Competences of the graduated students of Veterinary Medicine

(approved by the Scientific Council on June 18, 2024)

FMV, through its Integrated Master in Veterinary Medicine (IMVM), has the goal to provide high quality education in veterinary medicine, according to international standards, based on scientific, ethical and sustainability principles, and to give its graduates the necessary skills to perform, in the best way possible, the veterinary profession in its different subjects, in order to address the needs and challenges of society. This education embraces all the fields in Veterinary Sciences mentioned in Directive 2005/36/EC and the Day One Skills of the European System of Evaluation of Veterinary Training (ESEVT), approved June 8th, 2023, and is based in scientific and evidence-based knowledge, providing students with learning opportunities and creating study habits that prevail throughout their lives.

The IMVM of FMV-ULisboa has the following general and specific goals:

1. General goals:

a) To apply knowledge, understanding and problem-solving abilities, even in face of new situations, in broad and multidisciplinary contexts, in the field of the Veterinary Sciences.

b) To integrate knowledge, to deal with complex questions, propose solutions, make judgement in case of limited or incomplete information, including reflections on the implications and ethical and social responsibilities secondary to those solutions or judgements.

c) To be able to communicate their conclusions and findings in a clear and objective way.

d) To develop skills that allow lifelong autonomous learning.

2. Specific goals:

a) To ensure animals' health, welfare and well-being;

b) To protect Humans against zoonotic diseases;

c) To contribute to a sustainable, efficient and competitive livestock production, environmentally friendly;

d) To ensure the quality and safety of products from animal origin;

e) To join multidisciplinary approaches in public policies and global challenges involving the Human, Animal and Environmental views, within the concept of "One Health".

To guarantee that these goals are fulfilled, the Scientific Council of FMV, first approved on May 10th 2000, the list of competences that Veterinary Medicine graduates should have by the time of their graduation. This list of competences was revised on July 30th 2014 and again on June 18th 2024, and stands as follows.

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1. **PROFESSIONAL AND PERSONAL SKILLS** Professional skills include knowledge of the veterinary surgeon code of conduct and professional responsibilities, as well as the legal, business and social framework of the veterinary medicine profession. They also include the knowledge of personal abilities and limitations, as well as the modes of action in different scenarios.	**ESEVT Day 1 Competences**

1.1 PROFISSIONAL SKILLS

1.1.1	Know the relevant Laws and official regulations for veterinarian activities, to act according to the ethical, deontological and legal rules demanded by the professional activity, including those related to animal welfare, clients, public health and notifiable and reportable diseases, and the use of medicines, including responsible use of antimicrobials and those regarding the environmental and social impact.	1.1 1.3 1.25 1.26
1.1.2	Understand and apply principles of "One Health" to ensure veterinary Good Clinical Practice, to promote the health, safety and welfare of animals, people and the environment, in agreement with the United Nations Sustainable Development Goals.	1.10 1.12 1.29
1.1.3	Understand and apply principles of research-based and evidence-based veterinary medicine; understand scientific research methods the contribution of basic and applied research to science and to promote the implementation of the 3Rs principle (Replacement, Reduction, Refinement).	1.2 1.9 1.10
1.1.4	Understand where to find and evaluate scientific and technical information, including to analyse scientific papers, to use computerized databases and artificial intelligence.	1.9 1.26
1.1.5	Prepare accurate clinical and client records, and case reports when necessary, in a form satisfactory to the relevant audiences.	1.7
1.1.6	Use of professional capabilities to contribute to the advancement of knowledge in Veterinary Sciences.	1.12
1.1.7	Promote, monitor and contribute to maintaining the health and safety of oneself, patients, clients, colleagues as well as the environment, in veterinary practice; demonstrate knowledge about the principles of quality assurance and apply principles of risk management in practice.	1.4 1.24 1.29
1.1.8	Demonstrate a basic knowledge of the organization, management and legislation related to a veterinary business/practice, including safety regulations and tax laws.	1.3 1.4 1.29
1.1.9	To perform certification procedures in the different fields of Veterinary Medicine.	1.1
1.1.10	Understand the importance of digital tools and artificial intelligence in veterinary medicine.	1.24

