Universiteit Utrecht

Programme details of the MSc Veterinary Medicine
The courses described below are the programme details of the Master's programme Farm Animal and Veterinary Public Health of the MSc Veterinary Medicine. The official length of the MSc programme is 180 ECTS.

Master's programme Farm Animal and Veterinary Public Health	**ECTS**	**Weeks**
Management and the Vet's Societal Responsibility	6	4
Responsible Use of Experimental Animals	1.5	1
Hygiene, Microbiological and Pathological Diagnostics	4.5	3
Farm Animal Health / Veterinary Public Health	79.5	53
Basic Externship Companion Animal Medicine	10.5	7
Basic Externship Equine Medicine	7.5	5
External Education in Private Practice	12	8
Research Project	18	12
Free academic electives	15	10
Track (=minor)	25.5	17
Total	**180**	**120**

Management and the Veterinarian's Societal Responsibility
The course addresses the veterinarian's social responsibility with regard to animal health, animal welfare, public health (one health) and food safety. This includes awareness of the significance of management in veterinary practice and the veterinarian's social responsibility, also toward experimental animals. Well-considered handling of animals, veterinary drugs, one's own body (ergonomics) and the organisation in which the veterinarian serves are of particular interest in this course.

Responsible Use of Experimental Animals
This course is aimed at training veterinary students in making a conscientious choice for animal experiments for a particular purpose, designing these in an ethically responsible manner and in being able to hold final responsibility for planning these experiments. Insight and skills developed in this course provide base for the participation in animal experiments under supervising during the educational MSc programme. At completion of the course the students will be able to assess the validity of scientific literature from the Laboratory Animal Science point of view.

Hygiene, Microbiological and Pathological Diagnostics
This course provides basic knowledge of and insight in methodology of pathological and microbiological examination, which are being discussed in the context of a clinical case. Dissection and microbiological

diagnostic techniques will be practiced, as well as interpretation of results and translation of the findings to the individual animal, the herd the product or the environment. Concepts of hygiene and food microbiology are also addressed in the course.

Farm Animal Health / Veterinary Public Health (Theory and Practice)
Students who have selected the Farm Animals master have been trained to acquire and develop the knowledge, skills and professional conduct to perform as a veterinarian in the sector of veterinary medicine for farm animals (ruminants, pigs and poultry) regarding both individual animals as well as herds with respect to animal health human health and animal welfare. The training in this course will be theoretical and practical, most often in a setting with patients/herds. During the training, the students will be assigned an increasing responsibility for the health of patients/herds.

Basic Externship Companion Animal Medicine
At the department of clinical sciences of companion animals the student practices integrated application of knowledge and skills acquired in the bachelor phase. The students will be trained to the level that enables them to practice veterinary medicine as a fully licensed veterinarian. Participation in the emergency clinic is one of the priorities in this course.

Basic Externship Equine Medicine
This basic equine course, combined with the other courses of the Master of Science in Veterinary Medicine, prepares the students to become a legally competent veterinarian able to independently practices veterinary medicine as general practitioners. In an equine clinical setting (veterinary teaching hospital) the student practices the integration and application of knowledge and skills acquired in the bachelor phase.

External Education in Private Practice
The external practice will adapt the practice's programme as much as possible to the goals the student has for himself. The content of the programme is depending on the particular caseload offered at that specific period of time.

Research Project
The research project comprises an obligatory element of the curriculum addressing a (veterinary) biomedical problem, conducted by the graduate and supervised by a senior staff member. Basic elements of research, formulation of a hypothesis and research questions, experimental design and actual execution of experiments, interpretation and evaluation of results are practised. The research project is finalised by an oral presentation and report, both in English.

Track Farm Animal Health / Veterinary Public Health
The aim of this course is to increase the knowledge, and to further develop skills, insight and professional conduct required in farm animals and veterinary public health.

Track Governance and Policy
Governance and Policy is aiming at training students in critically observing governance and policy processes involving animal health, animal welfare, public health and food safety forms, with attention for the underlying conflicts and dilemma's. The course trains students in management skills with an approach from the veterinary point of view. Through the combination of specific clinical, pathobiological and population-biological knowledge on the one hand, and governance and policy-related knowledge on the other, the 'governance & policy' veterinarian is well suited to serve as an intermediary between the commercial animal husbandry, trade and industry and the (national and international) government.

