Course Specifications
Valid as from the academic year 2016-2017

Ruminant and Porcine Surgery and Medicine, with Clinical Training
(G000770)

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

<table>
<thead>
<tr>
<th>Credits</th>
<th>Study time</th>
<th>Contact hrs</th>
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<tr>
<td>6.0</td>
<td>180 h</td>
<td>80.0 h</td>
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Course offerings and teaching methods in academic year 2018-2019

A (semester 2) Dutch lecture 40.0 h clinic 40.0 h

Lecturers in academic year 2018-2019

- Vlaminck, Lieven DI10 lecturer-in-charge
- Chiers, Koen DI05 co-lecturer
- Croubels, Siska DI02 co-lecturer
- Deprez, Piet DI12 co-lecturer
- Devreese, Mathias DI02 co-lecturer
- Pardon, Bart DI12 co-lecturer
- Van Brantegem, Leen DI05 co-lecturer
- van Loon, Gunther DI12 co-lecturer

Offered in the following programmes in 2018-2019

| Master of Veterinary Medicine in Veterinary Medicine (main subject Pig, Poultry and Rabbit) | 6 | A |
| Master of Veterinary Medicine in Veterinary Medicine (main subject Research) | 6 | A |
| Master of Veterinary Medicine in Veterinary Medicine (main subject Ruminants) | 6 | A |
| Joint Section Master of Veterinary Medicine in Veterinary Medicine | 6 | A |

Teaching languages

Dutch, English

Keywords

Internal medicine, Surgery, Pathology, Pharmacotherapy, Ruminants

Position of the course

This course focuses on determining a proper diagnosis and treatment (conservative and/or surgical) based on anamnesis, clinical examination and additional diagnostic methods. It further focuses on the specific pathology of ruminants and enables listing a differential diagnosis based on the encountered pathological lesions. Reviewed therapeutic aspects of common diseases include development of resistancy and microbiological selection when using antimicrobial substances and anthelmintics, pharmacodynamic interactions, pharmacovigilance, treatment of veal calves, use of NSAID’s, treatment of mastitis, oral medication, longacting substances, residues and waiting periods, etc..

Clinical pathological work enables performing proper dissections, interpreting the encountered pathological lesions and associating them to the medical case history. These objectives are a part of general objectives of the second cycle program in veterinary medicine by offering the students the specific knowledge and skills for a future professional career.

Contents

The course consists of 4 parts: 1. Internal Medicine, 2. Advanced surgical techniques, 3. Advanced Pathology, 4. Pharmacotherapie.

In Part 1 covers several internal medicine topics such as disease problems in
neonates, diarrhea and airway diseases, using a problem-oriented approach. Additional diagnostic and treatment modalities are discussed and practices such as blood biochemistry, fluid therapy and ultrasonographic examinations. The main disease problems in small ruminants, camelidae and pigs are also covered. A broad range of surgical conditions of ruminants are discussed in Part 2, and their surgical approaches are explained in detail. For both parts (Internal Medicine: 2 weeks, 20 hours; Advanced surgical techniques: 1 week, 10 hours) practical skills are taught during participation in the faculty’s animal clinic (examination and treatment of referred patients).

Part 3 covers both infectious and non-infectious diseases in small and large ruminants with emphasis on the associated macroscopic and histological changes. Clinical pathology work (1 week; 10 hours) includes performing proper dissections to attain a higher level of experience in identifying different pathological lesions.

Part 4 encompasses the therapeutic approach of common diseases in ruminants. Discussed topics include: antimicrobial resistance, pharmacodynamics interactions, pharmacovigilance, treatment of veal calves, use of NSAID’s, treatment of mastitis, oral medication, longacting substances, residues and waiting periods, etc.. The different topics are always approached from the point of view of working in daily practice with special emphasis on readily encountered problems. The specific topics can vary from year to year depending on recent advances in the field of therapeutic solutions.

Initial competences
The starting level is part of the final attainment level of the bachelor program in veterinary medicine and the first year of the master program.

