UCLouvain

wfarm2513

2026

Pharmacocinétique approfondie

3.00 credits	22.5 h	Q2

Teacher(s)	Elens Laure ;
Language :	French > English-friendly
Place of the course	Bruxelles Woluwe
Main themes	Applied Pharmacokinetics, theoretical basis and maths, pharmacokinetic models, compartments Population-based pharmacokinetics, basic principles in PK modeling, parametric and non parametric methods, statistical evaluation, intra- and inter-individual variabilities, inter occasion and residual variability. Fixed versus random effects, co-variables (selection and analysis) validation methods of models (internal and external). Model predictability and simulations.
Learning outcomes	**At the end of this learning unit, the student is able to :** 1 - To master and integrate principles and knowledges in health and pharmaceutical sciences - To perceive a concrete solution to a pharmaceutical problematic through a scientific approach by using new knowledges and by adopting a critical attitude - To communicate efficiently, rigorously and in a respectable way with colleagues and other health professionals To evaluate and to update student knowledge and the applications
Evaluation methods	Evaluation is assessed through seminar presented by the students by presenting a recent peer-reviewed international article related to the teaching unit. The student will be evaluated through his/her ability of integrating complex knowledges and their application to a concrete problematic. More particularly, the students will have to demonstrate that he/she has understood the relevance of the chosen article in the pharmaceutical field and medical research. Furthermore, he/she would have to show that the theory exposed during courses has been assimilated by integrating those general concepts in the discussion related to the analysis of the results reported in the selected article. After the presentation, a discussion will be opened with the teacher in order to test his/her knowledge and its ability to apply the principles that he/she exposed.
Content	This teaching unit is mostly axed on the presentation and the application of theoretical principles of population-based pharmacokinetics. During the courses, the core existing models will be presented. We will linger on testing methods and selection strategies for modeling in population pharmacokinetics to obtain the best fit with a set of observed (real) data. We will also tackle the issue of data collection and missing information. In a second time, we will focus on the notion of pharmacokinetic variabilities and how to explain those variabilities by taking into account some co-variables. Finally, the predictive value and the potential of generating simulation sets thanks to those PK models for a personalized medicine constitute important themes that will be addressed as well.
Faculty or entity in charge	FARM

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Statistics: Biostatistics	BSTA2M	3		🔍
Master [120] in Pharmacy	FARM2M	3		🔍