FACULTY OF
VETERINARY MEDICINE
accredited by EAEVE

Postgraduate course

Poultry Health Sciences

Academic year 2022-2023

GHENT
UNIVERSITY

The information in this brochure has been updated until 22 March 2022

Graphic design Prof. dr. G. Antonissen

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POSTGRADUATE IN POULTRY HEALTH SCIENCES

The Ghent University Postgraduate course in Poultry Health Sciences will offer an unique opportunity to study in-depth the different aspects of poultry health sciences, bridging the gap between theoretical and applied knowledge, aiming to equip current and future professionals with knowledge, skills and understanding to address global and local challenges in future poultry production.

BACKGROUND

There has been an increasing pressure on the livestock sector to meet the growing demand for high-value animal protein. The world's livestock sector is growing at an unprecedented rate and the driving force behind this increased consumption of animal protein is a combination of population growth, rising incomes and urbanization. One of the most sustainable sources of animal protein is poultry, as chickens do not require a lot of land and water and are highly efficient in converting feed to body mass, as compared to other production animals. The poultry industry is characterized by highly efficient production systems and advanced technologies. A successful poultry production requires knowledge in various disciplines, including management, husbandry, biosecurity, health, nutrition, disease control, sustainability, animal welfare, food safety among others.

The poultry industry supplies millions of jobs across the globe. Over the next 10 years, thousands qualified poultry people will be needed in the industry. In the poultry industry, there are jobs available to fit nearly any interest such as veterinary sciences, pharmaceutical sciences, nutrition, disease and quality control, sustainability, environmental friendly production, animal welfare, digitalization, poultry product development, just to name a few.

ADVANCED PROFESSIONAL TRAINING

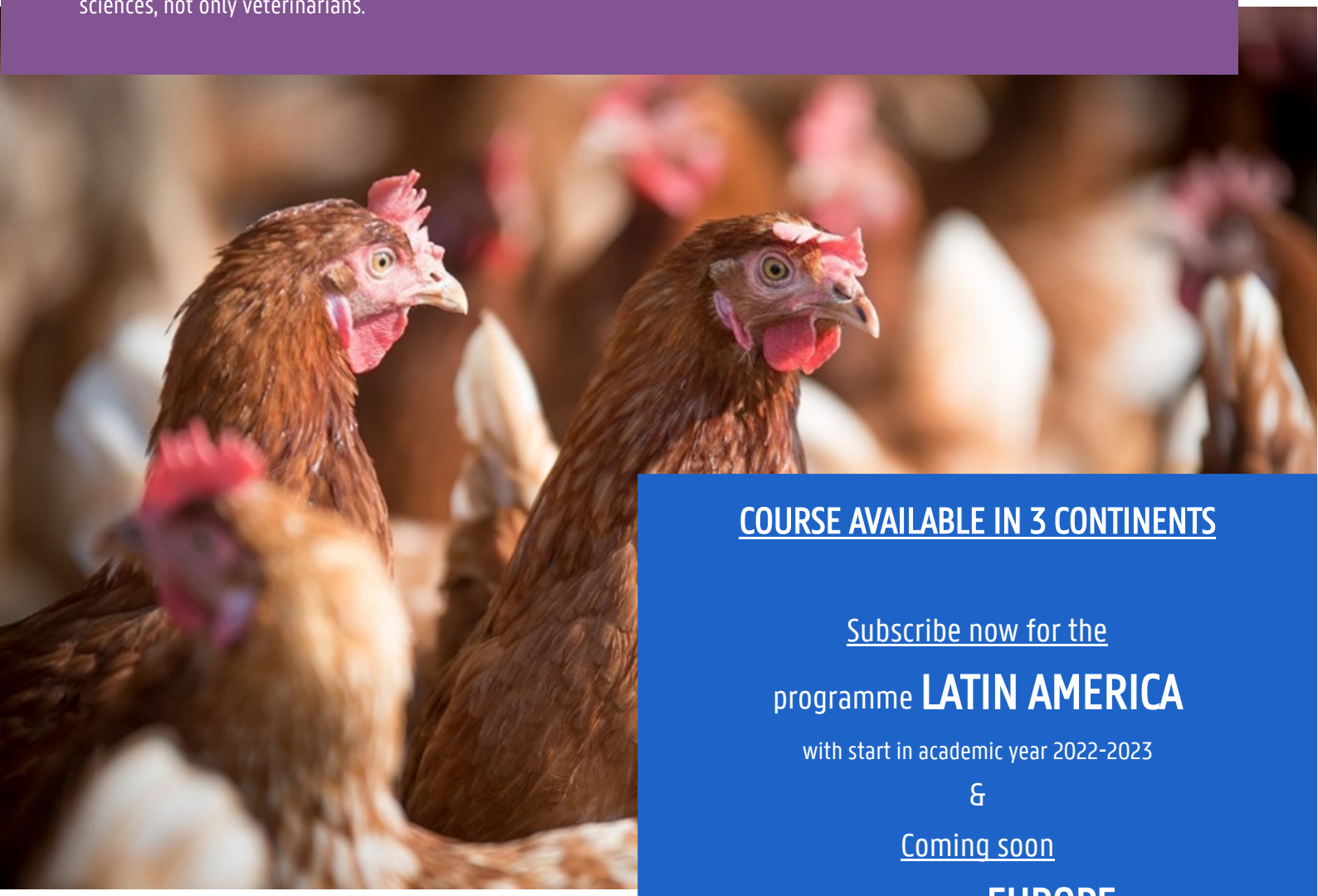
Advanced training courses and workshops contribute to the training of many employees of veterinary practices, pharmaceutical companies, animal feed and animal feed additive companies, research institutes and universities. These types of trainings enables these people to further develop their expertise in poultry health sciences and subsequently improve their career prospects in the poultry sector. However, these short technical trainings are limited in time and focus only on the newest trends in poultry health issues. Therefore, this postgraduate course in Poultry Health Sciences was developed to offer an in-depth educational program to educate fundamental and applied knowledge, to bridge the gap between research and field expertise.

COURSE STRUCTURE

The postgraduate in Poultry Health Sciences is a **three years program** offered as **an online course supported with in total 5 weeks of onsite practical training and 2 weeks of externship**. Online and distance learning offers students the flexibility of studying from anywhere and at any time over the internet. This new online postgraduate course offers a new way of combining innovative learning and teaching techniques with interaction between lecturers and fellow students from around the world. By combining this online course with short period of onsite practical trainings students will be able to acquire both in-depth theoretical and practical knowledge.

This postgraduate course is designed to suit those in continuing employment or with other commitments.

This course is designed to educate students with a diverse educational background with an interest in poultry health sciences, not only veterinarians.



COURSE AVAILABLE IN 3 CONTINENTS

Subscribe now for the

programme **LATIN AMERICA**

with start in academic year 2022-2023

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Coming soon

programme **EUROPE**

with start in academic year 2023-2024

&

programme **ASIA**

with start in academic year 2024-2025

STUDY PROGRAMME

1st YEAR

(credits: 10; total student workload: 300h)

- Basic Avian Sciences: Embryology, Anatomy, Physiology, Immunology, Breeding & Genetics
- Poultry Production, Management, Husbandry & Biosecurity
- Gut Health & Nutrition

2nd YEAR

(credits: 10; total student workload: 300h)

- Diseases of Poultry
- Treatment & Prevention
- Scientific Methods & Reasoning

3rd YEAR

(credits: 10; total student workload: 300h)

- Poultry Behaviour & Welfare
- Food Safety
- Externship

CLASS TIMETABLES

Courses are organized as instructor-led and facilitated e-learning in the **period October – April**. Students will be able to study and review course materials during their own time. Note that a limited number of classes may require attendance at online live lectures given by a professor given at a set time.

