

### Units of study of the core veterinary programme, outcomes and competences of day 1

Units of study	ECTS	Y	S	Outcomes	ESEVT Day One Competences	FMV Day One Competences
Deontology and Bioethics	2	1	1	Knowledge and skills in critical ethical issues related to Veterinary Surgeons; Provide knowledge in the areas of professional civic conduct in the different functional valences of the veterinary profession; understand the social, moral and legal responsibilities that are inherent to the profession	1.1; 1.3; 1.12	1.1.1; 1.1.2; 1.2.3
Histology I	4.5	1	1	Knowledge and skills in the techniques for preparation of biological material for the microscopic study of cells and tissues and on the use of the light microscope. Knowledge of microscopic structure of animal tissues and its relationship with function with particular emphasis on the four basic tissues and lymphoid system.	1.2	1.1.3
Biochemistry I	4	1	1	Knowledge of the general concepts and fundamentals of structural biochemistry and catalysis necessary to the understanding at molecular level of biological phenomena occurring in Veterinary Sciences.	1.2	1.1.3
Embryology and Developmental Biology	4.5	1	1	Knowledge of morphological and molecular aspects concerning fertilization, cleavage, gastrulation, neurulation and organogenesis. Knowledge of cellular and molecular mechanisms of embryonic and fetal development. Introductory notions to the mechanism of some congenital malformations.	1.2	1.1.3
Biophysics	4.5	1	1	knowledge on the physical principles of biological functions; develop critical thinking necessary for its analysis and interpretation and explain the physical basis of ancillary diagnostic clinical support, most relevant to the practice of veterinary medicine.	1.4; 1.24	1.1.7; 1.1.8; 1.1.10; 3.1.4; 3.2.2; 3.2.3; 3.1.12
Anatomy I	4.5	1	1	Recognize that body possess a construction pattern that varies according to morphological adaptations of different animals to different and specific functions. Osteology, muscles and joints are understood as part of the locomotion dynamics. Knowledge of fish and birds anatomy and of the lymphatic system.	1.2	1.1.3
Biomathematics, Computing and Documentation	5	1	1	Be able to use statistics for summarizing data and perform exploratory data analysis; be aware of the applicability of theoretical models used for statistical analysis; analyse and interpret statistical results; know the difference between cause-effect relationships and statistical associations; demonstrate basic skills to search and critically read technical and scientific papers; use the computer to perform:	1.2; 1.7; 1.9; 1.11; 1.24	1.1.3; 1.1.4; 1.1.5; 1.1.7; 1.1.10; 1.2.3

				(a) word-processing, build tables and graphs; (b) data storage, retrieval, processing and analysis using spreadsheets and a statistical package; (c) search the internet and online library databases for scientific and technical documents.		
Complementary Activities I	1	1	1	Promote students' contact with animals housed at FMV stables and kennels and integrate them in the daily handling activities. Knowledge how to correctly approach the main pet and farm animal species. Contribute to the communication and team working skills development as well the organizing and responsibility capacities.	1.1; 1.17; 1.5; 1.8	1.1.1; 2.1; 2.2; 2.4; 3.2.1
Histology II	4.5	1	2	Knowledge of the microscopic structure of organs and systems of domestic animals body and the relationship with their functions.	1.2	1.1.3
Cell Molecular Biology	5	1	2	Knowledge of the general concepts and fundamentals of molecular and cellular biology to the understanding at molecular level of biological phenomena occurring in Veterinary Sciences.	1.2	1.1.3
Biochemistry II	5	1	2	Knowledge the general concepts and fundamentals of bioenergetics and metabolic biochemistry necessary to the understanding at molecular level of biological phenomena occurring in Veterinary Sciences.	1.2; 1.22	1.1.3; 3.2.4
Anatomy II	4.5	1	2	Identification and morphological characterization of the organs of the digestive, respiratory, urinary, genitals, udder and the cardiovascular systems; anatomical organization of the thoracic, abdominal and pelvic cavities, ligaments and mesos; Identification of hormone producer organs; Knowledge of muscles responsible for locomotion and movement; understand the functional reason of anatomical structures and clinical application of that knowledge.	1.2	1.1.3
Zootechnics	5	1	2	Knowledge of the external characteristics of the main animal species and its products and uses; be acquainted with their identification methods and housing systems and the biological or the production cycles; understanding of the importance of animals' living conditions to health and profitability of production systems.	1.16; 1.21; 1.22; 1.36	3.1.1; 3.1.2; 3.1.3; 3.2.4; 3.3.4; 3.3.5; 3.3.7
Plant Biology, Agriculture and Environment	5	1	2	Knowledge of basic concepts of plant biology which allow the understanding of the methodologies used in Agriculture for the production and preservation of animal feedstuffs, with the perspective of developing sustainable production systems that protect the environment and the ecosystems.	1.16; 1.21; 1.22; 1.36	3.1.3; 3.2.4; 3.3.4; 3.3.5; 3.4.6
