UCL Université catholique de Louvain

WFARM2501

2013-2014

Chimie pharmaceutique avancée et drug design

3.0 credits	20.0 h + 10.0 h

Teacher(s) :	Frédérick Raphaël (compensates Lambert Didier) ; Poupaert Jacques ; Muccioli Giulio (coordinator) ; Lambert Didier ;
Language :	Français
Place of the course	Bruxelles Woluwe
Prerequisites :	organic chemistry and medicinal chemistry
Main themes :	The teacher(s) will discuss first the different techniques allowing the discovery of novel therapeutic targets (lipidomic ' proteomic ' deorphanization), second the methods allowing the identification of hits for a given molecular target (high-throughput screening ; computer assisted de novo drug design); finally the strategies allowing to optimize a hit ('hit to lead') will be discussed (structures-activity relationships ; docking; ')
Aims :	At the end of the activity the student will be able to -- Interpret, based on what was discussed in class, the results presented in a scientific paper dealing with the development of a novel drug -- Suggest a strategy allowing to identify novel therapeutic targets -- Suggest a strategy allowing to identify novel lead compounds for a given target (enzyme, receptor, ') -- Suggest a strategy allowing to optimize the activity of a drug towards its target *The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".*
Evaluation methods :	a written exam and a presentation of a case-study based on a scientific paper
Content :	-- Lipidomics applied to the discovery of novel targets -- Exploring the proteome looking for novel targets : the enzymes ' the receptors -- Proteins as therapeutic target -- Determination of their 3D structure -- Role of protein's 3D models in drug design -- The interest of establishing structure-activity relationships in drug design
Cycle and year of study :	> Master [120] in Pharmacy
Faculty or entity in charge:	FARM