Practical exercises of the postgraduate Poultry Health Sciences are offered at a set time in enterprises in situ though, within periods of one week twice per academic year (first and second year of the programme) or once per academic year (third year of the programme).
Attendance at practical exercises is compulsory for all students.

Enrolment for the Postgraduate course in Poultry Health Sciences includes compulsory mobility for students to follow the practical trainings and to take the exams.

EXAM TIMETABLES

Periodic evaluation in the first-term examination period will be organised onsite (programme Latin America: Brazil (Sao Paolo); programme Europe: Belgium (Merelbeke); programme Asia: Philippines (Manilla)) in the period May 1st - June 30th.

If you failed/skipped an exam in the first examination period, you can retake the exam in the second examination period. Periodic evaluation in the second-term examination period will be organized in the period August 1st - September 15th in Belgium (Merelbeke) for all programmes.

COURSES

Basic Avian Sciences: Embryology, Anatomy, Physiology, Immunology, Breeding & Genetics

(YEAR 1; credits: 4.0; student workload: 120h)

This course will provide knowledge and deeper insights in the basic principles of avian sciences related to the normal structures, functioning and development of the healthy bird in relation to poultry farming.

First, in the section embryology the different developmental steps that occur to attain the normal anatomical and histological configuration of a neonatal chick are discussed. In addition to the normal embryonic development, also the occurrence and origin of congenital malformations and anatomical variations are discussed. Subsequently, this knowledge will be more practically elaborated in the section incubation biology and hatchery management.

Next the normal anatomy relevant to poultry health assessment in practice is discussed. Subsequently, the cellular morphology and the microscopic structure of the four basic tissues: epithelial tissue, connective tissue, muscle tissue and nervous tissue are discussed. Besides, also the physiological processes and the development and maintenance of the innate and adaptive immune mechanisms will be discussed. An important link will be made between normal anatomy, physiology and immunology and poultry farming.

Finally, the students get familiar with the basic principles of genetics, genetic variation and the molecular processes involved. This knowledge will subsequently be more practically elaborated in the section breeding management.

Poultry Production, Management, Husbandry & Biosecurity

(YEAR 1; credits: 3.0; student workload: 90h)

This course will make student familiar with all general aspects of poultry farming, including different production systems, poultry management, husbandry and biosecurity. The first section poultry production and management provides detailed information on poultry farming which provides much information about animals' health, well-being and production. The section husbandry of animals aims at making the students familiar with all general aspects of housing of different poultry species, including aspects of climate control. The primary objective of the section biosecurity is for the student to understand the general principles of preventive hygiene and disinfection at the level of the individual animal, at the level of the epidemiological unit, as well as at the community level.

Gut Health & Nutrition

(YEAR 1; credits: 3.0; student workload: 90h)

The course Gut Health and Nutrition will provide a holistic insight in poultry nutrition and gut health. Animal health and nutrition are interdependent. The interaction between the two is driven by feed-microbiota-host interactions in the gastrointestinal tract. A holistic approach to gut health looks at the whole picture, not just focusing on enteric diseases, but working on all contributing factors and considering the complex interactions between different parts: feed, microbiota and host immunity.

In the section Nutrition students will acquire knowledge on the characteristics of common feedstuffs, poultry nutritional requirements, impact of feed formulation, technology and management on poultry health and production. In the section Gut Health different factors affecting gut health, and mode of action, efficacy and safety of different types of feed additives will be discussed. This course teaches students how to develop a diagnostic and intervention plan for gut health problems in poultry taking into account the added value to improve gut health and return on investment.

Diseases of Poultry

(YEAR 2; credits: 4.0; student workload: 120h)

The goal of this course is to provide a comprehensive overview of all types of poultry diseases, including etiology, epidemiology, pathogenesis, symptoms & lesions, diagnosis, treatment and prevention of all major infectious (bacterial, fungal, viral, and parasitic diseases) and non-infectious diseases (nutritional diseases, developmental and metabolic disorders, intoxications) in poultry.

Treatment & Prevention

(YEAR 2; credits: 3.0; student workload: 90h)

Disease prevention focuses primarily on dedicated planning and sound management practices that keep infectious diseases out in the first place and prevent the onset of non-infectious diseases. Besides biosecurity, a good disease control programme also emphasizes on increasing bird resistance to disease by using recommended immunization procedures and to treat disease outbreaks with specific medication. In the chapter pharmacology students will get familiar with the principles of avian pharmacology including mechanism of action, pharmacokinetics, pharmacodynamics, application of different classes of veterinary drugs. The section vaccinology discusses the full process from vaccine development to application. A final part focusses on the use of epidemiology in poultry health sciences to understand, prevent and control poultry diseases.

Scientific Methods & Reasoning

(YEAR 2; credits: 3.0; student workload: 90h)

This course will make the student familiar with fundamental and applied poultry research, and routine poultry diagnostic methods to improve their scientific thinking skills. In the section scientific reasoning and communication students will learn about the basic principles of data analysis, processing and interpretation, how to write a research project proposal and a scientific manuscript, and finally how to present scientific data. Subsequently, in the chapters scientific methodology and diagnostics students are introduced to the basics of different methods frequently used in poultry research and diagnostics, respectively.

Poultry Behaviour & Welfare

(YEAR 3; credits: 3.0; student workload: 90h)

Animal welfare is becoming an increasingly important aspect of the business of producing poultry meat or eggs. Poultry welfare matters for both ethical and practical reasons. From an ethical perspective, poultry have a sufficient degree of awareness or "sentience" to suffer pain if their health is poor, or deprivation if they are poorly housed. From a practical viewpoint, consumers value poultry welfare, so better market access may be obtained by producers who ensure good welfare in their flocks. Therefore, this course teaches students fundamental and applied knowledge about poultry behaviour and welfare. Additionally, in the section laboratory animal science standards and challenges of keeping poultry as laboratory animals are explained. Finally, in the section public understanding and attitudes towards poultry farming the consumers perception of poultry production is discussed.

Food Safety

(YEAR 3; credits: 3.0; student workload: 90h)

Good food safety practices throughout the food production chain from "farm to fork" will minimise the chance of contamination of our food and also minimise, or even eliminate, the impact of contamination that has already occurred. Therefore, the objective of this course is to provide the students' knowledge and deeper insights in the poultry food production chain and controlling food safety hazards.

Externship

(YEAR 3; credits: 4.0; student workload: 120h)

The externship is a major keystone of the postgraduate Poultry Health Sciences. During the externship and associated scientific report a student proves his/her acquired knowledge related to poultry health sciences, analytical and synthesizing abilities, critical -reflective attitude and display of problem-resolving capabilities.

The students can follow and participate in poultry research and/or poultry health and disease monitoring. The externship can take place in applied and/or clinical poultry research laboratory at an academic institution or a research institution from the private or public sector, or a poultry health services laboratory which provide veterinary and food safety related testing, or a poultry veterinary practice, both at home and abroad. The externship can take various forms, including applied poultry research, clinical poultry research, poultry diagnostics, and poultry veterinary services.