Complementary Activities II	1	1	2	Knowledge and skills in farm animals (cattle, sheep, goats and horses) husbandry: cleaning stalls, handling, materials used for food and animal bedding, basic health care. Knowledge and skills in dog husbandry: walking, hygiene of kennels, care and feeding.	1.1; 1.5; 1.8; 1.17	1.1.1; 2.1; 2.2; 2.4; 3.2.1
Physiology I	4.5	2	3	Knowledge of the different concepts and physiologic mechanisms for homeostasis maintenance in domestic animals; understand veterinary physiology and integrate it with animal production and health. Knowledge of neurophysiology; endocrinology, gastrointestinal physiology and respiratory function.	1.2; 1.10	1.1.3

Anatomy III	4.5	2	3	Knowledge of the nervous system, senses organs, skin and placenta and placental annexes.	1.2	1.1.3
Animal Behaviour and Welfare	5	2	3	Identify the abnormal behaviours in pets and farm animals, understanding the source and the development of those behaviours in order to prevent and treat them. Recognize and interpret the signs of welfare, discomfort and pain, knowing its physiological basis and its effects in the social and productive animal behaviour. Know how to handle, restrain and transport animals	1.1; 1.17; 1.21	1.1.1; 1.1.9; 3.1.1; 3.1.2; 3.2.1; 3.3.2; 3.3.4; 3.3.7
General Pathology	5	2	3	To describe, quantify and classify general and basic lesions at the cell, tissue and organ levels. To relate both macroscopic and microscopic changes with the etiologic agents. To understand and to interpret the dynamic evolution of the lesions. To value the anatomopathological diagnosis as an important tool for general diagnosis. To collect, preserve and send biological material for laboratory exam.	1.10; 1.22; 1.23	1.1.2; 1.1.3; 2.3; 3.1.4; 3.2.4
Parasitology I	5	2	3	To develop a dynamic perspective of the concepts of parasitism to prepare students for the scientific areas of Clinics, Animal Health, Animal Production, Food Safety and Veterinary Public Health, through the study of parasites from domestic, wild and aquatic animals. Prepare the student to be able to execute lab techniques for parasitological diagnosis and to interpret results.	1.22	3.1.4; 3.1.13; 3.2.4
Microbiology I	5	2	3	Recognize the different types of microorganisms, understand and discriminate aspects of bacterial and fungal biology, evaluate the relevance of indigenous microbiota and recognize the importance of bacteria and fungi in pathological and technological processes. Develop competencies of manipulating laboratory instruments and substrates or samples bearing bacteria and fungi, be able to plan and perform bacteriological and mycological analysis.	1.22; 1.25; 1.38	3.1.4; 3.1.13; 3.1.14; 3.2.4; 3.3.5; 3.4.1; 3.4.2; 3.4.5
Complementary Activities III	1	2	3	To promote student's involvement with research and routine laboratory procedures performed at the Vet School, aiming the establishment of a practical attitude towards the course. To introduce students to the health and safety requirements within the laboratory spaces. To develop student's awareness of safe work practices in laboratory activities.	1.1; 1.2; 1.10; 1.24	1.1.3; 1.1.7; 3.1.4; 3.2.3
Genetics	5	2	4	Knowledge of the basic principles and methodologies of molecular, cyto, mendelian and population genetics: the mechanisms that determine the transmission of hereditary traits; the molecular mechanisms of genetic diseases; knowledge of the genetics of disease: principles of population genetics and of a broad range of inherited disorders in animals and the fundamental breed genetic diseases. Develop competences in obtaining, recording, and interpreting patient history and pedigree information.	1.2; 1.16	1.1.3; 3.1.3
Physiology II	4.5	2	4	Knowledge of the different concepts and physiologic mechanisms for homeostasis maintenance in domestic animals. Understand veterinary physiology, and integrate it with animal production and health. Knowledge of reproduction, lactation, renal, thermoregulation, and cardiovascular physiology.	1.2	1.1.3

Economics and Management	4	2	4	Understand the microeconomics of markets, particularly those of agriculture and food; of consumer demand; and of the theory of the firm. Be aware of government intervention in the agricultural sector making them familiar with the Common Agricultural Policy. knowledge of the framework of procedures and concepts to support the decision-making process in optimizing animal health and production management.	1.1; 1.3; 1.8; 1.11; 1.21	1.1;1; 1.1.8; 1.1.9; 1.2.1; 1.2.3; 2.2; 2.4; 2.5; 3.1.13; 3.3.2; 3.3.7
Parasitology II	4.5	2	4	Recognize the morphobiology, eco-epidemiology and pathophysiology of Trematode, Cestoda, Nematode and Acanthocephalan more relevant helminthic in Veterinary Medicine and Public Health. Perform helminthic identification, helminthological laboratory diagnostic techniques and result interpretation.	1.10; 1.22	3.1.4; 3.1.13; 3.2.4
Microbiology II	3	2	4	Understand and discriminate aspects of viral biology and pathogenicity in order to establish adequate control strategies; recognize the importance of virus in the different morbid processes; develop competencies of manipulating laboratory instruments and substrates or samples bearing viruses; be able to plan and perform virology analysis.	1.22; 1.25; 1.38	3.1.4; 3.1.13; 3.1.14; 3.2.4; 3.3.5; 3.4.1; 3.4.2; 3.4.5
