UCLouvain

lvete1374

2024

Physiologie digestive et nutrition des animaux domestiques

6.00 credits	60.0 h + 4.0 h	Q2

Teacher(s)	Cabaraux Jean-François ;Debier Cathy ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	Advised knowledge of basic and advanced notions of biochemistry, anatomy of internal organs, and molecular biology to understand the nutrition physiology course. *The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.*
Main themes	The 'digestive physiology' section covers the following topics: - Functional anatomy and morphology of mammals (domestic and wild monogastric and polygastric mammals) and birds - Digestive functions - Roles of glands - Glandular and microbial digestion - Absorption ' Digestive tract motility (including forestomachs) - Feeding Behavior. The 'nutrition' section covers the following topics: - Concepts of feed, nutrient and needs - Major feed groups ' Different groups of nutrients, metabolic utilization, physiological importance and quantification ' Comparative feed requirements among domestic animals - Energy and nitrogen requirements in animal production and the units used to express them - Some metabolic disorders associated with nutrition in domestic animals - The principles of rationing.
Learning outcomes	**At the end of this learning unit, the student is able to :** 1 After this course, students will have acquired skills in digestive physiology and nutrition of domestic animals, in order to address future courses related to diseases of the digestive system and their metabolic consequences, as well as feeding strategies for animal performance, health and quality of livestock.
Evaluation methods	Written exam during the exam session for both parts of the course For the "Digestive Physiology" section, part of the points will be obtained through tests carried out during in-person sessions during the quarter For the nutrition section, the written exam contains open-ended questions, MCQs, and/or MRQs, covering all the material from the lectures and practical/tutorial sessions (syllabus, PowerPoint presentations, and multimedia material such as videos, exercises, etc…). An unjustified absence from the practical sessions will prevent the student from taking the exam in the first session.
Teaching methods	Digestive physiology : flipped classroom approach : power point slides and commented videos (available in advance on Moodle). Sessions of exercices with tests will be organized throughout the quarter. For the nutrition section, the course is delivered exclusively in person, in a lecture hall, with slide presentations available on Moodle. Practical/tutorial sessions complement the theoretical instruction.
Content	Digestion section (30 hours) - The course is divided into different sections: oral cavity, esophagus, stomach, forestomachs, pancreas, liver, small intestine, large intestine. - Functional anatomy and morphology of mammals (domestic and wild monogastric and polygastric mammals) and birds - - Digestive functions and digestive glands: overview of secretion, motility, absorption,... - Microbial digestion and motility in the forestomachs and large intestine. - Perinatal digestive physiology. - Feeding behavior and regulation of ingestion. The nutrition section includes 30 hours of lectures and 4 hours of exercise. The theoretical part of the course is divided into five sections: • The introduction covering basic concepts, including definitions; • Energy and nitrogen units in different species; • The main categories of feedstuffs used as nutrient sources in animal feeding; • Introduction to practical rationing (for livestock and companion animals); • Feed analysis, additives, and legal foundations. There are 4 hours of practical/tutorial sessions scheduled. These provide an overview of the course content by integrating information from the different sections covered.

Inline resources	Moodle
Bibliography	Dias power point et vidéos disponibles sur Moodle. Livres utilisés pour la préparation du cours (ne doivent pas être achetés par les étudiants) « Introduction à la nutrition des animaux domestiques » Claude Jean-Blain Editions Tec&Doc, 2002 (ISBN : 2-7430-0530-0) « Animal nutrition » P. McDonald, R.A. Edwards, J.F.D. Greenhalgh, C.A. Morgan Sixth edition, 2002 Longman Scientific & Technical, (ISBN : 978-0-582-41906-3) « Textbook of veterinary physiology » Cunningham JG, 5th edition (ISBN 0-7216-8994-9) « Fundamentals of anatomy & physiology », F Martini, 7th editionPearson Benjamin Cummings, (ISBN 0-321-31198-1) « Principes d'anatomie et de physiologie », Tortora & Derrickson, 2007, 4th edition (ISBN 978-2-8041-5379-3) « Digestive disease in the dog and cat » Simpson & Else, Blackwell Scientific Publication, 1991, (ISBN 0-632-02931-5) « Comparative physiology of the vertebrate digestive system » Stevens & Hume, 2nd edition, 1995, (ISBN 0-521-444187) « Nutrition clinique des animaux de compagnie », Hand, Thatcher, Remillard, Roudebush, 4th edition, Mark Morris Institute, (ISBN 0-945837-05-4) + articles scientifiques
Faculty or entity in charge	VETE

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Bachelor in Veterinary Medicine	VETE1BA	6	LCHM1371V	🔍