Postgraduate in Poultry Health Sciences

Programme Latin America

E-learning supported with **onsite practical training**
alternately in **Brazil** (*Sao Paolo*) and **Colombia** (*Bucaramanga*)

MODEL TRAJECTORY – three-year program :

- ACADEMIC YEAR 2022-2023: 1st YEAR of program

Including one week of practical training in Brazil and one week in Colombia

- ACADEMIC YEAR 2023-2024: 2nd YEAR of program

Including one week of practical training in Brazil and one week in Colombia

- ACADEMIC YEAR 2024-2025: 3rd YEAR of program

Including one week of practical training in Brazil + 2 weeks of externship

EXAMINATION

- First-chance examination will be organized in Sao Paulo (Brazil)
- Second-chance examination will be organized in Merelbeke (Belgium)

(Enrolment for the Postgraduate course in Poultry Health Sciences programme Latin America includes compulsory mobility for students to the above mentioned locations to follow the practical trainings and to take the exams.)*

VETERINARY SCIENCES

SHANGHAI RANKING
Global Ranking of Academic Subjects
TOP 1
Veterinary Sciences
2021

No.1
2021
2020
2019
2018
2017

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Postgraduate in Poultry Health Sciences

Programme EUROPE

E-learning supported with **onsite practical training**
in **Belgium** (*Merelbeke, Izegem, and Poeke)*

MODEL TRAJECTORY – three-year program :

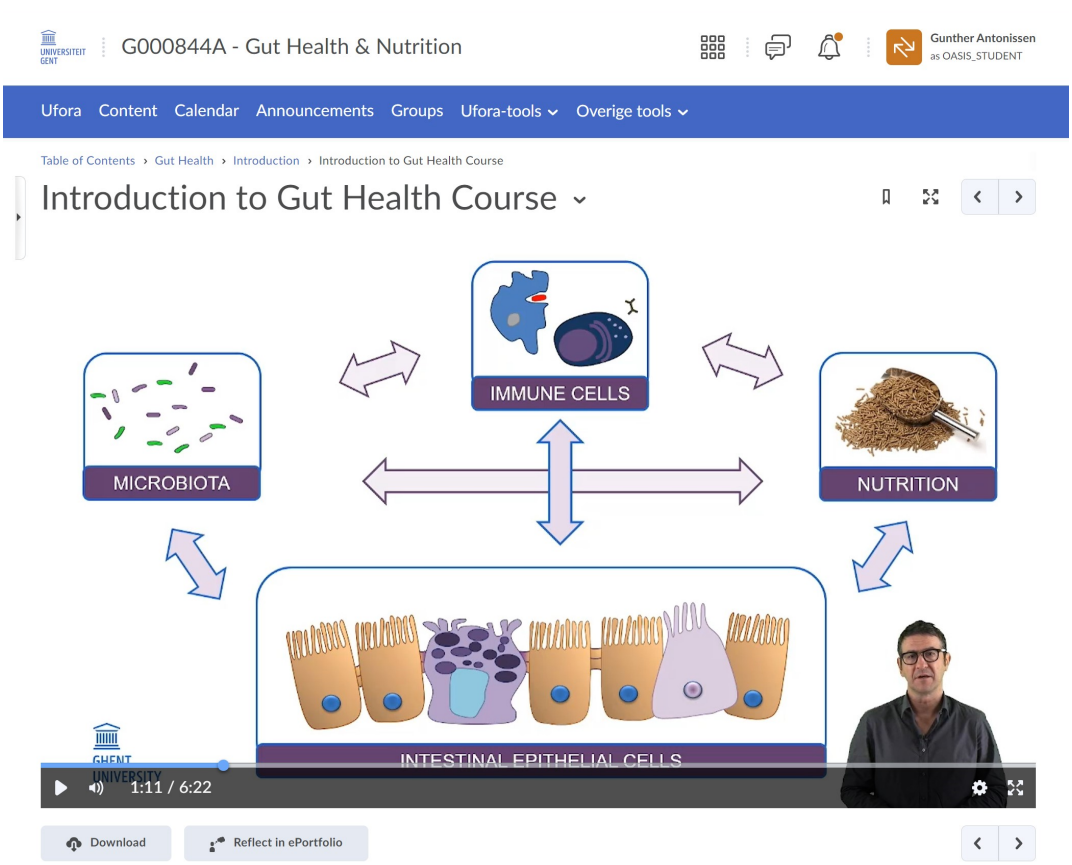
- ACADEMIC YEAR 2023-2024: 1st YEAR of program
  Including twice one week of practical training in Belgium
- ACADEMIC YEAR 2024-2025: 2nd YEAR of program
  Including twice one week of practical training in Belgium
- ACADEMIC YEAR 2025-2026: 3rd YEAR of program

Including one week of practical training in Belgium + 2 weeks of externship

EXAMINATION

- First-chance examination will be organized in Merelbeke (Belgium)
- Second-chance examination will be organized in Merelbeke (Belgium)

(Enrolment for the Postgraduate course in Poultry Health Sciences programme Europe includes compulsory mobility for students to the above mentioned locations to follow the practical trainings and to take the exams.)*



Postgraduate in Poultry Health Sciences

Programme Asia

E-learning supported with **onsite practical training**
alternately in **Philippines** (*Manilla*) and **Vietnam** (*Ho Chi Minh City*)

MODEL TRAJECTORY – three-year program :

- ACADEMIC YEAR 2024-2025: 1st YEAR of program

Including one week of practical training in Philippines and one week in Vietnam

- ACADEMIC YEAR 2025-2026: 2nd YEAR of program

Including one week of practical training in Philippines and one week in Vietnam

- ACADEMIC YEAR 2026-2027: 3rd YEAR of program

Including one week of practical training in Philippines + 2 weeks of externship

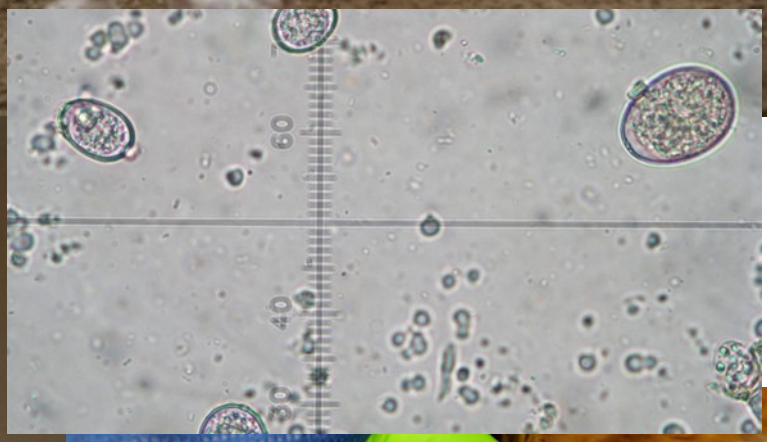
EXAMINATION

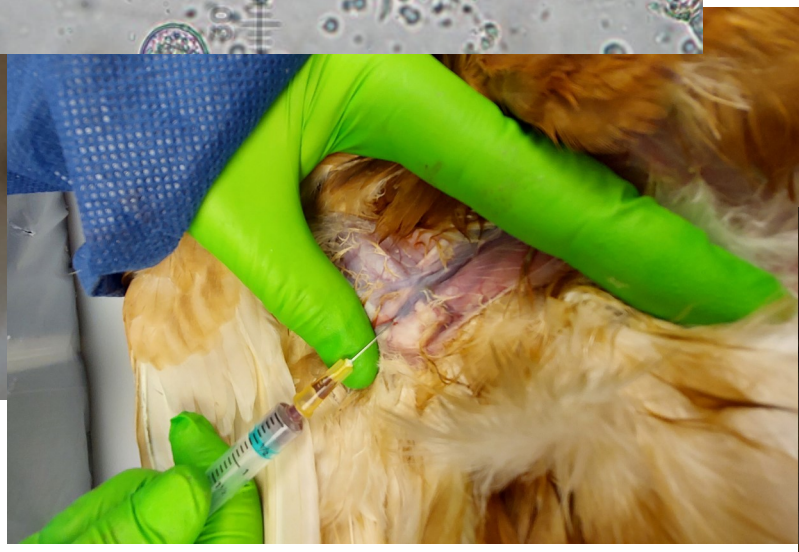
- First-chance examination will be organized in Manilla (Philippines)
- Second-chance examination will be organized in Merelbeke (Belgium)

