



## ACADEMIC REGULATIONS OF THE SINGLE-CYCLE MASTER'S DEGREE PROGRAMME IN VETERINARY MEDICINE

These Regulations govern the organisation and functioning of the single-cycle Master's degree programme in Veterinary Medicine of the University of Milan (degree class LM-42 – Veterinary Medicine).

In compliance with the provisions of article 11, paragraph 2, of Law no. 341 of 19 November 1990, article 12 of Ministerial Decree no. 270 of 22 October 2004, and the University's Academic Regulations, these Regulations specify the organisational and functional aspects of the single-cycle Master's degree in Veterinary Medicine while respecting freedom of teaching and the right and duties of professors and students, in line with the degree programme's Academic Framework (*Ordinamento Didattico*) as defined in the University's Academic Regulations, and in accordance with the LM-42 degree class established by Ministerial Decree of 16 March 2007.

The Department of Veterinary Medicine and Animal Sciences acts as lead department for the degree programme.

### Art. 1 - Specific learning objectives of the degree programme and graduate profile

The Master's degree programme in Veterinary Medicine is a single-cycle, limited-enrolment and compulsory-attendance programme, whose aim is to provide graduates with the fundamental knowledge and skills required to practise as veterinary surgeons, in accordance with the guidelines of the European Association of Establishments for Veterinary Education (EAEVE). The purpose of the degree programme is therefore to train graduates with technical, professional and ethical competences enabling them to perform their role in the care and prevention of diseases in livestock, companion animals and non-conventional species, in the health surveillance of animals within the National Health Service in relation to zoonotic risks and potential economic and productive impacts, in the control of food of animal origin and related production technologies, in the protection of animal welfare, and in the technical and health management of production, nutrition and reproduction of farmed species.

Training is delivered through a five-year programme divided into semesters. The first and second year cover basic sciences (physics, chemistry, biology, biostatistics) and part of the veterinary basic subjects necessary to understand the healthy animal (biochemistry, anatomy, physiology and ethology of domestic animals, animal breeding and genetic improvement, including the management of livestock and companion animal farms, general pathology and microbiology, veterinary law); during the third, fourth and fifth year, core disciplines focus on health aspects (pathological anatomy, epidemiology, infectious and parasitic diseases, including zoonoses, veterinary public health, pharmacology and toxicology), inspection aspects (inspection, control and hygiene of products of animal origin), clinical aspects (medical and surgical pathology, clinical propaedeutics, anaesthesiology and intensive care, diagnostic imaging, small animal, equine, non-conventional and livestock clinical practice) and professional aspects (communication, forensic and veterinary legislation, bioethics and economic management), paying attention to the specific characteristics of animal species.

In parallel, from the first year onwards, students undertake practical activities within the disciplinary areas envisaged by the Practical Evaluation Internship (*Tirocinio Pratico Valutativo, TPV*): clinical practice of companion animals, horses and exotic species; veterinary public health

and food safety; animal production and livestock medicine. This practical training can be completed both within the University's facilities (Veterinary Teaching Hospital, Experimental Zootechnical Centre, research laboratories) and at affiliated public and/or private companies and partner foreign universities.

During the first and second year, students acquire the practical skills and abilities necessary to interact safely in different farming contexts with ruminants, swine, equines and companion animals, respecting their specific ethological characteristics. In the third year, they acquire competences related to the productive, reproductive and health management of livestock farms and the management of hospitalised animals. In the fourth year, students carry out activities in shelters for companion animals (dogs and cats) to acquire the competences necessary for clinical practice. In the fifth year, students undertake activities related to food safety and clinical disciplines at university and affiliated facilities. Attendance, skills and competences acquired during practical activities and the Practical Evaluation Internship are recorded in a dedicated logbook. The tutor (internal or external) signs the logbook to certify the skills acquired during each activity. The final signature of the professor responsible for a specific internship area certifies completion of that internship area.

Throughout the entire programme, attention is paid to the acquisition of "Day One Competences" (DOCs), a list of knowledge and skills that newly graduated veterinary surgeons must possess when entering the profession, as detailed in a document drawn up by the European Coordinating Committee on Veterinary Training and adopted by EAEVE. Its aim is to monitor the harmonisation of the minimum standards required for veterinary training programmes, as established by EU Directive 2005/36, and to assess, promote and further improve the quality standards of veterinary education establishments and veterinary training itself.