Epidemiology	3	2	4	Use the key principles and methods of epidemiological investigations such as descriptive and analytic techniques, and to understand their relevance for the prevention, control, eradication and surveillance of transmissible diseases, and to improve animal welfare, production efficiency and animal product quality.	1.1;1.2; 1.3; 1.7; 1.9; 1.10; 1.11; 1.12; 1;24; 1.38	1.1.1; 1.1.2; 1.1.3; 1.1.6; 1.2.3; 3.1.13; 3.4.2
Anatomical Pathology I	5	2	4	Define the response to injury of different tissues and organs; describe the macroscopic lesions observed, establishing the relation cause-effect and the degree of dysfunction; perform a necropsy of various domestic animals; provide an accurate and complete report and collect material for complementary exams; perform a fine needle aspiration biopsy and a punch biopsy.	1.10; 1.21; 1.22; 1.23; 1.34	1.1.2; 1.1.3; 2.3; 3.1.1; 3.1.4; 3.2.4; 3.2.8
Complementary activities IV	1	2	4	Familiarize with laboratory research activities and provision of services developed in the FMV, in terms of awareness of the different strands of professional Veterinary Medical Act.	1.1; 1.2; 1.10; 1.24	1.1.3; 1.1.7; 3.1.4; 3.2.3
Medical Propaedeutics I	4.5	3	5	Perform a thorough and systematic physical examination in bovine, equine and canine; recognize the health status; select, from the signs collected from the physical examination, those that are indicative of disease; critically evaluate clinical signs and propose adequate diagnostic plans; select the additional diagnostic endeavours rationally most adequate to confirm the diagnosis; decide upon probable diagnosis and prognosis of medical conditions.	1.16; 1.17; 1.18; 1.21; 1.22; 1.24	1.1.7; 1.1.10; 3.1.1; 3.1.2; 3.1.3; 3.1.4; 3.1.5; 3.2.1; 3.2.2; 3.2.3; 3.2.4
Anaesthesia and Analgesia	4	3	5	Develop fundamental knowledge and applied techniques of anaesthesia: pre-anaesthetic care; intra-anaesthetic care; post-anaesthetic care; general anaesthesia; local anaesthesia; anaesthesia in caesarean; euthanasia.	1.31; 1.32	3.2.6
Pharmacology and Therapeutics I	4.5	3	5	Basic and specific knowledge of drugs used in animals, to prevent, cure or undermine pathological conditions; general pharmacology (pharmacokinetic and pharmacodynamics); pharmacology of etiotropic drugs; be able to choose, explain, discuss, evaluate and use the best strategies on pharmacotherapy with application and execution of different techniques of drug administration.	1.1; 1.17; 1.26; 1.27; 1.28	1.1.1; 1.1.4; 3.1.10; 3.2.1

Nutrition	4.5	3	5	Know and understand the mechanisms of transformation of energy and nutrients into animal products; evaluate the nutritional needs of animals; assess the nutritional quality of foods and know how to diagnose situations of nutritional deficiencies.	1.21; 1.22	3.1.1; 3.1.2; 3.1.4; 3.1.13; 3.2.4; 3.3.4; 3.3.5
Immunology	4	3	5	Comprehend the importance of the various functions of the immune system as fundamental component of balance and maintenance of health; recognize the relevance changes to such balance in the etiology of several immunopathological processes; understand the strategies of immunomodulation, as in vaccination; develop competencies of manipulating laboratory instruments and immunological techniques applied to veterinary diagnosis.	1.1; 1.10; 1.38	1.1.1; 1.1.2; 1.1.3; 3.1.13
Anatomical Pathology II	5	3	5	Define the response to injury of different tissues and organs; describe the macroscopic lesions observed, establishing the relation cause-effect and the degree of dysfunction; perform a necropsy of various domestic animals; provide an accurate and complete report and collect material for complementary exams; perform a fine needle aspiration biopsy and a punch biopsy.	1.10; 1.21; 1.22; 1.23; 1.34	1.1.2; 1.1.3; 2.3; 3.1.1; 3.1.4; 3.2.4; 3.2.8
Clinical Rotations I	1	3	5	To develop a set of attitudes adjusted to work in a hospital environment; to improve their veterinary communication skills and teamwork; to promote organizational abilities as well as to incur liabilities.	1.1; 1.3; 1.5; 1.7; 1.8; 1.10; 1.11; 1.12; 1.13; 1.14; 1.16; 1.17; 1.18; 1.21; 1.22; 1.23; 1.26; 1.30	1.1.1; 1.1.2; 1.1.5; 1.2.3; 2.1; 2.2; 2.3; 2.4; 2.5; 3.1.1; 3.1.3; 3.1.4; 3.1.5; 3.2.1; 3.2.4
Hygiene and Food Safety	4.5	3	6	Knowledge of the basic concepts of production hygiene, aiming the fulfil of animal welfare. Be able to cooperate in the elaboration of proactive systems for quality assurance.	1;1; 1;3; 1.8; 1.10; 1.29; 1.35; 1.36; 1.37; 1.38	1.1.1; 1.1.2; 2;2; 2;4; 3.1.13; 3.4.2; 3.4.9; 3.4.10; 3.4.11
Medical Propaedeutics II	4.5	3	6	Define, describe and analyse biological signs and syndromes, collected from the examination of organs and systems, in the perspective of the appropriate ancillary tests necessary to orientate the diagnostic plan towards a given organ or system; decide which laboratory ancillary tests to choose in order to explore body systems or organs; correctly perform simple laboratory tests; interpret the results of laboratory tests critically, in the scope of information collected from history and clinical signs.	1.16; 1.17; 1.18; 1.21; 1.22; 1.24	1.1.7; 1.1.10; 3.1.1; 3.1.2; 3.1.3; 3.1.4; 3.1.5; 3.2.1; 3.2.2; 3.2.3; 3.2.4.
