Course Specifications
Valid as from the academic year 2016-2017

General Pharmacology (G000734)

Course
Valid as from the academic year 2016-2017

Course Specifications

Course offerings and teaching methods in academic year 2017-2018
A (semester 1)
Dutch
seminar: coached 10.0 h
lecture 25.0 h

Lecturers in academic year 2017-2018
Croubels, Siska
DI02
lecturer-in-charge
Devreese, Mathias
DI02
co-lecturer

Offered in the following programmes in 2017-2018
Bachelor of Science in Veterinary Medicine

Teaching languages
Dutch

Keywords
Drug disposition, pharmacokinetics, pharmacodynamics

Position of the course
The student is informed about the general basic principles of action and essential mechanisms, pharmacodynamics and pharmacokinetics of veterinary drugs. More particularly the main targets of veterinary medicines in the domestic animal are overviewed. Also aspects such as drug-drug interactions are discussed.

Contents
Basic principles of veterinary pharmacology. Important issues such as pharmaceutical formulation and pharmacokinetic processes such as absorption, distribution, elimination and bioavailability are discussed. The pharmacodynamics of drugs will treat general mechanisms of action, dose-response curve, receptor theory, molecular targets, agonism / antagonism of drugs and PK-PD modelling.

Initial competences
Sufficient knowledge about physiology, biochemistry and organic chemistry are required

Final competences
1 Sufficient to provide the student knowledge and understanding of the basic pharmaceutics and pharmacology with emphasis on general pharmaceutics, pharmacodynamics and pharmacokinetics of veterinary drugs.
2 To interpret drug concentration-time curves after single and multiple dosing for parenteral and oral drug administration.
3 To use pharmacokinetic models: linear and non-linear kinetics, one- and two-compartmental models.
4 To calculate the main pharmacokinetic parameters such as half-life, volume of distribution, clearance, bioavailability, ...
5 To calculate the posology of a drug using its pharmacokinetic properties.
6 To interpret scientific leaflets of veterinary drugs, i.e. the pharmacokinetic and pharmacodynamic properties, and posology.
7 To gain insight in the similarities of pharmacokinetic processes between men and animals (multidisciplinarity), as well as in the use of laboratory animals as preclinical PK animal model for humans.
8 To be aware of the economical context related to the pharmacological treatment of patients with respect to generic drugs (multiperspectivism).

Course size (nominal values; actual values may depend on programme)
Credits 3.0
Study time 90 h
Contact hrs 35.0 h

Course size

(Authorized)

1
Conditions for credit contract
Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract
Access to this course unit via an exam contract is unrestricted

Teaching methods
Lecture, seminar: coached exercises

Extra information on the teaching methods
Twice a week a lecture of about 1.25 hour is given. Therefore a syllabus of about 160 pages is used. Hereby the active participation of the student will be also be required. For each drug mainly basic, practical and essential information will be discussed.
Practical seminars (guided exercises) are given. The student is encouraged to solve the PK/PD problems individually or in a team with other students. Each student constructs the drug concentration-time curves, and calculates the PK parameters using a calculator. The tutors and assistants are continuously available for questions/problems raised during the practical seminars, and each student is individually motivated/contacted to solve the problems and to construct the PK profiles.
Afterwards, the solution is stepwise elaborated by the tutors.

Learning materials and price
A syllabus of approximately 160 pages. Books on general pharmacology (Dutch and English) are available for the students in the department of pharmacology.

References
Book possible to use and to consult: Algemene Farmacologie by J.M. van Ree and D. D. Breimer, second edition.

Course content-related study coaching
No specific study coaching is foreseen. Personal contact and discussion with the tutor is always possible, also during the exercises.

Evaluation methods
end-of-term evaluation

Examination methods in case of periodic evaluation during the first examination period
Written examination

Examination methods in case of periodic evaluation during the second examination period
Written examination

Examination methods in case of permanent evaluation

Possibilities of retake in case of permanent evaluation
not applicable

Extra information on the examination methods
Written examination

Calculation of the examination mark
score obtained during the examen