(Enrolment for the Postgraduate course in Poultry Health Sciences programme Asia includes compulsory mobility for students to the above mentioned locations to follow the practical trainings and to take the exams.)*

PRACTICAL TRAININGS

Practical trainings are organised by Ghent University in collaboration with Vetworks.





*Vetworks can assist students to book their accommodation for the practical trainings and exams.

www.vetworks.eu

SCHEDULE PRACTICAL TRAININGS AND EXAMS: ACADEMIC YEAR 2022-2023

Postgraduate in Poultry Health Sciences: Programme Latin America

1st YEAR of programme

Practical trainings:

PERIOD	TOPIC	LOCATION
November 7-11, 2022	Practical training week 1	Colombia (*Bucaramanga*)
March 20-24, 2023	Practical training week 2	Brazil (*Sao Paolo*)

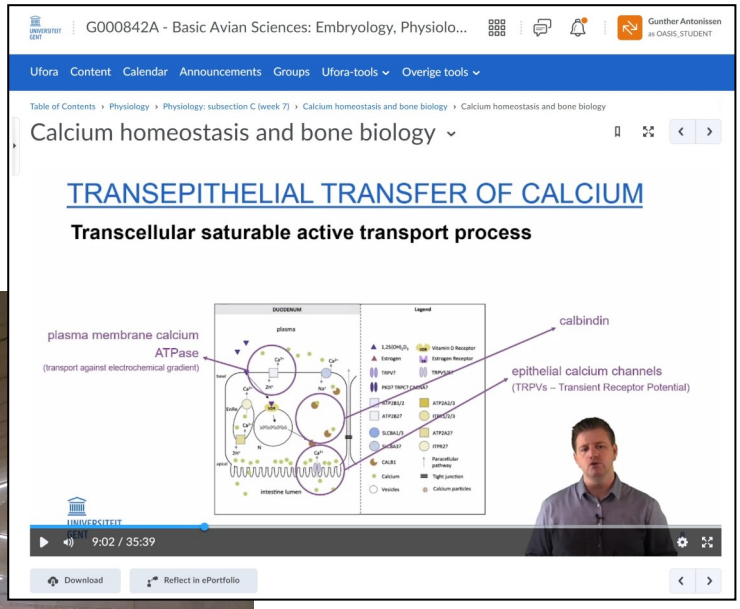
EXAMINATION - first chance period:

Date	COURSE	LOCATION
May 30, 2023	Basic Avian Sciences: Embryology, Anatomy, Physiology, Immunology, Breeding and Genetics	Brazil (*Sao Paolo)*
May 31, 2023	Poultry Production, Management, Husbandry, and Biosecurity	
June 1, 2023	Gut Health & Nutrition	

EXAMINATION - second chance period *:

Date	COURSE	LOCATION
August 29, 2023	Basic Avian Sciences: Embryology, Anatomy, Physiology, Immunology, Breeding and Genetics	Belgium (*Merelbeke)*
August 30, 2023	Poultry Production, Management, Husbandry, and Biosecurity	
August 31, 2023	Gut Health & Nutrition	

(* Only students who did not pass the exam in the first chance period have to take the exam in the second chance period)



CHAIR POULTRY HEALTH SCIENCES

In 2019, the Chair Poultry Health Sciences was established at the Faculty of Veterinary Medicine of Ghent University (Belgium). With this Chair, the Faculty of Veterinary Medicine embeds its expertise in international poultry farming. The chair has been jointly established by the department of Pathobiology, Pharmacology and Zoological Medicine (prof. dr. Filip Van Immerseel and prof. dr. Siska Croubels, promoters chair) and two Flemish companies Vetworks and Poulpharm. Prof. dr. Gunther Antonissen is appointed as chairholder.

This chair offers an unique opportunity to encourage partnership with national and international industrial partners, universities, and research institutes focusing on poultry research and education.

A successful poultry production needs knowledge in various disciplines, including management, housing and climate control, disease control, nutrition, sustainability, and animal welfare among others. There is thus a **high demand for trained and educated experts**. Furthermore, there is an obvious **need for effective solutions for many challenges, including infectious and non-infectious diseases**, and **increased consumer awareness of food safety, sustainability and animal welfare** for which **fundamental and applied research is necessary**. A **collaboration** between **Ghent University** and two companies, **Vetworks** and **Poulpharm**, will strengthen both education and research in this area of poultry health sciences.

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poul pharm

vetworks

INSTRUCTORS

Courses are taught by Ghent University associated instructors, complemented with poultry experts from all around the world from academia, research organizations, and industry.

PROF. DR. GUNTHER ANTONISSEN – COORDINATOR

Gunther Antonissen is appointed as chairholder of the Chair Poultry Health Sciences at the Faculty of Veterinary Medicine, Ghent University. He holds the European Diplomate status of the European College of Poultry Veterinary Science (ECPVS). The poultry research of the group of prof. Antonissen is multidisciplinary, focusing on a better understanding of the pathogenesis of infectious and non-infectious diseases, improving diagnostics, improving animal welfare and demonstrating the efficacy and safety of prevention and treatment strategies. Current research is related to gut health (alternatives to antibiotics, diagnostics), mycotoxins and endotoxins (e.g. impact on animal and human health, interaction of mycotoxins and infectious diseases, mechanism of action and safety of detoxifying agents), host-pathogen interaction, antimicrobial resistance, and poultry welfare (monitoring and interventions).

PROF. DR. FILIP VAN IMMERSEEL

Filip Van Immerseel is full professor and heading the Livestock Gut Health Team (LiGHT) at the Department of Pathobiology, Pharmacology and Zoological Medicine at the Faculty of Veterinary Medicine, Ghent University. He is globally recognized for his work on intestinal microbiota-host interactions in poultry, with more than 200 papers, a dozen of patents on gut health solutions, and multiple out-licensed products on the market. He is a well-known invited speaker at conferences, editor of Avian Pathology, and recognized for the numerous research projects with fundamental scientific and industrial relevance.

PROF. DR. SISKA CROUBELS

Siska Croubels is full professor at UGent and director of the Department of Pathobiology, Pharmacology and Zoological Medicine of the Faculty of Veterinary Medicine. Her research focuses on in vivo ADME processes (absorption, distribution, metabolism, excretion), residues and safety of drugs and mycotoxins in several animal species. Her laboratory is recognized for the analysis of small molecules in biological, food, feed and environmental matrices, using state-of-the-art UHPLC-MS/MS instruments. She authored over 300 A1-publications and book chapters, and promoted 30 doctoral theses.