Surgical Propaedeutics	4.5	3	6	Realise the fundamental concepts, objectives and basic principles of surgery; perform the main sutures and key pads; applied basic surgical techniques.	1.7; 1.8; 1.10; 1.16; 1.24; 1.30; 1.31; 1.32	1.1.2; 1.1.5; 2;2; 3.1.3; 3.1.12; 3.2.6; 3.2.7
Imagiology	4	3	6	Comprehend imaging as a set of resources that serve to clarify some aspects of each case; analyse images to extract all the information they can provide.	1.4; 1.17; 1.23; 1.24; 1.29	1.1.7; 1.1.8; 1.1.10; 2.3; 3.1.14; 3.2.1; 3.2.3
Pharmacology and Therapeutics II	5	3	6	Use of basic and specific knowledge's of organotropic drugs to apply in a therapeutic context; knowledge's on organotropic drugs pharmacokinetic and pharmacodynamics to understand therapeutic potentialities and limitations; be able to choose, explain, discuss, evaluate and use the best strategies on functions pharmacotherapy; application of the rules and the evaluation of conditionality on drugs prescription.	1.1; 1.26; 1.27; 1.28; 1.31; 1.32	1.1.1; 1.1.4; 3.1.10; 3.1.13; 3.2.6

Animal Feeding	4	3	6	Knowledge and skills in determine the nutritional requirements of animal species according to the type and level of production; choose adequate feeds as well as the ways of processing them. Optimise animal production as well as to prevent the development of metabolic pathologies, ensuring animal health and well-being and the quality of the final products.	1.21; 1.22	3.1.1; 3.1.2; 3.1.4; 3.3.1; 3.3.2; 3.3.4; 3.3.5
Clinical Rotations II	1	3	6	Expanding exposure to “real” clinical cases at the VTH; develop a set of attitudes adjusted to work in a hospital environment; to improve their veterinary communication skills and teamwork; to promote organizational abilities as well as to incur liabilities.	1.1; 1.3; 1.5; 1.7; 1.8; 1.10; 1.11; 1.12; 1.13; 1.14; 1.16; 1.17; 1.18; 1.21; 1.22; 1.23; 1.26; 1.30	1.1.1; 1.1.2; 1.1.5; 1.2.3; 2.1; 2.2; 2.3; 2.4; 2.5; 3.1.1; 3.1.3; 3.1.4; 3.1.5; 3.2.1; 3.2.4
Reproduction and Obstetrics I	5	4	7	Be familiar with the basic knowledge and skills concerning the reproductive processes; collection and assessment of semen; methods of diagnosis of the stage of the oestrous cycle and of pregnancy; diagnostics and therapy of reproductive diseases of companion and equine animals.	1.1; 1.3; 1.10; 1.16; 1.18; 1.21; 1.22; 1.23; 1.24; 1.25; 1.26; 1.27; 1.31; 1.32	1.1.1; 1.1.2; 3.1.1; 3.1.2; 3.1.3; 3.1.4; 3.1.5; 3.1.7; 3.1.8; 3.1.9; 3.1.10; 3.1.11; 3.1.12; 3.1.13; 3.2.2; 3.2.3; 3.2.4; 3.2.5; 3.2.6; 3.3.2
Surgery I	4	4	7	Recognize the main surgical diseases, their pathophysiological mechanisms and understand the way surgery can be helpful and determine a real solution to the patient; surgical techniques, materials and options; surgical skills and main surgical procedures like incision, tissues manipulation, haemostasis and sutures; applied anaesthesiology	1.7; 1.8; 1.10; 1.16; 1.18; 1.19; 1.20; 1.21; 1.24; 1.27; 1.29; 1.30; 1.31; 1.32	1.1.3; 1.1.5; 2.2; 2.5; 3.1.1; 3.1.2; 3.1.3; 3.1.4; 3.1.5; 3.1.7; 3.1.8; 3.1.9; 3.1.10; 3.1.12; 3.2.1; 3.2.2; 3.2.3; 3.2.4; 3.2.5; 3.2.6; 3.2.7
Medicine I	4.5	4	7	Approach clinical cases in the areas of haematology, urology and cardiology in a systematic and global way, in the different animal species; understand the evolution of the pathological medical processes, including aetiology, pathogenesis, lesions and clinical signs; correctly interpret environmental data, anamnesis, clinical and laboratory analysis, aiming at diagnosis, prognosis and therapeutic decision; apply the technique of problem-based learning to the study of real clinical cases.	1.10; 1.16; 1.18; 1.19; 1.21; 1.22; 1.23; 1.24; 1.27; 1.32	1.1.2; 1.1.3; 1.1.5; 2.3; 3.1.1; 3.1.2; 3.1.3; 3.1.4; 3.1.5; 3.1.7; 3.1.8; 3.1.9; 3.1.10; 3.2.2; 3.2.3; 3.2.4
Animal Production I	4	4	7	Know the structure, organisation, legal framework, and strategies of animal production and manage the biological bases of production. Be able in the ruminant’s and equine sectors to differentiate the productive aptitudes of the populations bred in Portugal, to be acquainted with the techniques of animal husbandry and production and to design, manage and evaluate production systems.	1.1; 1.3; 1.8; 1.21	1.1.1; 2.2; 2.5; 3.1.3; 3.3.1; 3.3.2; 3.3.4; 3.3.7
Pathology and Clinics of Parasitic Diseases	4.5	4	7	knowledge of the concepts and general methodologies used for the characterizations and control of parasitic diseases affecting dogs, cats, horses, cattle, sheep, goats, pigs, poultry, rabbits, exotics pets and bees, with relevance for Public Health, livestock production and animal welfare.	1.10; 1.22; 1.23; 1.34; 1.38 1.21; 1.20; 1.19; 1.18; 1.27	1.1.2; 1.1.3; 2.3; 3.1.4; 3.1.5; 3.1.6; 3.1.7; 3.1.8; 3.1.10; 3.2.4; 3.2.8; 3.4.2; 3.4.4; 3.1.1; 3.1.2; 3.1.3
Pathology and Clinics of Infectious Diseases I	4.5	4	7	knowledge of the concepts and general methodologies used for the characterisation and control of infectious diseases, relevant for Public Health, animal health and productivity, as well as animal welfare, affecting a broad range of hosts namely zoonosis, dogs and cats.	1.1; 1.3; 1.4; 1.5; 1.6; 1.7; 1.8; 1.10; 1.11; 1.12; 1.16; 1.18; 1.19; 1.22; 1.23; 1.25; 1.33; 1.34; 1.38; 1.21; 1.27; 1.29; 1.20; 1.26	1.1.1; 1.1.5; 1.1.7; 1.1.9; 2.1; 2.2; 2.5; 2.6; 3.1.1; 3.1.2; 3.1.3; 3.1.4; 3.1.5; 3.1.7; 3.1.8; 3.1.9; 3.1.10; 3.1.12; 3.1.13; 3.1.14; 3.2.2; 3.2.4; 3.2.5; 3.3.2; 3.4.1; 3.4.2; 3.4.3; 3.4.4; 3.4.5