### **Knowledge and understanding**

To perform their professional duties effectively, graduates in Veterinary Medicine must have a solid cultural and scientific foundation and an understanding of the biological, animal and social sciences and the laws governing the animal industry. In particular, the "Day One Competences" document of the European Coordinating Committee on Veterinary Training (ECCVT), to which all Veterinary Medicine degree programmes accredited by EAEVE conform, specifies that the newly graduated veterinarian must have knowledge and understanding of the following:

- the structure, function and behaviour of animals and their physiological and welfare requirements, including healthy domestic animals, captive wild animals and laboratory animals;
- businesses related to the breeding and management of livestock and their economic aspects;
- the aetiology, pathogenesis, clinical signs and symptoms, diagnosis and treatment of common diseases and disorders occurring in common domestic species;
- transmissible diseases that constitute a national and international risk for biosecurity and trade;
- legislation on animal care and welfare, transport and handling of animals, and notification of notifiable transmissible diseases;
- legislation relating to pharmaceuticals and guidelines for the responsible use of drugs, including responsible use of antimicrobial and antiparasitic drugs;
- principles of disease prevention and promotion of health and welfare;
- issues of veterinary public health, including epidemiology, transboundary epizootic diseases, zoonoses and diseases transmitted by food of animal origin, emerging and re-emerging diseases, hygiene and technology of food of animal origin;
- legislation and basic economic and management principles underlying private veterinary practice;
- principles of effective interpersonal interaction, including communication, leadership, management and teamwork;
- understanding of, and competence in, the logical approaches of scientific and clinical reasoning, the distinction between the two, and the strength and limits of each;
- the methods and the contribution of basic and applied research to veterinary science.

Knowledge and understanding of the above are achieved by graduates through attendance of all learning activities included in basic, core and supplementary courses, and are verified through

interim tests and end-of-course exams for the various disciplines covered by the degree programme.

## **Career and professional opportunities for graduates**

Veterinary surgeon

### **Art. 2 - Admission**

To be eligible for admission to the single-cycle Master's degree programme in Veterinary Medicine, applicants must hold an upper-secondary school diploma or a foreign qualification recognised as suitable for admission in accordance with current legislation.

Applicants are required to have prior knowledge of the fundamentals of biology, chemistry, physics and mathematics taught in upper-secondary schools, as established by the national guidelines for high schools (*Licei*) and vocational education and training institutes (*Istituti Tecnici* and *Istituti professionali*).

Admission into the Master's degree programme in Veterinary Medicine after the filter semester is governed by specific provisions of the Italian Ministry of University and Research, in compliance with the current legislative framework.

### **Art. 3 - Organisation of the degree programme**

The duration of the single-cycle Master's degree programme in Veterinary Medicine is 5 years; the study programme is divided into 10 semesters, for a total of 300 university credits (ECTS credits). Attendance is compulsory. The methods to verify attendance are established annually by the Academic Board of the degree programme at the same time as the presentation of the teaching programme and are communicated to students before the start of classes on the University's website.

Each student must acquire 69 ECTS credits through basic courses (*attività formative di base*), 166 ECTS credits through core courses (*attività formative caratterizzanti*), 12 ECTS credits through supplementary courses (*attività formative affini o integrative*), 3 ECTS credits for the English language assessment, 8 ECTS credits through elective courses, 6 ECTS credits through the final graduation exam and 36 ECTS credits through the Practical Evaluation Internship.

Teaching is delivered in the form of lectures, practical activities, laboratories, seminars, conferences and symposia; the programme also includes clinical practice in veterinary clinics for companion and livestock animals, as well as in intensive livestock farms. One ECTS credit corresponds to a standard workload of 25 hours, structured as follows: 8 hours of lectures plus 17 hours of individual study, or 16 hours of laboratory or practical work plus 9 hours of individual study, or 25 hours of practical internship activities carried out together with a professor or external tutor.

The official courses of the degree programme are organised into integrated courses, i.e. courses comprising two or more teaching modules, and single-subject courses; in addition to providing technical-specialist training, all courses are intended to enhance students' general knowledge and gradual professionalisation, fostering conscious learning and the development of independent judgement, which is essential for working as a veterinary surgeon.

In accordance with the University's Academic Regulations, student performance is verified through an overall collegial assessment by the professors in charge of the teaching modules or integrated courses; the acquisition of the ECTS credits established for each course is subject to passing the relevant written and/or practical exam, which is graded on a scale of thirty, in accordance with University regulations. Interim tests may be organised, but each course, whether single-subject or integrated, will culminate in a single exam. For integrated courses consisting of modules taught by several professors, one professor is appointed to coordinate the exam and record it in the University's VWEB portal.