MAARTEN DE GUSSEM

Maarten De Gussem is founder and Poultry Consultant of Vetworks: servicing the poultry industry with a global team of specialists and providing support on poultry health topics all over the world, with focus on mycoplasmosis, general gut health and coccidiosis. Besides his work at Vetworks, Maarten is academic adviser at the Faculty of Veterinary Medicine at Ghent University and a member of scientific committees of Poultry Mycoplasma Conference and of IHSIG Conference on Poultry Intestinal Health. Maarten De Gussem is also author of Broiler Signals, a leading broiler management book in more than 12 languages.

DR. HILDE VAN MEIRHAEGHE

Hilde Van Meirhaeghe is Poultry Consultant for Vetworks, a group of poultry veterinarians giving technical support in poultry health worldwide for integrations and the pharmaceutical industry. She is Academic adviser and teaching poultry parasitology at the Ghent University, also involved in education programs and hands-on training for poultry professionals in EU Africa, Asia, Latin America. Hilde Van Meirhaeghe contributed to several research projects on hygiene, food safety and disease control, recently in the European Commission funded EFFORT (reduction of antimicrobial resistance in poultry) and a project on defining innovative tools to assess gut health issues in poultry.

PROF. DR. WARD DE SPIEGELAERE

Ward De Spiegelaere is professor in integrative Morphology at the faculty of Veterinary Medicine of the Ghent University. He teaches anatomy of exotic pets an comparative anatomy of laboratory animals. His research focuses on the role of macrophages in angiogenesis using the chicken embryo as a model system.

PROF. DR. PIETER CORNILLIE

Pieter Cornillie is associate professor at the Faculty of Veterinary Medicine at Ghent University. He is responsible for education and research in veterinary anatomy and embryology. His research focuses on the developmental vascular anatomy and angioarchitecture, including fine cardiac anatomy and its conductive system, mainly in the equine heart. Apart from the typical domestic animal species, also the cardiovascular system of large cetaceans is targeted. His second major research topic is age estimation in domestic animals and wildlife, based on anatomical characteristics.

PROF. DR. WIM VAN DEN BROECK

Wim Van den Broeck is professor in veterinary cell biology and histology at Ghent University (UGent) since 2002, head of the Department of Morphology at the Faculty of Veterinary Medicine since 2017, and co-founder of the UGent Expertise Centre for Transmission Electron Microscopy. Furthermore, he is member of the Europan Association of Veterinary Anatomists, and of the European Microscopy Society. His research areas focus on the ultrastructure of the gut associated lymphoid tissue in general, and of tonsils in particular, and on the identification, localization and function of telocytes in the porcine heart. He has published more than 210 papers in peer reviewed international scientific journals.

PROF. DR. BERT DEVRIENDT

Bert Devriendt is assistant professor at Ghent University, at the Faculty of Veterinary Medicine, the Laboratory of Immunology.
His research investigates host-pathogen interactions in livestock species, with a focus on enteropathogens and the gut immune system, as well as how the obtained knowledge might inform on the development of novel oral vaccines. He authored over 70 scientific publications and book chapters.

EM. PROF. DR. RICHARD DUCATELLE

Richard Ducatelle is emeritus professor in veterinary pathology at Ghent University since 1992. His research interest is gut health in animals, with emphasis on poultry. He is diplomate of the European College of Poultry Veterinary Science since 2014. He is president of the Belgian branch of the World Veterinary Poultry Association since 1992. He has published more than 600 papers in peer reviewed international scientific journals. He was an invited speaker at more than 80 national and international congresses and symposia.

EM. PROF. DR. EDDY DECUYPERE

From 1988 onwards Eddy Decuypere was full senior professor and head of the laboratory of Physiology of Domestic Animals at the Catholic University of Leuven (Belgium). During his career he published more than 850 papers in international peer reviewed journals and many book chapters and review papers. The main research themes were incubation and embryo development in the chicken, endocrinology and energy metabolism in broilers, broiler breeder reproduction. Each of these themes linked fundamental as well as applied research topics.

PROF. DR. GEERT JANSSENS

Geert Janssens graduated in 1992 as agricultural engineer at KU Leuven, Belgium. He obtained his PhD in veterinary sciences in 1999 at Ghent University on pigeon nutrition. He is now professor at the same faculty, where he initiated a range of research lines, with main focus on the role of intestinal events on metabolic traits, nutritional modulation of energy homeostasis, and micromineral-related physiology. He appreciates the added value of comparative nutrition, involving species from throughout the animal kingdom within both wild and domesticated animals, including poultry nutrition work.

AFRICA FERNÁNDEZ-GUTIÉRREZ

Africa graduated from Santiago University, Spain in 1996. She completed a master's in veterinary science in 1997 at the University of Leon. She is an field expert in health, biosecurity and management of pedigree, great grant parents, grandparent, breeders, and broilers. Since June 2019, Africa works as Global poultry consultant at Vetworks with focus on breeder parent's management, pathogens control, and biosecurity and health plans.

TIAGO PRUCHA

In 2017, Tiago graduated as a Master in Veterinary Medicine at the University of Porto. Tiago has worked at one of the largest broiler integrations in Portugal as a poultry veterinarian and farm manager. This experience gave him an indispensable insight on a functioning full poultry production cycle. Since 2018, Tiago is working as a Poultry Consultant at Vetworks. On behalf of Vetworks, Tiago is working on several projects including: The EU H2020 Phagovet: A cost-effective solution for controlling *Salmonella* and *Escherichia coli* in poultry production; e-learning modules to the Broiler Signals manual.

PROF. DR. JEROEN DEWULF

Jeroen Dewulf is a full professor in Veterinary Epidemiology. His research focus on prevention of endemic and epidemic diseases through biosecurity measures and animal health aspects that may influence public health such as antimicrobial use and resistance in animals as well as zoonotic infections. He is member of the scientific committee of the Belgian federal food Agency and is the founder and chair of board of the center of expertise on antimicrobial use and resistance in animals (AMCRA) in Belgium.

DR. NELE CAEKEBEKE

Nele Caekebeke graduated as a veterinarian in 2016 with a major in Scientific Research at the Faculty of Veterinary Medicine of Ghent University. She finished her PhD on coaching of farmers towards improved infection prevention in 2021. Today, she is combining her job as managing director of Biocheck.Gent, a company that focuses on biosecurity as the first and primary level of disease prevention in animal production, with a position as a postdoctoral researcher at Ghent University.

PROF. DR. DOMINIEK MAES

Dominiek Maes (DM) is full professor and head of the Unit of Porcine Health Management at the Faculty of Veterinary Medicine at Ghent University Belgium. He teaches swine health and production, animal housing and veterinary public health. His main research areas focus on infectious disease in swine (mainly respiratory disease), reproduction and production. Dominiek Maes has published over 300 papers in international peer-reviewed journals, supervised 35 PhDs, and made more than 600 contributions to national and international conferences. He is section editor of the journal Livestock Science since 2012.

DR. SEBASTIAAN VAN HOOREBEKE

Dr. Sebastiaan Van Hoorebeke graduated as a veterinarian specialized in poultry in 2006. He obtained his PhD in Veterinary Sciences in 2010 investigating the effect of different housing systems on *Salmonella* and antimicrobial resistance in laying hens. He is a field expert in different aspects of modern poultry (turkeys, broilers, laying hens, breeders) production such as general farm management, nutrition, biosecurity, vaccination programs, and zootechnical results.