Clinical Rotations III	1	4	7	Contact with real clinical cases of companion animals, exotic pets and equine, under general medical consultation, surgery, hospitalized and intensive care; main complementary diagnostic techniques, understanding their advantages and purpose in the definitive diagnostic process; specific training in intensive care with learning of Basic Life Support and Advance Life Support algorithms in small animals.	1.1; 1.3; 1.5; 1.7; 1.8; 1.10; 1.11; 1.12; 1.13; 1.14; 1.16; 1.17; 1.18; 1.19; 1.20; 1.22; 1.23; 1.24; 1.25; 1.26; 1.27; 1.30; 1.31; 1.32; 1.33; 1.34; 1.38	1.1.3; 1.1.5; 2.2; 2.5; 3.1.1; 3.1.2; 3.1.3; 3.1.4; 3.1.5; 3.1.7; 3.1.8; 3.1.9; 3.1.10; 3.1.12; 3.2.1; 3.2.2; 3.2.3; 3.2.4; 3.2.5; 3.2.6; 3.2.7
Reproduction and Obstetrics II	4.5	4	8	Perform the andrological, gynaecological and obstetrical examinations; know how to evaluate the reproductive performance of a herd and to design a reproductive management plan; identify the critical points of the production system that impacts on fertility and, to design a prophylactic plan; diagnose pregnancy, assist parturition and treat the most frequent andrological, gynaecological and obstetrical disorders of ruminants and swine.	1.5; 1.15; 1.16; 1.17; 1.19; 1.21; 1.23; 1.25; 1.26; 1.30; 2.1; 2.4; 2.5; 2.6; 2.11; 2.12	1.1.1; 1.1.2; 3.1.1; 3.1.2; 3.1.3; 3.1.4; 3.1.5; 3.1.7; 3.1.8; 3.1.9; 3.1.10; 3.1.11; 3.1.12; 3.1.13; 3.2.2; 3.2.3; 3.2.4; 3.2.5; 3.2.6; 3.3.2
Medicine II	4.5	4	8	Approach to clinical cases in the areas of gastroenterology, endocrinology and respiratory medicine in a systematic and global way, in the different animal species; understand the evolution of the pathological processes, including aetiology, pathogenesis, lesions and clinical signs; interpret environmental data, anamnesis, clinical and laboratory analysis, aiming at diagnosis, prognosis and therapeutic decision; apply the technique of problem-based learning to the study of real clinical cases.	1.10; 1.16; 1.18; 1.19; 1.21; 1.22; 1.23; 1.24; 1.27; 1.32	1.1.2; 1.1.3; 1.1.5; 2.3; 3.1.1; 3.1.2; 3.1.3; 3.1.4; 3.1.5; 3.1.7; 3.1.8; 3.1.9; 3.1.10; 3.2.2; 3.2.3; 3.2.4;
Surgery II	4	4	8	Recognize the main surgical diseases, their pathophysiological mechanisms and understand the way surgery can be helpful and determine a real solution to the patient; surgical techniques, materials and options; surgical skills and main surgical procedures like incision, tissues manipulation, haemostasis and sutures are to be got as well as applied anaesthesiology.	1.7; 1.8; 1.10; 1.16; 1.18; 1.19; 1.20; 1.21; 1.24; 1.27; 1.29; 1.30; 1.31; 1.32	1.1.3; 1.1.5; 2.2; 2.5; 3.1.1; 3.1.2; 3.1.3; 3.1.4; 3.1.5; 3.1.7; 3.1.8; 3.1.9; 3.1.10; 3.1.12; 3.2.1; 3.2.2; 3.2.3; 3.2.4; 3.2.5; 3.2.6; 3.2.7;
Animal Production II	4.5	4	8	knowledge of the proficient utilization of animal husbandry and production techniques and to design, manage and evaluate the production systems in the area of small ruminant, pigs, poultry, rabbits and aquatic species production, always strengthening the importance of the economic and environmental sustainability, the legal framework, the welfare and the productive efficiency of animals and the quality of products.	1.1; 1.3; 1.8; 1.21	1.1.1; 2.2; 2.5; 3.1.3; 3.3.1; 3.3.2; 3.3.4; 3.3.7
Pathology and Clinics of Infectious Diseases II	4.5	4	8	knowledge of the concepts and general methodologies used for the characterisation and control of infectious diseases, relevant for Public Health, animal health and productivity, as well as animal welfare, affecting cattle and small ruminants, horses, swine, poultry and rabbits.	1.1; 1.3; 1.4; 1.5; 1.6; 1.7; 1.8; 1.10; 1.11; 1.12; 1.16; 1.18; 1.19; 1.21; 1.22; 1.23; 1.25; 1.26; 1.27; 1.29; 1.33; 1.34; 1.38	1.1.1; 1.1.5; 1.1.9; 1.1.7; 2.1; 2.2; 2.5; 2.6; 3.1.1; 3.1.2; 3.1.3; 3.1.4; 3.1.5; 3.1.7; 3.1.8; 3.1.9; 3.1.10; 3.1.12; 3.1.13; 3.1.14; 3.2.2; 3.2.4; 3.3.2; 3.4.1; 3.4.2; 3.4.3; 3.4.4; 3.4.5
Animal Breeding	4.5	4	8	knowledge and skills in the applications of population, quantitative and molecular genetics in the improvement and conservation of animal genetic resources; evaluation of the impact of different mating systems (inbreeding and crossbreeding) in animal production; develop methods of genetic evaluation and prediction of expected responses to selection; Plan of organized genetic improvement systems in different livestock species.	1.2; 1.21	1.1.3; 3.3.1; 3.3.3

Clinical Rotations IV	1	4	8	Contact with real clinical cases of companion animals and equine, under general medical consultation, surgery, hospitalized and intensive care; main complementary diagnostic techniques, understanding their advantages and purpose in the definitive diagnostic process; reaching a definitive diagnosis; design a therapeutic plan, along with a follow up schedule.	1.1; 1.3; 1.5; 1.7; 1.8; 1.10; 1.11; 1.12; 1.13; 1.14; 1.16; 1.17; 1.18; 1.19; 1.20; 1.21; 1.22; 1.23; 1.24; 1.25; 1.26; 1.27; 1.30; 1.31; 1.32; 1.33; 1.34; 1.38	1.1.1; 1.1.2; 1.2.2; 1.2.3; 2.1; 2.3; 2.4; 2.6; 3.1.1; 3.1.2; 3.1.3; 3.2.1; 3.1.4; 3.1.5; 3.1.6; 3.1.7; 3.1.8; 3.1.9; 3.1.10; 3.1.13; 3.2.1; 3.2.2; 3.2.3; 3.2.4; 3.2.5; 3.2.6; 3.2.7; 3.4.3; 3.4.4; 3.4.5
Toxicology	4.5	5	9	Specific knowledge of general and special Toxicology; approach and problem solving in the context of Applied Toxicology, namely in the areas of Clinical and Forensic Toxicology; ability to act multidisciplinary and interdisciplinary, combining information from different backgrounds, in solving problems of the toxicological scope.	1.1; 1.3; 1.12; 1.22; 1.23; 1.25; 1.29; 1.37; 1.38	1.1.1; 1.1.2; 1.1.6; 1.2.3; 2.3; 3.2.4.