To access subsequent years of the programme, students must have acquired the following ECTS credits by the end of the September exam session:

- access from the 1st to the 2nd year: at least 20 ECTS;
- access from the 2nd to the 3rd year: at least 65 ECTS;
- access from the 3rd to the 4th year: at least 110 ECTS;
- access from the 4th to the 5th year: at least 160 ECTS.

The academic office verifies the acquisition of the required ECTS credits on 10 October, or on the first working day thereafter.

Students who have not earned the required number of ECTS credits by this deadline must enrol as repeating students. Attendance at courses is not required for repeating students who have already fulfilled the attendance requirement in the previous year.

With regard to the 8 ECTS credits for elective activities, during the fifth year the programme offers 8-credit integrated courses aimed at deepening knowledge in specific fields of veterinary medicine; these courses are structured in modules and approved annually by the Academic Board of the Veterinary Medicine degree programme. This is without prejudice to students' autonomy of choice, as they are free to select their electives from all courses offered by the University that are consistent with the learning objectives of the degree programme. The acquisition of the corresponding 8 ECTS credits is subject to passing the relevant exam, which is graded on a scale of thirty.

For the 36 ECTS credits for the Practical Evaluation Internship, students conduct hands-on activities under the supervision of a tutor. Mere observation of procedures performed by others does not constitute internship activity.

The objectives and topics of the Practical Evaluation Test are clearly indicated in specific syllabi approved by the Academic Board.

The internship is carried out, under the supervision of a tutor, both on University's premises ("intramural internship") as well as in professional settings ("extramural internship"). The extramural internship may be carried out in Italy or abroad, at research institutions, laboratories, private companies or public administrations, or at veterinary facilities and services of the National Health Service, in the framework of agreements signed by the University. The extramural internship must be overseen by a practising veterinary surgeon, who acts as tutor. Specific training is provided to veterinary surgeons acting as internship tutors, to equip them with basic skills in the delivery and assessment of practical training. Internship activities are conducted in small groups and are aimed at the acquisition of professional skills and competences.

Students fill in an internship logbook where they keep track of their own attendance and absences, and the skills and competences to be acquired. The tutor signs the logbook to certify that the student has achieved certain skills upon completion of the relevant activities. The final signature of the professor responsible for a specific internship area certifies completion of that internship area.

To have the logbook signed by the professor responsible for an internship area, students must have attended at least 80 per cent of the activities and acquired all the skills envisaged by the internship logbook.

To access the Practical Evaluation Test, students must have obtained certification of completion of all internship areas by the relevant professors.

In accordance with the current legislation on access to degree programmes with national enrolment quotas, the Academic Board issues specific regulations, subject to approval by the Department of Veterinary Medicine and Animal Sciences, to govern the following:

- student transfer from a previous degree programme in Veterinary Medicine of the University of Milan – regulated by a different Academic Framework – into the current one;
- student transfer from other Italian or EU universities (both from degree programmes in Veterinary Medicine as well as from other degree programmes);
- the recognition of previous academic credits earned by students enrolled in the first programme year after passing the national admission examination;

- the recognition of Veterinary Medicine degrees obtained at foreign universities.

#### Art. 4 - Scientific-disciplinary sectors and related courses

The following table displays the official courses of the degree programme in Veterinary Medicine, defined in relation to its learning objectives, within the relevant scientific-disciplinary sectors:

| Course                                                                                                                                                                                                                                                | SSD                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| C. Chemistry and Biochemistry Propaedeutics                                                                                                                                                                                                           | CHIM/03<br>BIO/10                    |
| C. Biology                                                                                                                                                                                                                                            | BIO/05                               |
| C. Physics                                                                                                                                                                                                                                            | FIS/07                               |
| I.C. Histology, Systematic and Comparative Veterinary Anatomy<br>Mod. Histology and Embryology<br>Mod. Systematic and Comparative Veterinary Anatomy 1<br>Mod. Systematic and Comparative Veterinary Anatomy 2                                        | VET/01<br>VET/01<br>VET/01           |
| I.C. Biostatistics, General Animal Husbandry and Genetic Improvement<br>Mod. General Animal Husbandry, Genetics and Genetic Improvement<br>Mod. Biostatistics                                                                                         | AGR/17<br>SECS/02                    |
| I.C. Biochemistry, Bacteriology, Virology and Veterinary Immunology<br>Mod. Biochemistry<br>Mod. Veterinary Bacteriology and Virology<br>Mod. Veterinary Immunology                                                                                   | BIO/10<br>VET/05<br>VET/05           |
| Systematic and Comparative Veterinary Anatomy 3                                                                                                                                                                                                       | VET/01                               |
| I.C. Physiology and Endocrinology of Domestic Animals<br>Mod. Physiology of the Digestive System<br>Mod. Physiology of the Respiratory and Urinary Systems<br>Mod. Physiology of Reproduction and Lactation<br>Mod. Endocrinology of Domestic Animals | VET/02<br>VET/02<br>VET/02<br>VET/02 |
| I.C. Physiology and Ethology of Domestic Animals<br>Mod. Physiology of the Nervous, Cardiovascular and Muscular Systems<br>Mod. Veterinary Ethology<br>Mod. Veterinary Legislation                                                                    | VET/02<br>VET/02<br>VET/08           |
| I.C. General Veterinary Pathology and Clinical Biochemistry<br>Mod. General Veterinary Pathology<br>Mod. Pathophysiology and Immunopathology<br>Mod. Clinical Biochemistry                                                                            | VET/03<br>VET/03<br>BIO/12           |
| I.C. Livestock Farm Management<br>Mod. Livestock Systems and Assessment of Animal Welfare on Farms<br>Mod. Feeding of Livestock<br>Mod. Herd Management e Breeding Technologies<br>Mod. Management of Poultry and Rabbit Farms                        | AGR/19<br>AGR/18<br>AGR/19<br>AGR/20 |
| I.C. Management of Companion Animal and Horse Breeding<br>Mod. Management of Companion Animal (Dog, Cat and Horse) Breeding<br>Mod. Feeding and Dietetics of Companion Animals<br>Mod. Principles of Animal Nutrition                                 | AGR/19<br>AGR/18<br>AGR/18           |
| I.C. Veterinary Pathological Anatomy 1<br>Mod. Veterinary Pathological Anatomy 1                                                                                                                                                                      | VET/03                               |

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| Mod. Veterinary Histopathology and Cytopathology                                                                                                                                                                                                                                                            | VET/03                                              |
| I.C. Infectious and Parasitic Diseases of Livestock and Health Management of Farms<br>Mod. Infectious Diseases of Swine<br>Mod. Infectious Diseases of Cattle<br>Mod. Infectious Diseases of Sheep and Goats<br>Mod. Avian and Lagomorph Pathology<br>Mod. Parasitology and Parasitic Diseases of Livestock | VET/05<br>VET/05<br>VET/05<br>VET/05<br>VET/06      |
| I.C. Veterinary Pharmacology and Toxicology<br>Mod. Veterinary Pharmacology<br>Mod. Veterinary Toxicology                                                                                                                                                                                                   | VET/07<br>VET/07                                    |
| I.C. Professional Skills<br>Mod. Veterinary Forensic Medicine and Legislation<br>Mod. Farm Economic Management<br>Mod. Economic Management of the Veterinary Clinic<br>Mod. Veterinary Professional Communication<br>Mod. Bioethics                                                                         | VET/08<br>AGR/01<br>SECS/P/08<br>SPS/08<br>M-FIL/03 |
| I.C. Veterinary Pathological Anatomy 2<br>Mod. Veterinary Pathological Anatomy 2<br>Mod. Necropsy<br>Mod. Veterinary Oncology                                                                                                                                                                               | VET/03<br>VET/03<br>VET/03                          |
| I.C. Infectious and Parasitic Diseases of Companion Animals and Horses<br>Mod. Infectious Diseases of Horses<br>Mod. Parasitology and Parasitic Diseases of Companion Animals, Horses and Non-Conventional Species<br>Mod. Infectious Diseases of Dogs and Cats                                             | VET/05<br>VET/06<br>VET/05                          |
| I.C. Zoonoses<br>Mod. Infectious Zoonotic Diseases<br>Mod. Parasitic Zoonoses<br>Mod. Veterinary Epidemiology<br>Mod. Zoonoses of Food Inspection Interest                                                                                                                                                  | VET/05<br>VET/06<br>VET/05<br>VET/04                |
| I.C. Inspection and Control of Food of Animal Origin<br>Mod. Inspection and Control of Meat<br>Mod. Practical Work in Slaughterhouses<br>Mod. Inspection and Control of Fishery Products                                                                                                                    | VET/04<br>VET/04<br>VET/04                          |
| I.C. Obstetrics and Pathology of Animal Reproduction<br>Mod. Reproductive Pathology, Artificial Insemination and Obstetrics of Livestock and Horses<br>Mod. Reproductive Pathology, Artificial Insemination and Obstetrics of Small Animals                                                                 | VET/10<br>VET/10                                    |
| I.C. Veterinary Medical and Surgical Pathology and Genetic Diseases of Domestic Animals<br>Mod. Veterinary Surgical Pathology<br>Mod. Medical Pathology of Dogs and Cats<br>Mod. Medical Pathology of Horses<br>Mod. Medical Pathology of Livestock<br>Mod. Genetics of Diseases of Domestic Animals        | VET/09<br>VET/08<br>VET/08<br>VET/08<br>AGR/17      |