For students who are not currently enrolled in the UGent 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. Possessing profound knowledge about infectious and metabolic diseases of large animals with emphasis on differential diagnosis, prognosis and treatment
2. Performing a routine clinical exam of large domestic animals and executing routine veterinary interventions (blood sampling, injections, administering peroral medication, bandaging, wound care, ...)
3. Have profound theoretical and practical knowledge and understanding of commonly practiced surgical interventions in ruminants.
4. Gain in depth perception of specific pathological conditions in goats, sheep and cattle which enables identifying specific morphological changes in different tissues, and listing of a differential diagnosis.
5. Gain in depth perception of specific pathological conditions in large animals which enables identifying specific morphological changes in different tissues, and listing of a differential diagnosis.
6. Being able to perform an autopsy and differentiate common macroscopic lesions from normal anatomical structures.
7. Gain in depth knowledge of different physical forms of medication and pharmacological aspects in large animals.
8. Gain perception of rational use of antibiotics.
9. Have knowledge of the principles of waiting periods, the cascade system and residues.
10. Working in group during the treatment of patients (social skills)
11. Possessing sufficient communicative skills to perform a case discussion with fellow students
12. Perceive a farmer's way of communicating and thinking (multiperspectivity)
13. Being concerned about the economical perspective in which a clinical examination and treatment is performed (multiperspectivity)
14. Take 'continuous education' seriously
15. Being concerned about the importance of durability in veterinary medicine and farming.
16. Giving priority to animal welfare when dealing with animals, owners and the broad public.
17. Agreeing on the excess value of international and intercultural experiences (eg. Erasmus student exchange, student externships abroad, ...)
18. Being familiar with searching literature databases and display personal knowledge and a critical eye to select the most relevant scientific data from it.

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

Conditions for exam contract
(Aapproved)
This course unit cannot be taken via an exam contract

Teaching methods
Lecture, clinic

Extra information on the teaching methods
Education is through formal lectures and clinical activities. The theoretical aspects of this course will be presented during formal lectures which include discussions on practical clinical cases.
The practical part of this course takes place in the veterinary hospital in small groups. It focuses on autonomously performing clinical examinations and treatment of hospitalised animals (Parts 1 and 2), and the proper performance of autopsy's (Part 3) under the supervision of trained staff members.

Learning materials and price
Teaching material consists of the different Power Point handouts with an additional syllabus for Part 2 (advanced surgical techniques).
Additional information is available through the electronic databases of the university library (e-journals and e-books).
During the academic year, the main pathological lesions encountered during dissections of animals are displayed, accessible to all students. A computer database containing an international set of pathological images is also available to students.

References
Large Animal Internal Medicine, Ed.: B. Smith
Farm Animal Surgery, Ed.: S. Fubini & N. Ducharme
Jubb, Kennedy and Palmer's Pathology of Domestic Animals
Thomson's Special Veterinary Pathology
Elektronic databases UGent (o.a. Web of Science)

Course content-related study coaching
No formal coaching is provided for this course. Personal contact with the tutors following the formal lectures and during the clinical activities enable problem-solving discussions. Clinical pathological work is performed in small groups of students from the 1st to 3rd master. Two members of the academic staff personally attend the autopsy's.

Evaluation methods
end-of-term evaluation and continuous assessment

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

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

Examination methods in case of permanent evaluation
Participation

Possibilities of retake in case of permanent evaluation
examination during the second examination period is possible

Extra information on the examination methods
(A) : Periodical evaluation. Written exam with possibility for oral defence. Examination content: the study material discussed during formal lectures and practical sessions. Emphasis of the exam: insight rather than factual knowledge: interpretation of symptoms, developing a differential diagnosis and treatment protocol
(B): Permanent evaluation based on presence during clinical work and participation

Calculation of the examination mark
Failure to comply with the clinical activities will result in failure for the exam. The final mark (totals 20) is the sum of the obtained marks for the periodical (totals 19) and non-periodical (totals 1) evaluation. A mark below 8/20 for part 1 (internal medicine), part 2 (surgery), or part 3+4 (pathology + pharmacotherapy) results in failure for the total exam. If the final mark obtained was 10 or more, the mark will be adapted to 9/20.

(Approved)