Track Research
The Minor Research comprises elective research training in addition to the obligatory research project. It equips a student with knowledge, skills and professional conduct which makes him/her pre-eminently fit to work in (veterinary) biomedical research. Through the combination of specific non-species-bound pathobiological and population-biological insight gained during the bachelor and master curricula and knowledge and experience in the field of biomedical research, the veterinarian that graduates with the Minor Research qualification is well suited to act as a researcher as well as an intermediate between the fields of biomedical research and practical and applied veterinary medicine.

Track Animal Welfare Management
The track Animal Welfare Management is developed to provide future veterinarians with the tools and skills to meet the challenges of the rapidly developing profession, situated at the interplay between animals, their owners, society, the environment, the economy and politics. Through the combination of compulsory and elective courses and a research internship, the existing scientific knowledge, ethical norms and societal values, as well as legal frames will be explored throughout the education period. Veterinarians who have completed the track will be able to perform a structured analysis of animal welfare issues, write Animal Welfare Management plans and advise involved parties on setting up sustainable Animal Welfare Management solutions. This can be done on a policy level, working in civil services, as a researcher or as a practitioner in Companion Animals, Equine or Farm Animals.

Track One Health
The track One Health comprises research training in combination with courses and is aiming to train students to develop skills which make them pre-eminently fit to function in the sector of veterinary medicine where the interplay between animals, their owners, society, the environment and the economy is leading. Through the combination of specific compulsory courses, student specific courses and a work placement period the students will be equipped with knowledge, skills and professional conduct. Veterinarians who have completed the track will be able to verify, analyze and communicate on the interdependency of animal and human health, the environment and the ecology in a national and international perspective taking into account economic aspects like cost benefits. This can be done on a policy level working in civil service, as a researcher involved in veterinary or human related research or as a practitioner in Companion Animals, Equine or Farm Animals.

Electives Faculty of Veterinary Medicine
In addition to the required course totaling 165 ECTS, students can choose 15 ECTS in electives, also from other faculties or other universities. Only the elective courses of the Faculty of Veterinary Medicine, Utrecht University are described in this appendix:

Ethics of Animal Use
Deepening and widening of knowledge and skills in ethics in the sense that students will be challenged to think about ethical and societal questions on a theoretical and practical level. Issues concerning animal ethics as well as veterinary professional ethics are being addressed.

Behavioural Neuroscience
The brain is an complex organ that controls the wide variety of behaviours that humans and animals display in order to function and survive. To understand the behaviour of animals and enable treatment of behavioural problems one needs to understand how functional and dysfunctional behavior develops. In the cours the functioning of the brain and its role in regulation of behavior develops. In the course, the functioning of the brain and its role in regulation of behavior is the central theme.

Tropical Animal Health
The course provides insight into animal health and production in the tropics and involves the study of several important tropical infectious and parasitic diseases. Insights in epidemiology, mode of transmission, pathogenesis, diagnostics and therapeutics will be provided. Special attention will go to disease control and preventive strategies (vaccine development, early warning systems, etc.).

Communication and marketing in Veterinary Medicine
Students develop in this course individual communication skills in marketing communication, customer communication and social communication resulting in a group assignment "An Innovative Development in Veterinary Medicine". In addition to individual development, working together in groups, engaging in communicative skills, and deepening in communication are the most important learning objectives of this course. Together with external experts, the components are merged to achieve a high level end presentation .

Animal Law
Animal Law plays an increasingly important role in society. This involves production animals, companion animals, wildlife and protected animals. Knowledge of the applicable legal system is important in questions around responsibility, aggression, protecting wildlife and other discussions veterinarians participate in.

Donkey medicine
Although donkeys resemble horses to a certain extent, clinically relevant differences between these species are evident as well. In this course, the consequences of these differences for among others optimal diagnostic and treatment protocols in veterinary practice are discussed, as well as typical and/or species-specific diseases and abnormalities in donkeys (including the treatment options).

Other Electives
Students can choose from a large amount of various elective courses from other faculties or other universities. These electives are not described in this appendix.