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| I.C. Diagnostic Imaging, Topographic Anatomy and Veterinary Radiological Physics<br>Mod. Veterinary Radiological Physics<br>Mod. Ultrasonography<br>Mod. Veterinary Radiology and Nuclear Medicine of Small Animals<br>Mod. Veterinary Radiology and Nuclear Medicine of Large Animals<br>Mod. Topographic Anatomy | FIS/07<br>VET/08<br>VET/09<br>VET/09<br>VET/01 |
| I.C. Propaedeutics to Veterinary Clinical Practice<br>Mod. Medical Propaedeutics<br>Mod. Surgical Propaedeutics                                                                                                                                                                                                    | VET/08<br>VET/09                               |
| I.C. Hygiene and Microbiology of Food of Animal Origin<br>Mod. Hygiene and Food Technology<br>Mod. Industries and Food of Animal Origin                                                                                                                                                                            | VET/04<br>VET/04                               |
| I.C. Veterinary Anaesthesiology, Operative Medicine and Intensive Care<br>Mod. Veterinary Anaesthesiology and Analgesia<br>Mod. Veterinary Operative Medicine<br>Mod. Veterinary Intensive Care                                                                                                                    | VET/09<br>VET/09<br>VET/09                     |
| I.C. Equine Clinic<br>Mod. Equine Obstetrics, Gynaecology, Andrology and Neonatology<br>Mod. Equine Surgery<br>Mod. Equine Orthopaedics and Traumatology<br>Mod. Equine Internal Medicine<br>Mod. Veterinary Prescription and Drug Management for Non-Farming Animals                                              | VET/10<br>VET/09<br>VET/09<br>VET/08<br>VET/08 |
| I.C. Small Animal and Non-Conventional Animal Clinic<br>Mod. Internal Medicine of Small Animals<br>Mod. Small Animal Obstetrics, Gynaecology, Andrology and Neonatology<br>Mod. Clinic of Non-Conventional Animals<br>Mod. Small Animal Surgery<br>Mod. Small Animal Orthopaedics and Traumatology                 | VET/08<br>VET/10<br>VET/09<br>VET/09<br>VET/09 |
| I.C. Livestock Clinic<br>Mod. Obstetrics, Gynaecology, Andrology and Neonatology of Livestock<br>Mod. Clinical and Health Management of Livestock<br>Mod. Veterinary Prescription and Drug Management in Livestock Facilities                                                                                      | VET/10<br>VET/08<br>VET/08                     |

Any additional courses within the aforementioned sectors may be introduced upon proposal by the Department Council, subject to approval by the Academic Senate. In exceptional and justified cases, additional courses may be inserted directly in the Programme Description (*Manifesto degli Studi*).

The structure, articulation, objectives and learning outcomes of each course and other training activities, as well as any other supporting information for enrolled students, are indicated annually through entry into the W4 management system and publication in the Programme Description, the University's website and the website of the degree programme.

The syllabus of each course is also published on the University's website and on the website of the degree programme.