Diagnostic Imaging	3.5	5	9	Ability of recognising the main radiographic, ultrasonographic signs and its aetiology; develop logic and rapid faculty of reasoning on possible diagnostic differentials, according to the presented clinical signs; comprehend multiple imaging modalities, their signs and related aetiologies; be able to interconnect the imaging knowledge with that of pathology, medicine and surgery.	1.10; 1.22; 1.23; 1.24	1.1.2; 1.1.3; 1.1.7; 1.1.10; 3.1.4; 2.3; 3.2.2; 3.2.3; 3.2.4
Food Animal Clinics I	3.5	5	9	Resolution of clinical cases of food animals through clinical exams (physiopathologic mechanisms of disease, interpretation of the results of clinical, laboratory and other clinical exams) and therapeutic actions; resolution of heard health problems (mastitis, metabolic diseases, etc.); resolution of dystocias; surgery work; dehorning calves; trimming hooves, etc.	1.1; 1.3; 1.8; 1.10; 1.12; 1.16; 1.18; 1.19; 1.20; 1.21; 1.22; 1.23; 1.25; 1.27; 1.28; 1.29; 1.31; 1.32; 1.33; 1.34; 1.38	1.1.1; 1.1.2; 1.1.3; 1.1.6; 1.1.7; 1.1.9; 1.2.1; 1.2.3; 2.2; 2.3; 3.1.1; 3.1.2; 3.1.3; 3.1.4; 3.1.4; 3.1.5; 3.1.6; 3.1.7; 3.1.8; 3.1.9; 3.1.10; 3.1.12; 3.1.13; 3.1.14; 3.2.6; 3.2.8; 3.3.1; 3.3.2; 3.3.4; 3.3.7; 3.4.6
Equine Clinics I	2	5	9	Develop skills in equine clinics in a systematic way through anamnesis, patient history, symptom evaluation and history registration; be able to select complementary information and exams in order to perform definitive diagnose; foster communication skills with clients and medical staff.	1.1; 1.3; 1.5; 1.7; 1.8; 1.10; 1.11; 1.12; 1.13; 1.14; 1.16; 1.17; 1.18; 1.19; 1.20; 1.21; 1.22; 1.23; 1.24; 1.25; 1.26; 1.27; 1.28; 1.30; 1.31; 1.32; 1.33	1.1.1; 1.1.2; 1.1.3; 1.1.4; 1.1.5; 1.1.6; 1.1.7; 1.1.10; 1.2.1; 1.2.2; 1.2.3; 1.2.4; 2.1; 2.2; 2.3; 2.4; 2.5; 2.6; 3.1.1; 3.1.2; 3.1.3; 3.1.4; 3.1.5; 3.1.6; 3.1.7; 3.1.8; 3.1.9; 3.1.10; 3.1.12; 3.1.14; 3.2.1; 3.2.2; 3.2.3; 3.2.4; 3.2.5; 3.2.6; 3.2.7; 3.4.3; 3.4.5
Companion Animal Clinics I	4	5	9	Be able to integrate clinical history and the clinical signs observed in order to perform the differential diagnostic; select the appropriate complementary exams and to interpret the results; achieve the definitive diagnosis; prescribe the appropriate therapy; explain the owner the prognostic and expenses foreseen.	1.1; 1.3; 1.5; 1.7; 1.8; 1.10; 1.11; 1.12; 1.13; 1.14; 1.16; 1.17; 1.18; 1.19; 1.20; 1.22; 1.23; 1.24; 1.25; 1.26; 1.27; 1.28; 1.30; 1.31; 1.32; 1.33	1.1.1; 1.1.2; 1.1.3; 1.1.4; 1.1.5; 1.1.6; 1.1.7; 1.1.8; 1.1.9; 1.1.10; 1.2.1; 1.2.2; 1.2.3; 1.2.4; 2.1; 2.2; 2.3; 2.4; 2.5; 2.6; 3.1.3; 3.1.4; 3.1.5; 3.1.6; 3.1.7; 3.1.8; 3.1.9; 3.1.10; 3.1.12; 3.1.14; 3.2.1; 3.2.2; 3.2.3; 3.2.4; 3.2.5; 3.2.6; 3.2.7; 3.4.3; 3.4.5
General Technology	4.5	5	9	Knowledge of food microbiology and factors influencing the development of agents responsible by food spoilage. Knowledge of unit operations and technological food processes with special reference to equipment used in the production of different foods of animal origin.	1.1; 1.8; 1.29; 1.36; 1.37	1.1.1; 1.1.2; 1.1.7; 1.1.8; 1.1.9; 2.2; 2.4; 2.5; 3.1.12; 3.4.7; 3.4.8; 3.4.9; 3.4.10; 3.4.11; 3.4.12



Veterinary Inspection I	4.5	5	9	Knowledge and skills in the methods for official veterinary inspection of products and by-products originated from ungulates slaughtered for consumption (animal protection at slaughter, ante and post mortem examinations); knowledge of hygiene of establishments and procedures (materials, locals and persons). Development of skills, capacity for critical analysis and decision-making, concerning specifically the safeguard of food of animal origin.	1.1; 1.3; 1.8; 1.10; 1.12; 1.25; 1.29; 1.35; 1.36; 1.37; 1.38	1.1.1; 1.1.2; 1.1.3; 1.1.6; 1.1.7; 1.1.8; 1.1.9; 1.2.1; 1.2.3; 1.2.4; 2.2; 2.4; 2.5; 3.1.12; 3.1.13; 3.4.2; 3.4.7; 3.4.8; 3.4.9; 3.4.10; 3.4.11