DR. EVELYNE DELEZIE

Dr. Ir. Evelyne Delezie graduated as Master of Science in Bio-Engineering (option Animal Production) at the Faculty of Bioscience Engineering, KU Leuven in July 2002. After she obtained her PhD at the same university in 2006, she joined the Institute for Agricultural and Fisheries Research, Animal Sciences Unit. As a senior researcher and research group leader of the small livestock husbandry she performs fundamental as well as practical research for Flemish agriculture. Main topics of interest are dealing with nutrient requirements, relationship between nutrition and climate (emissions and excretions), product quality and poultry health, investigating alternatives for crude protein sources, antibiotics and general production problems with poultry. Furthermore, she is also vice-president of the WPSA Belgium and active in different European WPSA working groups.

DR. MARTA LOURENÇO

Dr. Marta Lourenço, graduated in 2003 as Veterinarian at the Technical University of Lisbon, Portugal. In 2007 she obtained her PhD in Applied Biological Sciences from Ghent University, Belgium. In 2017 she joined ILVO as a senior researcher in poultry nutrition. She has vast experience in gut health evaluation, assessment of the impact of feed and feed additives on nutritional physiology, gut and animal health and metabolism, animal performance and end-product quality.

DR. MIRIAM ALBERTO—TEMPRA

Dr. Miriam Alberto -Tempra has been serving the animal feed industry for the past 23 years as an Animal Nutritionist. She finished her Doctor of Philosophy degree in Animal Science major in Animal Nutrition from the University of the Philippines Los Banos in 2010. She is an expert in poultry and swine nutrition, with hands-on experience in the feed additive industry, and by providing technical services to farms and feedmills.

PROF. DR. MATHIAS DEVREESE

Veterinarian Mathias Devreese is associate professor of veterinary pharmacology at the Faculty of Veterinary Medicine, Ghent University. He is an EBVS™ European Specialist in Veterinary Pharmacology and Toxicology (ECVPT Diplomat) and fellow of the American Academy of Veterinary Pharmacology and Therapeutics (AAVPT) and the European Association for Veterinary Pharmacology and Toxicology (EAVPT). His research focusses on pharmacological aspects of antimicrobial resistance and antimicrobial posology as well as the ontogeny of physiological processes to aid preclinical research.

PROF. DR. MIEL HOSTENS

Miel Hostens is assistant professor at the department of Farm Animal Health at the Faculty of Veterinary Medicine, University of Utrecht. His research and services focusses on herd health management in relation to big data in dairy management.

PROF. DR. AN GARMYN

An Garmyn is an associate professor in Poultry and Companion birds and heads the Necropsy Division for the Clinic of Poultry and Exotic Animals at the Department of Pathobiology, Pharmacology and Zoological Medicine at the Faculty of Veterinary Medicine, at Ghent University. She has 15 year of expertise in avian pathology, veterinary microbiology, *in vivo* infection modelling in poultry and poultry management. Research emphasis is on host-pathogen interaction and development of mitigation, situated in the field of bacterial infections in poultry (*Salmonella, Campylobacter*, *Brachyspira*, *E. coli, Ornithobacterium rhinotracheale, Clostridium, Mycoplasma*,...).

PROF. DR. PETER GELDHOF

Peter Geldhof is full professor in parasitology at the faculty of Veterinary Medicine, Ghent University. His research is positioned at the crossroad of immunology and parasitology and aims at unravelling the host-parasite interplay during infection. The ultimate goal is to develop and provide tools for the improved diagnosis and control of gastrointestinal parasites in animals.

DR. VENESSA EECKHAUT

Venessa Eeckhaut is postdoctoral researcher at Ghent University, department of Pathobiology, Pharmacology and Zoological Medicine at the faculty of Veterinary Medicine. She is mainly known for her work on strictly anaerobic butyrate producers with focus on their potential as next generation probiotics.

DR. EVY GOOSSENS

Evy Goossens works as a post-doctoral researcher at Ghent University, focusing on gut health in livestock production. Her interests centre on host-pathogen and host-microbiome interactions, and how these influence health and disease. Methods employed reach from anaerobic microbiology to microbial engineering, NGS sequencing (microbiome sequencing, whole genome sequencing, RNAseq), bioinformatics and measurements of host-pathogen interactions.

DR. SIEGRID DE BAERE

Siegrid De Baere is Laboratory Advisor at the Laboratory of Pharmacology and Toxicology. She is involved in the performance of pharmacokinetic, bioavailability, bioanalysis, residue and safety studies according to GLP principles and in different research projects in the field of veterinary pharmacology and toxicology. She has over 20 years of experience in the development and validation of analytical methodologies for the detection and quantification of xenobiotics (drugs, mycotoxins and their metabolites) and endogenous compounds in different biological matrices of animal origin, using liquid chromatography mass spectrometric techniques.

PROF. DR. FRANK TUYTTENS

Frank Tuyttens is head of the Farm Animal Welfare & Behaviour research group of the Flemish Research Institute for Agriculture, Fisheries and Food (ILVO, Belgium). His research focusses on assessing, monitoring and improving the welfare of livestock. He is chair of the ILVO Ethical Commission for animal experiments and member of the steering group of the Flemish Council for Animal Welfare. He is visiting professor of farm animal welfare & ethology at the Faculty of Veterinary Medicine of Ghent University.

PROF. DR. CHRISTEL MOONS

Christel Moons is Associate Professor in Applied Animal Behaviour and Animal Welfare. She is the head of the Ethology and Animal Welfare Research Group, Department of Veterinary and Biosciences at the Faculty of Veterinary Medicine of Ghent University. Her research focuses on the prevention, diagnosis and treatment of welfare problems in animals managed by humans. She is also the president of the Brussels Animal Welfare Council, a member of the Flemish Committee on Animal Experimentation and an Associate Member of the European College of Animal Welfare and Behavioural Medicine (subspecialty Animal Welfare Science, Ethics and Law).

PROF. DR. LYNN VANHAECKE

Lynn Vanhaecke is Full Professor and head of the Lab of Chemical Analysis at the Department of Translational Physiology, Infectiology and Public Health at Ghent University and holds a 20% appointment at the Institute of Global Food Security at QUB. The chemical analyses of food, biofluids and environmental matrices, the metabolism and biological activity of food and contaminants, and the holistic analysis of small molecules through metabolomics and lipidomics using advanced high-resolution mass spectrometry in relation to human and animal health belong to her major research objectives.

PROF. DR. KURT HOUF

Kurt Houf is veterinarian and full professor at the department of veterinary Veterinary and Biosciences, Ghent University, and visiting professor at the University of Antwerp, Belgium. He is also a diplomate at the European college of Veterinary Pubic health. Since 1996, he works on the isolation, identification and characterization of foodborne bacteria in the food chain, with a focus on poultry products. Current research is on the impact of the microbiota on the safety of food of animal origin, including the role of production areas as slaughterhouses, cutting and processing plants and at retail..

REGISTRATION

GENERAL ADMISSION REQUIREMENTS

Language access requirement: B2 English level as defined in the education and examination code.

