Course Specifications

Valid as from the academic year 2017-2018

Course

Toxicology (G000748)

Valid as from the academic year 2017-2018

Course Specifications

Croubels, Siska
DI02
lecturer-in-charge

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DI02
co-lecturer

Lecturers in academic year 2017-2018

Offered in the following programmes in 2017-2018

Offering in 2017-2018

Course offerings and teaching methods in academic year 2017-2018

C (semester 2)

Dutch

Dutch

seminar: coached

lecture

5.0 h

35.0 h

Study time 120 h

Contact hrs 40.0 h

Course size (nominal values; actual values may depend on programme)

Credits 4.0

Teaching languages

Dutch

Keywords toxic plants, heavy metals, environmental contaminants, toxic gasses, mycotoxins, insecticides, pesticides, herbicides, other organic and anorganic toxic agents, food and feed safety

Position of the course

Provide students knowledge about the most common toxic agents and plants for animals, which occur in Belgium and The Netherlands. Dynamic mechanisms (pathogenesis), diagnosis, treatment options, sampling strategies and laboratory analyses to identify an intoxication are important issues.

Contents

In the general part of the course in toxicology, the basic principles of toxicology, i.e. safety and toxicity studies, toxicokinetics and biotransformation reactions, general treatment and antidotes, sampling strategies to confirm a possible intoxication, etc. are discussed. This part also includes general principles of plant biology, e.g. with respect to toxic plants and the classification of toxic agents from plant origin, etc.

Next, the toxic agents are discussed in the specific part of the course, i.e. in relation to body systems and organs such as skin and mucous membranes - blood and blood coagulation - cardiovascular system - liver function - kidney function - cell metabolism - locomotory system and skeleton - central nervous system - autonomous nervous system.

Initial competences

General pharmacology; physiology; biochemistry; anatomy; pathology; organic, anorganic and analytical chemistry

Subscribing for this course is only possible after obtaining a bachelor degree in

(Approved)
veterinary medicine or when enrolled in a GIT trajectory in veterinary medicine between the third bachelor and first master year. For students who are not currently enrolled in the U Gent veterinary medicine studies is subscription for this course only possible if they comply with the majority of final competencies of the bachelor in veterinary medicine degree and after approval of the curriculum commission.

Final competences
1. To know the ethiology, toxicity, toxicokinetics, pathogenesis, symptoms and lesions of intoxications of animals.
2. To know the general treatment and specific treatment with antidotes of intoxications in animals.
3. To understand a correct sampling strategy and analysis of samples to confirm a toxicological diagnosis.
4. To interpret chemical-analytical test results related to a toxicological diagnosis.
5. To recognise toxic plants and to know the toxic agents from plant origin.
6. To search scientific information, such as case reports of intoxications, and to be able to synthesise and analyze these data.
7. To acknowledge the importance of ‘lifelong learning’ (IPV).
8. To gain insight in the thinking and communication of animal owners with respect to intoxications and forensic expertise (multiperspectivism).
9. To be aware of the economical context related to a specific toxicological investigation and treatment of a patient with respect to intoxications (multiperspectivism).
10. To have sufficient communicative skills with respect to the advise and reporting to the owner of intoxicated animals (e.g. risk for food safety and human health).

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
Two lectures weekly, where possible illustrated with toxicological material (plants, case reports, videos, etc.). Slides and additional material (such as case reports) are available via Minerva.

During the seminars (coached exercises), emphasis is on 1) the interpretation of case reports, 2) the conduct of a risk-analysis of intoxications, 3) the conduct of a forensic expertise in the case of intoxications, 4) the advise and reporting to the owner of intoxicated animals (e.g. risk for food safety and human health).

Learning materials and price
Syllabus presented as a book (± 300 pages incl. colour pictures), extra material is offered for free by Ghent University in libraries and electronic databases.

References
Books possible to consult: “Risicoplanten voor dieren”, M. De Cleene (ISBN 978 90 382 2399 5); eventually the “Gids Risicoplanten”, M. De Cleene (mainly human toxicology)
CD-rom of Poisonous Plants, School of Veterinary Medicine, University of California, Davis (a.o. pictures and videos)

Course content-related study coaching
Before and after the lectures there is possibility to ask questions. A small number of questions can also be asked via e-mail. For a larger number of questions, the student has to make an appointment.

Evaluation methods
end-of-term evaluation

Examination methods in case of periodic evaluation during the first examination period
Written examination with open questions, written examination with multiple choice questions

Examination methods in case of periodic evaluation during the second examination period
Written examination with open questions, written examination with multiple choice questions

Examination methods in case of permanent evaluation

(Approved)
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 exam. Total score: about 50% on multiple choice questions and about 50% on open questions.