Clinical Rotations V	1	5	9	Improve skills to correctly diagnose, choose/use and interpret different diagnostic tests/exams, delineate a therapeutic plan, as well as to perform the basic clinical/therapeutic procedures.	1.1; 1.3; 1.5; 1.7; 1.8; 1.10; 1.11; 1.12; 1.13; 1.14; 1.16; 1.17; 1.18; 1.19; 1.20; 1.22; 1.23; 1.24; 1.25; 1.26; 1.27; 1.30; 1.31; 1.32; 1.33; 1.34; 1.38	1.1.1; 1.1.2; 1.2.2; 1.2.3; 2.1; 2.3; 2.4; 2.6; 3.1.1; 3.1.2; 3.1.3; 3.2.1; 3.1.4; 3.1.5; 3.1.6; 3.1.7; 3.1.8; 3.1.9; 3.1.10; 3.1.13; 3.2.1; 3.2.2; 3.2.3; 3.2.4; 3.2.5; 3.2.6; 3.2.7; 3.4.3; 3.4.4; 3.4.5
Food Animal Clinics II	3	5	10	Resolution of clinical cases of food animals through clinical exams (physiopathologic mechanisms of disease, interpretation of the results of clinical, laboratory and other clinical exams) and therapeutic actions; resolution of heard health problems (mastitis, metabolic diseases, etc.); resolution of dystocias; surgery work; dehorning calves; trimming hooves, etc.	1.1; 1.3; 1.8; 1.10; 1.12; 1.16; 1.18; 1.19; 1.20; 1.21; 1.22; 1.23; 1.25; 1.27; 1.28; 1.29; 1.31; 1.32; 1.33; 1.34; 1.38	1.1.1; 1.1.2; 1.1.3; 1.1.6; 1.1.7; 1.1.9; 1.2.1; 1.2.3; 2.2; 2.3; 3.1.1; 3.1.2; 3.1.3; 3.1.4; 3.1.4; 3.1.5; 3.1.6; 3.1.7; 3.1.8; 3.1.9; 3.1.10; 3.1.12; 3.1.13; 3.1.14; 3.2.6; 3.2.8; 3.3.1; 3.3.2; 3.3.4; 3.3.7; 3.4.6
Equine Clinics II	2	5	10	Clinical examination, Wound treatment, metabolic diseases of the athletic horse, rabdomiolisis, horse lameness, and donkey pathology.	1.1; 1.3; 1.5; 1.7; 1.8; 1.10; 1.11; 1.12; 1.13; 1.14; 1.16; 1.17; 1.18; 1.19; 1.20; 1.21; 1.22; 1.23; 1.24; 1.25; 1.26; 1.27; 1.28; 1.30; 1.31; 1.32; 1.33; 1.34	1.1.1; 1.1.2; 1.1.3; 1.1.4; 1.1.5; 1.1.6; 1.1.7; 1.1.10; 1.2.1; 1.2.2; 1.2.3; 1.2.4; 2.1; 2.2; 2.3; 2.4; 2.5; 2.6; 3.1.1; 3.1.2; 3.1.3; 3.1.4; 3.1.5; 3.1.6; 3.1.7; 3.1.8; 3.1.9; 3.1.10; 3.1.12; 3.1.14; 3.2.1; 3.2.2; 3.2.3; 3.2.4; 3.2.5; 3.2.6; 3.2.7; 3.4.3; 3.4.5
Companion Animal Clinics II	3.5	5	10	Able to integrate clinical history and the clinical signs observed in order to perform the differential diagnostic; to select the appropriate complementary exams and to interpret the results; achieve the definitive diagnosis; to prescribe the appropriate therapy; to explain the owner the prognostic and expenses foreseen.	1.1; 1.3; 1.5; 1.7; 1.8; 1.10; 1.11; 1.12; 1.13; 1.14; 1.16; 1.17; 1.18; 1.19; 1.20; 1.22; 1.23; 1.24; 1.25; 1.26; 1.27; 1.28; 1.30; 1.31; 1.32; 1.33	1.1.1; 1.1.2; 1.1.3; 1.1.4; 1.1.5; 1.1.6; 1.1.7; 1.1.8; 1.1.9; 1.1.10; 1.2.1; 1.2.2; 1.2.3; 1.2.4; 2.1; 2.2; 2.3; 2.4; 2.5; 2.6; 3.1.3; 3.1.4; 3.1.5; 3.1.6; 3.1.7; 3.1.8; 3.1.9; 3.1.10; 3.1.12; 3.1.14; 3.2.1; 3.2.2; 3.2.3; 3.2.4; 3.2.5; 3.2.6; 3.2.7; 3.4.3; 3.4.5
Technology of Animal Products	4.5	5	10	Knowledge of the operations and processes of food engineering. The study of the technological processes of transformation of animal origin products aims the preparation of students for future areas of work such as the Public Health or the collaboration with other professional areas of the food technology.	1.1; 1.8; 1.10; 1.12; 1.29; 1.36; 1.37; 1.38	1.1.1; 1.1.2; 1.1.3; 1.1.7; 1.1.8; 1.1.9; 2.2; 2.4; 2.5; 3.1.12; 3.4.7; 3.4.8; 3.4.9; 3.4.10; 3.4.11; 3.4.12