1.2   PERSONAL SKILLS

1.2.1 Recognize and act adequately according to the economic and emotional context in which the veterinarian operates.	1.3
1.2.2 Demonstrate the ability to recognize personal and professional limits and know when and where to look for assistance and support, namely for a second opinion or professional help.	1.13 1.15
1.2.3 Know how to deal with uncertainty, cope with incomplete information, deal with contingencies, and adapt knowledge and skills to varied scenarios and contexts, being able to extrapolate existing information in case of new scenarios.	1.3 1.11
1.2.4 Demonstrate a commitment to lifelong learning and professional development; engage in self-audit and peer-group review process on a regular basis in order to improve performance	1.14 1.15

2.   COMMUNICATION SKILLS
Communication skills reflect the professional relationship between colleagues, clients, professionals from other fields and the public.

2.1 Communicate effectively with clients, colleagues, authorities and the public, using language appropriate to the audience concerned and in full respect of confidentiality and privacy.	1.5 1.6
2.2 Work as a member of a multidisciplinary team, and recognise the contribution of all team members.	1.6 1.8
2.3 Communicate and collaborate with referral and diagnostic or other professional services, providing a suitable description of each case.	1.23
2.4 Demonstrate inclusivity and cultural competence, and encourage diverse contributions within the workplace	1.5 1.6 1.8
2.5 Be able to identify the clients' and team's objectives, expectations, perspectives and constraints, in full respect of confidentiality and privacy and be able to manage conflicts.	1.5 1.6 1.8
2.6 Be able to manage difficult situations, such as financial constraints, palliative care and euthanasia.	1.5

3.   TECHNICAL SKILLS

Technical skills intend to ensure that the education provided involves the different fields of veterinary activity, namely regarding clinics, public health, animal production, inspection and technology of animal origin products.

3.1   CLINICAL THINKING

3.1.1	Be able to recognise the health status of livestock and pet species.	1.21
3.1.2	Be able to recognise normal and abnormal animal behaviour and welfare indicators.	1.21
3.1.3	Obtain an accurate and relevant history of the individual animal or animal group, and its/their husbandry and environment.	1.16
3.1.4	Know the methods for semiotics exploration, both physical and laboratory, used in Veterinary Medicine select the appropriate diagnostic test, interpret the results and understand the limitations of the test results.	1.18 1.22 1.24
3.1.5	Know the aetiopathogenesis and clinical signs of the most common diseases from domestic animals, select the most adequate differential diagnostics plan, triage and prioritize situational urgency and allocate resources accordingly.	1.20 1.18
3.1.6	Be aware and know how to establish prophylaxis principles towards the most common diseases.	1.19
3.1.7	Be able to develop an adequate treatment plan administer treatment in the interest of the animal with regard to the available resources and to appropriate public health and environmental considerations.	1.18 1.19
3.1.8	Be able to formulate a prognosis, considering the likelihood of success and the evolution of clinical cases, and, in case of clinical failure, to be able to reevaluate the situation.	1.18 1.19
3.1.9	Be able to recognise when there is the need to perform euthanasia, using a legally accepted and safe method, that does not bring suffering to the animals and respects the owners' sensitivity; be able to advise on the disposable of the carcase.	1.18 1.33
3.1.10	Know the licenced and available drugs, acknowledge their formulations and how to prescribe them, be aware of interactions, public health implications and the correct ways of storing and disposal; to be able to identify and report adverse medical reactions through the legally adequate means.	1.27 1.28
3.1.11	Know reproductive technologies, knowing how to select the most adequate ones, and advice on their use.	1.21
3.1.12	To know how to minimize the risks of contamination, cross infection and buildup of pathogens in the premises of both the veterinary practice and farming facilities.	1.24 1.29
3.1.13	Advise and establish programs regarding husbandry, feeding, breeding, welfare and parasite and microbial control intended to livestock and companion animals.	1.21 1.38