#### **Art. 5 - Academic Plan**

The following table shows the Academic Plan, i.e. the list of all learning activities included in the degree programme, with the corresponding number of ECTS credits:

| 1st PROGRAMME YEAR: compulsory learning activities |                                                                                           |                                                            |                                                 |              |                   |
|----------------------------------------------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------|--------------|-------------------|
| Type*                                              | Field of study                                                                            | Course/Integrated Course                                   | Module                                          | ECTS credits | SSD of the module |
| A                                                  | Preparatory scientific disciplines applied to veterinary medical studies                  | Chemistry and Biochemistry Propaedeutics                   | Chemistry                                       | 3            | CHIM/03           |
| A                                                  | Disciplines of the structure, function and metabolism of molecules of biological interest |                                                            | Biochemistry Propaedeutics                      | 3            | BIO/10            |
| A                                                  | Animal and plant biological and genetic disciplines                                       | Biology                                                    | Biology                                         | 6            | BIO/05            |
| A                                                  | Preparatory scientific disciplines applied to veterinary medical studies                  | Physics                                                    | Physics                                         | 6            | FIS/07            |
| A                                                  | Disciplines of the structure and function of living organisms                             | Histology, Systematic and Comparative Veterinary Anatomy   | Histology and Embryology                        | 4            | VET/01            |
|                                                    |                                                                                           |                                                            | Systematic and Comparative Veterinary Anatomy 1 | 6            | VET/01            |
|                                                    |                                                                                           |                                                            | Systematic and Comparative Veterinary Anatomy 2 | 5            | VET/01            |
| A                                                  | Animal and plant biological and genetic disciplines                                       | Biostatistics, General Zootechnics and Genetic Improvement | General Zootechnics and Genetic Improvement     | 3            | AGR/17            |
| C                                                  | Related activities                                                                        |                                                            |                                                 | 1            | AGR/17            |

|                                                    |                                                                                           |                                                                |                                                                |              |                   |
|----------------------------------------------------|-------------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|--------------|-------------------|
| A                                                  | Preparatory scientific disciplines applied to veterinary medical studies                  |                                                                | Biostatistics                                                  | 1            | SECS-S/02         |
| A                                                  | Disciplines of the structure, function and metabolism of molecules of biological interest | Biochemistry, Bacteriology, Virology and Veterinary Immunology | Biochemistry                                                   | 5            | BIO/10            |
| B                                                  | Disciplines of transmissible diseases                                                     |                                                                | Bacteriology and Veterinary Virology                           | 3            | VET/05            |
|                                                    |                                                                                           |                                                                | Veterinary Immunology                                          | 3            | VET/05            |
| Total compulsory ECTS credits                      |                                                                                           |                                                                |                                                                | 49           |                   |
| 2nd PROGRAMME YEAR: compulsory learning activities |                                                                                           |                                                                |                                                                |              |                   |
| Type*                                              | Field of study                                                                            | Course/Integrated Course                                       | Module                                                         | ECTS credits | SSD of the module |
| A                                                  | Disciplines of the structure and function of living organisms                             | Systematic and Comparative Veterinary Anatomy                  |                                                                | 5            | VET/01            |
|                                                    |                                                                                           | Physiology and Endocrinology of Domestic Animals               | Physiology of Reproduction and Lactation                       | 2            | VET/02            |
|                                                    |                                                                                           |                                                                | Physiology of the Digestive System                             | 2            | VET/02            |
|                                                    |                                                                                           |                                                                | Physiology of the Respiratory and Urinary Systems              | 2            | VET/02            |
|                                                    |                                                                                           |                                                                | Endocrinology of Domestic Animals                              | 3            | VET/02            |
| A                                                  | Disciplines of the structure and function of living organisms                             | Physiology and Ethology of Domestic Animals                    | Physiology of the Nervous, Cardiovascular and Muscular Systems | 6            | VET/02            |
| C                                                  | Related or integrative educational activities                                             |                                                                | Veterinary Ethology and Animal Welfare                         | 4            | VET/02            |
|                                                    |                                                                                           |                                                                | Veterinary Legislation                                         | 2            | VET/08            |
| B                                                  |                                                                                           |                                                                | General Veterinary Pathology                                   | 4            | VET/03            |