Veterinary Public Health	4.5	5	10	Recognize the need of protection and promotion of human health and environmental protection; develop a global vision on the evaluation of animal health and welfare, food-chain risks and environmental pollution; Promote ethical and law-based professional attitudes and a good capacity for communication with economical agents and stakeholders; promote preventive behaviors with respect to professional risks; develop observational and critical abilities with respect to public health problems; stress the importance of the multidisciplinary approach to VPH and promote group work capacities.	1.1; 1.3; 1.8; 1.10; 1.12; 1.25; 1.29; 1.36; 1.37; 1.38	1.1.1; 1.1.2; 1.1.3; 1.1.6; 1.1.7; 1.1.8; 1.1.9; 1.2.1; 1.2.3; 2.1; 2.2; 2.4; 2.5; 3.1.12; 3.1.13; 3.1.14; 3.4.2; 3.4.7; 3.4.9; 3.4.10; 3.4.11; 3.4.12
Veterinary Inspection II	4.5	5	10	Knowledge and skills in the methods for official veterinary inspection of poultry, eggs, rabbits, fish, shellfish, frogs and snails. Perception of risk management system put in place to ensure safety of food obtained from animals used for consumption and as goods in the global market. Development of skills, capacity for critical analysis and decision-making, concerning specifically the safeguard of food of animal origin.	1.1; 1.3; 1.8; 1.10; 1.12; 1.25; 1.29; 1.35; 1.36; 1.37; 1.38	1.1.1; 1.1.2; 1.1.3; 1.1.6; 1.1.7; 1.1.8; 1.1.9; 1.2.1; 1.2.3; 1.2.4; 2.2; 2.4; 2.5; 3.1.12; 3.1.13; 3.4.2; 3.4.7; 3.4.8; 3.4.9; 3.4.10; 3.4.11
Herd Health	4.5	5	10	To design and implement strategies of preventive veterinary medicine and to apply official sanitary policy strategies for the prevention, control and eradication of notifiable diseases; to identify and amend the critical points affecting the biosecurity of a livestock unit, in order to contribute for the productivity, profitability, animal welfare and mitigation of zoonotic risks.	1.1; 1.3; 1.8; 1.10; 1.12; 1.16; 1.21; 1.25; 1.26; 1.29; 1.34; 1.38	1.1.1; 1.1.2; 1.1.3; 1.1.6; 1.1.7; 1.1.9; 1.2.1; 1.2.3; 2.2; 2.4; 2.5; 3.1.1; 3.1.2; 3.1.3; 3.1.12; 3.1.13; 3.1.14; 3.2.8; 3.3.7; 3.4.1; 3.4.2; 3.4.3; 3.4.4; 3.4.5; 3.4.6
Clinical Rotations VI	1	5	10	Develop skills to correctly diagnose, choose/use and interpret different diagnostic tests/exams, delineate a therapeutic plan, as well as to perform the basic clinical/therapeutic procedures.	1.1; 1.3; 1.5; 1.7; 1.8; 1.10; 1.11; 1.12; 1.13; 1.14; 1.16; 1.17; 1.18; 1.19; 1.20; 1.22; 1.23; 1.24; 1.25; 1.26; 1.27; 1.30; 1.31; 1.32; 1.33; 1.34; 1.38	1.1.1; 1.1.2; 1.2.2; 1.2.3; 2.1; 2.3; 2.4; 2.6; 3.1.1; 3.1.2; 3.1.3; 3.2.1; 3.1.4; 3.1.5; 3.1.6; 3.1.7; 3.1.8; 3.1.9; 3.1.10; 3.1.13; 3.2.1; 3.2.2; 3.2.3; 3.2.4; 3.2.5; 3.2.6; 3.2.7; 3.4.3; 3.4.4; 3.4.5
Veterinary Medical Profession and Science Communication	1	6	11	Deepen the knowledge of written and oral communication methodologies in science, from the design of scientific works to the organization and writing of scientific documents (articles, book chapters, books, dissertations, theses) and their presentation. Provide a detailed view of the areas of operation of veterinarians, the legal framework of the profession and its representative bodies, in Portugal and in Europe.	1.1; 1.3; 1.4; 1.5; 1.6; 1.7; 1.8; 1.10; 1.11; 1.13; 1.14; 1.15; 1.23	1.1.1; 1.1.2; 1.1.3; 1.1.5; 1.1.7; 1.1.8; 1.1.9; 1.2.1; 1.2.2; 1.2.3; 1.2.4; 2.1; 2.2; 2.4; 2.5; 2.6
Curricular Traineeship (EPT + graduation thesis)	29	6	11	Give students, in the conclusion phase of the integrated master's degree in Veterinary Medicine, a detailed view of the areas of operation of veterinarians, the legal framework of the profession and its representative bodies, in Portugal and in Europe.	1.1; 1.3; 1.5; 1.6; 1.8; 1.10; 1.11; 1.14	1.1.1; 1.1.2; 1.1.8; 1.2.4; 2.1; 2.2; 2.4; 2.5

Y - Year; S - Semester.