3.1.14	Know how to diagnose notifiable diseases in the country and the European Union, and those listed in the WOAH - World Organization of Animal Health List.	1.25

3. 2   INDIVIDUAL ANIMAL

3.2.1	Know how to use animal identification, manipulation, restraint and transport techniques, respecting the animal's welfare and safety, as well as that of the personnel involved, and instruct others in helping the veterinarian surgeon to perform these techniques.	1.17
3.2.2	Perform a complete clinical examination, using the most adequate methods of semiotics exploration and physical and laboratory methods.	1.18 1.24
3.2.3	Know how to use, safely and according to good practice standards, basic imaging equipment, namely radiographic and ultrasonographic equipment.	1.24
3.2.4	Collect, preserve and transport biological samples for diagnosis.	1.22
3.2.5	Know how to act in emergency situations, providing first aid and basic life supporting measures.	1.20
3.2.6	Know how to perform sedation and general and regional anaesthesia; implement chemical methods of restrain; prevent assess and manage pain.	1.31 1.32
3.2.7	Know how to perform basic surgical procedures in an aseptic fashion	1.30
3.2.8	Know how to perform a necropsy on all common animal species, including sampling, dispatching and reporting.	1.34

3.3   ANIMAL HERD

3.3.1	Know the production performance abilities and morphologic characteristics of the different species, and the most common national and foreign breeds in the country.	1.21
3.3.2	Collect, evaluate and record the main production, breeding, health and welfare indicators, and know how to define and assess animal production systems.	1.21
3.3.3	Know the techniques for conservation and improvement of the genetic heritage of animal populations.	1.21
3.3.4	Know how to assess animals' nutritional status, and know the principles and techniques of supply, formulation and preparation of feed.	1.21
3.3.5	Know how to collect samples, order laboratory analysis and interpret the results for the evaluation of the nutritional and hygiene of each animal food type.	1.36
3.3.6	Know the quality parameters and economic value of animal origin products.	1.36
3.3.7	Be aware of the basic principles to follow for the design of the facilities intended for housing animals.	1.21

3.4 ONE HEALTH /PUBLIC HEALTH/ FOOD SAFETY

3.4.1	Apply the basic principles of epidemiology descriptive, analytical and operational.	1.25 1.26
3.4.2	Collect and interpret epidemiologic data regarding follow-up and epidemiological surveillance strategies, for the prevention, control and eradication of transmissible diseases, and especially zoonotic diseases.	1.25 1.26 1.37 1.38
3.4.3	Assess and prevent risks associated with the movement of animal species.	1.26
3.4.4	Advice and design health programs.	1.26 1.38
3.4.5	Follow correct procedures for diagnosing and reporting mandatory notifiable diseases in Portugal and know the legislation on health in force in Portugal and the European Union.	1.25
3.4.6	Know the domains for the application of methods and techniques of environmental hygiene and toxicology, regarding animal remains, as well as effluents of animal and animal industry origin.	1.21 1.37
3.4.7	Analyse and execute legal considerations regarding food safety.	1.35 1.36 1.37
3.4.8	Perform ante- and post-mortem sanitary inspection of food-producing animals including paying attention to welfare aspects, and identify conditions affecting the quality and safety of animal origin products, including the adoption and application of criteria and legal health decisions regarding sanitary inspection activity.	1.35 1.37
3.4.9	Verify the health status of the premises, equipment and personnel in the slaughter line and know the protocol procedures in need of intervention due to disruption of the hygienic condition.	1.29 1.35 1.36 1.37
3.4.10	Know and apply the main and the most commonly used methods for the production, conservation and distribution fresh and processed animal origin products	1.36 1.37
3.4.11	Know and apply the basic principles of food safety proactive systems.	1.36 1.37
3.4.12	Be familiar with the analytical techniques intended to assess the quality and to determine the nutritional and dietary value of animal origin products.	1.36 1.37