|                                                    |                                                                                           |                                                                   |                                                               |              |                   |
|----------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------|--------------|-------------------|
|                                                    | Anatomopathological and Veterinary Inspection Disciplines                                 | General Veterinary Pathology and Clinical Biochemistry            | Pathophysiology and Immunopathology                           | 4            | VET/03            |
| A                                                  | Disciplines of the structure, function and metabolism of molecules of biological interest |                                                                   | Clinical Biochemistry                                         | 4            | BIO/12            |
| C                                                  | Related or integrative educational activities                                             | Management of Livestock Farming Systems                           | Livestock Systems and Assessment of Animal Welfare on Farms   | 2            | AGR/19            |
| B                                                  | Disciplines of animal husbandry, breeding and animal nutrition and business management    |                                                                   | Herd Management and Breeding Technologies                     | 3            | AGR/19            |
|                                                    |                                                                                           |                                                                   | Management of Poultry and Rabbit Farming                      | 3            | AGR/20            |
|                                                    |                                                                                           |                                                                   | Feeding of Farm Animals                                       | 3            | AGR/18            |
| B                                                  | Disciplines of animal husbandry, breeding and animal nutrition and business management    | Management of Companion Animal and Horse Breeding                 | Management of Companion Animal (dog, cat, and horse) Breeding | 1            | AGR/19            |
|                                                    |                                                                                           |                                                                   | Feeding and Dietetics of Companion Animals                    | 4            | AGR/18            |
|                                                    |                                                                                           |                                                                   | Principles of Animal Nutrition                                | 2            | AGR/18            |
| Total compulsory ECTS credits                      |                                                                                           |                                                                   |                                                               | 56           |                   |
| 3rd PROGRAMME YEAR: compulsory learning activities |                                                                                           |                                                                   |                                                               |              |                   |
| Type*                                              | Field of study                                                                            | Course/Integrated Course                                          | Module                                                        | ECTS credits | SSD of the module |
| B                                                  | Anatomopathological and Veterinary Inspection Disciplines                                 | Veterinary Pathological Anatomy 1                                 | Veterinary Pathological Anatomy 1                             | 3            | VET/03            |
|                                                    |                                                                                           |                                                                   | Veterinary Histopathology and Cytopathology                   | 2            | VET/03            |
| B                                                  | Disciplines of transmissible diseases                                                     | Infectious and Parasitic Diseases of Farm Animals and Farm Health | Management Infectious Diseases of Swine                       | 2            | VET/05            |
|                                                    |                                                                                           |                                                                   | Infectious Diseases of Cattle                                 | 2            | VET/05            |

|   |                                                                    |                                                                   |                                                                                               |   |           |
|---|--------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---|-----------|
|   |                                                                    |                                                                   | Infectious Diseases of Sheep and Goats                                                        | 1 | VET/05    |
|   |                                                                    |                                                                   | Avian and Lagomorph Pathology                                                                 | 3 | VET/05    |
|   |                                                                    |                                                                   | Parasitology and Parasitic Diseases of Farm Animals                                           | 3 | VET/06    |
| B | Pharmacological, Toxicological and Veterinary Clinical Disciplines | Veterinary Pharmacology and Toxicology                            | Veterinary Pharmacology                                                                       | 5 | VET/07    |
|   |                                                                    |                                                                   | Veterinary Toxicology                                                                         | 4 | VET/07    |
| C | Related or integrative educational activities                      | Professional Skills                                               | Veterinary Forensic Medicine and Legislation                                                  | 2 | VET/08    |
|   |                                                                    |                                                                   | Economic Management of Livestock Farms                                                        | 2 | AGR/01    |
|   |                                                                    |                                                                   | Economic Management of Veterinary Clinics                                                     | 2 | SECS/P/08 |
|   |                                                                    |                                                                   | Veterinary Professional Communication                                                         | 2 | SPS/08    |
|   |                                                                    |                                                                   | Bioethics 2                                                                                   | 1 | M-FIL/03  |
| B | Anatomopathological and Veterinary Inspection Disciplines          | Veterinary Pathological Anatomy 2                                 | Veterinary Pathological Anatomy 2                                                             | 3 | VET/03    |
|   |                                                                    |                                                                   | Veterinary Oncology 2                                                                         | 2 | VET/03    |
|   |                                                                    |                                                                   | Necropsies                                                                                    | 3 | VET/03    |
| B | Disciplines of transmissible diseases                              | Infectious and Parasitic Diseases of Companion Animals and Horses | Infectious Diseases of Horses                                                                 | 1 | VET/05    |
|   |                                                                    |                                                                   | Parasitology and Parasitic Diseases of Companion Animals, Horses and Non-conventional Species | 4 | VET/06    |
|   |                                                                    |                                                                   | Infectious Diseases of Dogs and Cats                                                          | 2 | VET/05    |
| C | Related or integrative educational activities                      | Zoonoses                                                          | Zoonotic Infectious Diseases                                                                  | 3 | VET/05    |
|   |                                                                    |                                                                   | Parasitic Zoonoses                                                                            | 1 | VET/06    |
|   |                                                                    |                                                                   | Veterinary Epidemiology                                                                       | 2 | VET/05    |