Admission is granted on the basis of the diploma:

- The admission procedure for holders of **a diploma awarded by an educational institution recognized by the Flemish community** consists of reporting via www.ugent.be/enrolment and following the enrolment procedure. For holders of a Bachelor or Master degree in Veterinary Sciences the direct admission procedure is applicable. For holders of a Bachelor, Master or Master after Master degree in another discipline admission will also be subject to an enquiry into the suitability of the holder of the diploma, taking into account possible working experience, specific expertise and /or specialisation as well as motivation. For actual enrolment, all required diplomas and certificates need to be presented.
- If holders of a **diploma awarded by a foreign (non-Belgian) educational institution** wish to enrol for the postgraduate Poultry Health Sciences, they need to report via the procedure outlined on www.ugent.be/admission and follow the enrolment procedure. All requests based on a foreign diploma need to be accompanied by a legalized copy of this diploma, except diplomas awarded in a country which has ratified the Lisbon Recognition Convention (LRC).

REGISTRATION PROGRAMME LATIN AMERICA ACADEMIC YEAR 2022-2023

IMPORTANT **DEADLINES**

programme Latin America

- **You have a diploma awarded by a foreign (non-Belgian) educational institution**
  www.ugent.be/admission
  → submission of Admission file to Ghent University Admissions: **August 31, 2022**

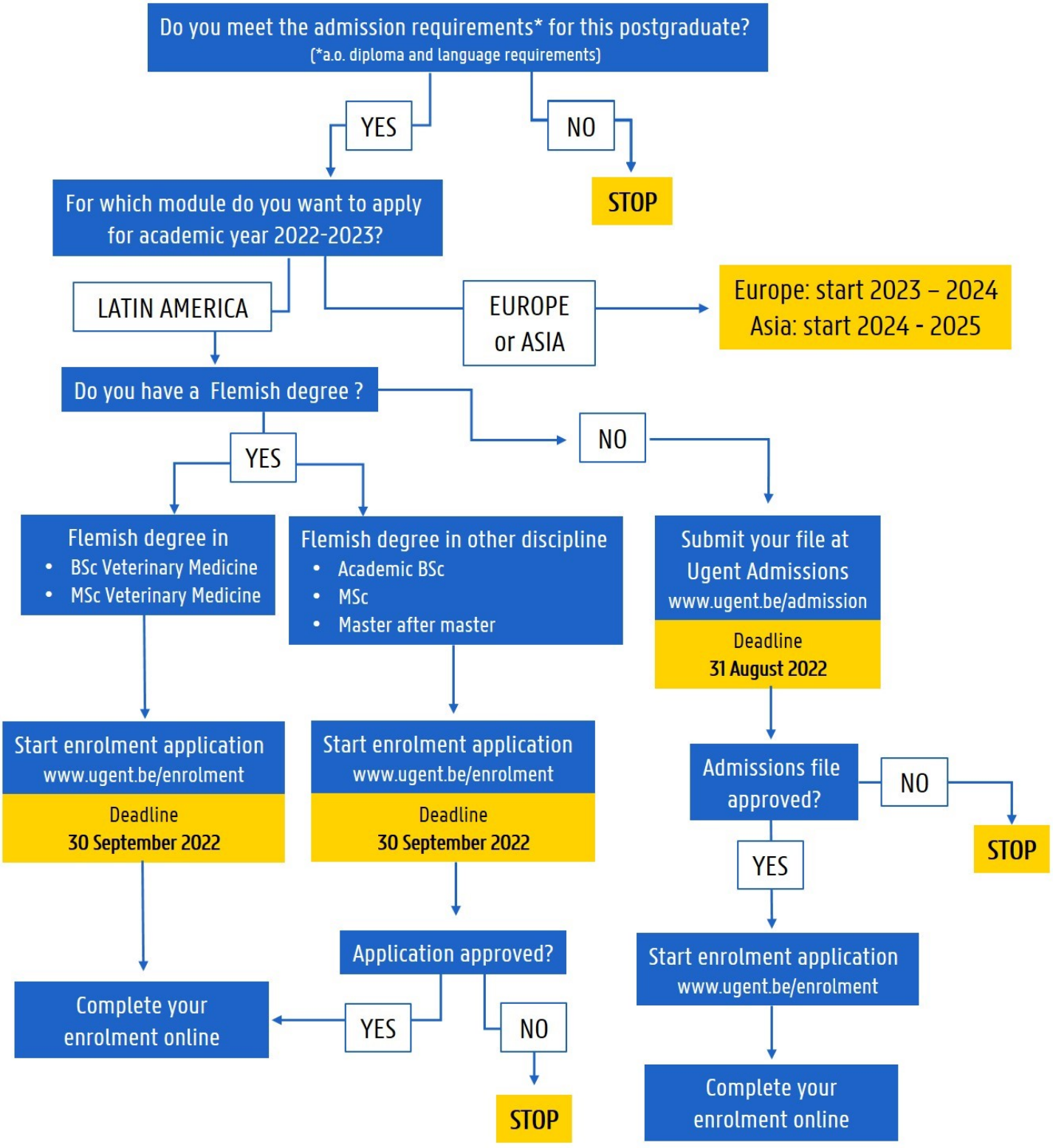
- **You have a diploma awarded by an educational institution recognized by the Flemish community**
  www.ugent.be/enrolment
  → deadline enrolment application: September 30, 2022

Check the flowchart on the next page—what deadlines apply to your specific case.

During the first week of practical training your original identity documents and original diplomas will be checked for authenticity

REGISTRATION PROGRAMME LATIN AMERICA ACADEMIC YEAR 2022-2023

Check the **flowchart** below to see what **deadlines** apply to your specific case.



If you have any questions or need further information, please contact prof. dr. Gunther Antonissen (poultry@ugent.be)

LEARNING OUTCOMES

1. Competences in poultry health sciences

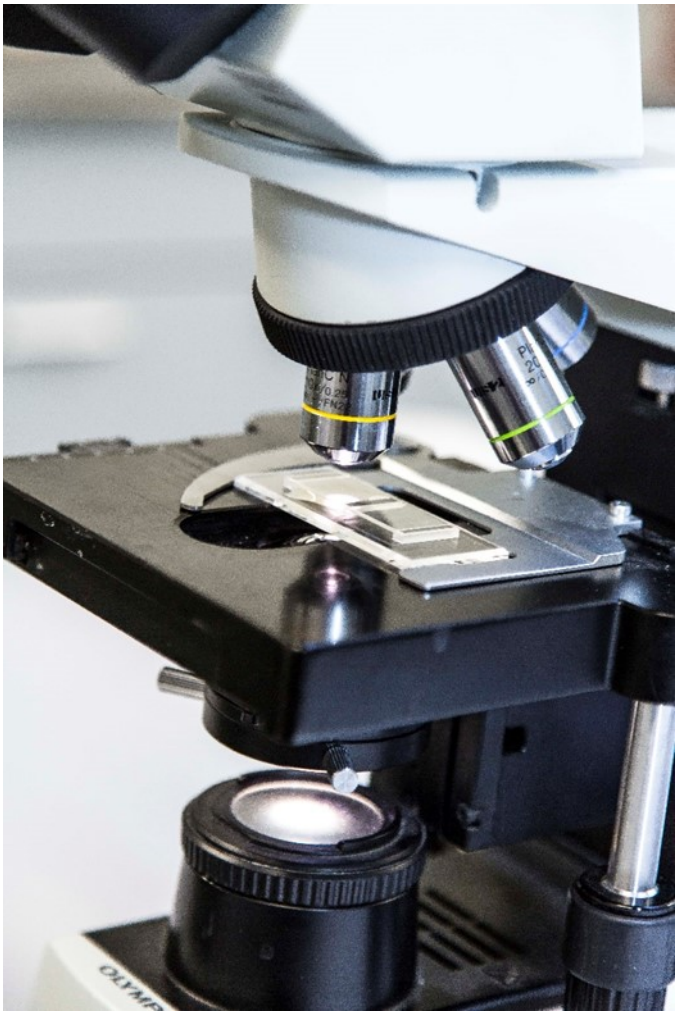
- Have advanced knowledge in poultry embryology, anatomy, physiology, immunology, genetics, and behaviour.
- Master basic principles of poultry production methods, housing, biosecurity and economics of poultry health sciences.
- In-depth insight in the field of poultry feed, feed additives, and feed analysis.
- Have knowledge and insight in the pathogenesis, epidemiology, diagnostics, prevention and treatment of infectious and non-infectious poultry diseases.
- Have basic knowledge of pharmacological processes, drug disposition, withdrawal time, and drug residues.
- Have basic knowledge of vaccine development and mechanism of action, and insight in the vaccine usage in poultry production.
- Developed critical thinking skills and insights in hot topics in poultry production such as responsible use of antimicrobials, sustainability in livestock production, animal welfare, and public perception of poultry production.
- Have knowledge of guidelines to maintain and assure food quality and food safety of poultry products.
- Have basic knowledge and insight on return on investment of interventions to support poultry health.
- Have basic knowledge of international poultry legislation, regulations, and standards.

