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i>	Face-to-face	
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Learning process support through the e-learn platform.	
<b>TEACHING METHODS</b> <i>The manner and methods of teaching are described in detail. Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.  The student's study hours for each learning activity are given as well as the hours of non-</i>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	16 hours
	Independent study for exam preparation	48 (3 hours of study required for each hour of lecture)
	Final examinations	2

<i>directed study according to the principles of the ECTS</i>		
	<b>Course total</b>	<b>50</b>
<b>STUDENT PERFORMANCE EVALUATION</b> <i>Description of the evaluation procedure</i>  <i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i>  <i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i>	<p>The evaluation is conducted in English.</p> <p><b>Oral examination</b></p> <p><b>Specifically defined evaluation criteria are given, and they are accessible to students.</b></p>	

**(5) ATTACHED BIBLIOGRAPHY**

-Research papers, chapters, and reviews that will be given to the students