2. Scientific competences

- To be able to search for scientific information, analyze and critically evaluate independently.
- To be able to make a scientific observation, critically process this information, and to elaborate on their observation.
- Being able to formulate a research question and to write the outline of a research proposal.
- To understand the basic principles and the application of biomedical laboratory techniques frequently used in poultry research and diagnostics.
- To be able to approach the development of poultry health promoting products and strategies scientifically.

3. Intellectual competences

- To be able to critically analyze, evaluate, and develop solutions to a straightforward poultry health, welfare, food safety or management related problem.
- To conduct theory application and practical assignment, and animal dissection accurately.
- To have a critical-reflective attitude.



4. Communication

- Being able to communicate fluently in writing and orally about poultry research at a technical / scientific level, both with colleagues and to a general audience.
- Being able to share experiences and information in an international team.
- To be able to approach socially sensitive topics based on scientific reasoning.

5. Social competences

- To be aware of ethical and the public perception of poultry production, selection, handling, and slaughtering.
- To be aware of the societal impact of inappropriate use of antimicrobials and antimicrobial resistance.
- To be aware of the societal impact and public perception of the environmental impact of poultry farming.
- To be aware of the societal impact of emerging trends in poultry farming.

6. Entrepreneurship and innovation

- Being aware of the importance of scientific research in the development and usage of products which support the health and well-being of poultry.

TUITION FEE

ACADEMIC YEAR 2022– 2023:

YEAR 1 of Postgraduate in Poultry Health Sciences (10 credits):

Total tuition fee for 1st year: **€11 000**[1, 2]

[1] The tuition fee consists of an amount per credit (€ 100) + an extra amount for the programme (€ 10 000)
[2] This fee includes e-learning courses and practical trainings. This fee does NOT include accommodation and travel cost associated with participation in practical trainings and exams.

As a postgraduate student, you are an officially registered Ghent University students and you will also receive a Ghent University student card.

Total tuition fee in YEAR 2 and YEAR 3 will be similar as YEAR 1[3]

TOTAL TUITION FEE COMPLETE PROGRAMME: €33 000[3]

([3]Tuition fees are reviewed annually, amounts are subject to indexation and adjustments)

Remarks
- Invoices are sent to the student by e-mail
- All tuition fees should be paid with the reference mentioned on the invoice
- The tuition fee can be paid by a company if the reference is mentioned on the bank transfer.
- All payments need to be done in Euros
- More info on https://www.ugent.be/student/en/administration/tuition

GHENT UNIVERSITY

Dare to Think #Poultry

FACULTY OF VETERINARY MEDICINE
accredited by EAEVE

FREQUENTLY ASKED QUESTIONS

WHICH TYPE OF INTERNET CONNECTION DO I NEED?

Internet connection necessary to connect to all learning material of the postgraduate. Ufora is the umbrella name for the electronic learning environment at Ghent University which will be used for e-learning. Since the online courses will contain audio, graphics and video high speed internet is essential.

CAN I REGISTER FOR ONE COURSE OF THE PROGRAMME?

No, course units cannot be taken via an exam contract.

DO I HAVE TO FOLLOW ALL PRACTICAL TRAININGS?

Yes, attendance at practical exercises is compulsory for all students. Enrolment for the Postgraduate course in Poultry Health Sciences includes compulsory mobility for students to follow the practical trainings and to take the exams.
Participation, motivation, dedication and skills of the student during the practical trainings are part of the permanent evaluation. Student who eschew period aligned and/or non-period aligned evaluations for the course units may be failed by the examiner.

IS IT POSSIBLE TO FOLLOW THE FULL PROGRAMME (30 credits) IN ONE YEAR?

No, this will not be possible. The programme of the postgraduate is designed to develop certain competences in the first year which you will need in the second year, and in the second year which you will need in the third year. Furthermore, per region (Europe, Asia, Latin America) only one of the three years of the programme is organized each year.

WHAT IS THE MINIMAL REQUIREMENT TO PASS THE EXAM?

Grades received for practical exercises and the results of written and oral tests during the year may also be taken into account for the final result, as part of a system of permanent evaluation. For each course unit the evaluation/examination method is indicated in the course catalogue, as well as the minimum requirements for awarding credit points. Ghent University uses a grading system of 0–20 with intervals of 1 point. No half points are used.
10 to 20 are the passing marks
0 to 9 are failing marks.
You can find more information on the academic system in the Education and Examination Code.

WHAT IF I DID NOT PASS THE EXAM FIRST EXAMINATION PERIOD?

If you failed/skipped an exam in the first examination period, you can retake the exam in the second examination period. If you did not pass the exam in first examination period, you are automatically registered for the second chance exam period. However, take into account that the second examination period is only organized in Belgium (Merelbeke). In contrast to the first examination period, students following the programme in Latin-America or Asia have to come to Belgium to take their second chance exam.

IS THE NUMBER OF STUDENTS IN THE POSTGRADUATE PROGRAMME LIMITED?

No.

WHAT IF I DID NOT PASS ALL MY COURSES OF THE STANDARD LEARNING PATH?

Generally you can re-enrol in a course you have previously failed. You will need to check the course specifications to confirm in which region this course is offered in that year, additional mobility of the student might be necessary. When you re-enrol into a course you will mostly need to repeat the whole course and pay for the course again. In that case, a personalized learning path which deviates from the standard learning path can be developed for the student.

WHAT IS THE DIFFERENCE BETWEEN A POSTGRADUATE PROGRAMME AND CONTINUING EDUCATION PROGRAMMES?

Upon completing your postgraduate programme, you receive a postgraduate certificate. This is not the same as a degree (which you obtain on successful completion of a Bachelor's or a Master's programme). It is a real university training though, which on successful completion is honoured with a certificate signed by the Rector of Ghent University. As opposed to a continuing education programmes, postgraduate programmes organized by Ghent University consist of course units for which, upon successful completion, ECTS credits are obtained.

Should you have unanswered questions on the Postgraduate Poultry Health Sciences after reading this brochure, please contact us
poultry@ugent.be

FACULTY OF VETERINARY MEDICINE
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More information:

www.poultryhealthsciences.com

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