|                                                           |                                                                              |                                                                                    | Zoonoses of Veterinary Food Inspection Interest                                              | 1            | VET/04            |
|-----------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|--------------|-------------------|
| <b>Total compulsory ECTS credits</b>                      |                                                                              |                                                                                    |                                                                                              | <b>56</b>    |                   |
| <b>4th PROGRAMME YEAR: compulsory learning activities</b> |                                                                              |                                                                                    |                                                                                              |              |                   |
| Type*                                                     | Field of Study                                                               | Course/Integrated Course                                                           | Module                                                                                       | ECTS credits | SSD of the module |
| B                                                         | Anatomopathological and Veterinary Inspection Disciplines                    | Inspection and Control of Food of Animal Origin                                    | Meat Inspection and Control                                                                  | 3            | VET/04            |
|                                                           |                                                                              |                                                                                    | Inspection and Control of Fishery Products                                                   | 3            | VET/04            |
|                                                           |                                                                              |                                                                                    | Practical Work in Slaughterhouses                                                            | 2            | VET/04            |
| B                                                         | Pharmacological, Toxicological and Veterinary Clinical Disciplines           | Obstetrics and Pathology of Animal Reproduction                                    | Pathology of Reproduction, Artificial Insemination and Obstetrics of Farm Animals and Horses | 3            | VET/10            |
|                                                           |                                                                              |                                                                                    | Pathology of Reproduction, Artificial Insemination and Obstetrics of Small Animals           | 3            | VET/10            |
| B                                                         | Pharmacological, Toxicological and Veterinary Clinical Disciplines           | Medical and Surgical Veterinary Pathology and Genetic Diseases of Domestic Animals | Veterinary Surgical Pathology                                                                | 3            | VET/09            |
|                                                           |                                                                              |                                                                                    | Medical Pathology of Dogs and Cats                                                           | 2            | VET/08            |
|                                                           |                                                                              |                                                                                    | Medical Pathology of Horses                                                                  | 2            | VET/08            |
|                                                           |                                                                              |                                                                                    | Medical Pathology of Farm Animals                                                            | 2            | VET/08            |
|                                                           | Animal Husbandry, Breeding and Nutrition Disciplines and Business Management |                                                                                    | Genetics of Pathologies in Domestic Animals                                                  | 2            | AGR/17            |
| A                                                         | Preparatory Scientific Disciplines Applied to Veterinary Medical Studies     | Diagnostic Imaging, Topographic Anatomy and Veterinary Radiological Physics        | Radiological Physics                                                                         | 1            | FIS/07            |

|                                                    |                                                                    |                                                                             |                                                                      |              |                   |
|----------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------|--------------|-------------------|
| B                                                  | Pharmacological, Toxicological and Veterinary Clinical Disciplines | Diagnostic Imaging, Topographic Anatomy and Veterinary Radiological Physics | Ultrasonography                                                      | 2            | VET/08            |
|                                                    |                                                                    |                                                                             | Veterinary Radiology and Nuclear Medicine in Small Animals           | 2            | VET/09            |
|                                                    |                                                                    |                                                                             | Veterinary Radiology and Nuclear Medicine in Farm Animals            | 2            | VET/09            |
| A                                                  | Disciplines of the Structure and Function of Living Organisms      |                                                                             | Topographic Anatomy                                                  | 3            | VET/01            |
| B                                                  | Pharmacological, Toxicological and Veterinary Clinical Disciplines | Clinical Veterinary Propaedeutics                                           | Propaedeutics of Veterinary Internal Medicine                        | 4            | VET/08            |
|                                                    |                                                                    |                                                                             | Propaedeutics of Veterinary Surgery                                  | 2            | VET/09            |
| B                                                  | Anatomopathological and Veterinary Inspection Disciplines          | Hygiene and Microbiology of Food of Animal Origin                           | Industries and Food of Animal Origin                                 | 4            | VET/04            |
|                                                    |                                                                    |                                                                             | Hygiene and Food Technology                                          | 4            | VET/04            |
| B                                                  | Pharmacological, Toxicological and Veterinary Clinical Disciplines | Anaesthesiology, Operative Medicine and Veterinary Intensive Care           | Veterinary Anaesthesiology and Analgesia                             | 3            | VET/09            |
|                                                    |                                                                    |                                                                             | Veterinary Operative Medicine                                        | 3            | VET/09            |
|                                                    |                                                                    |                                                                             | Veterinary Intensive Care                                            | 2            | VET/09            |
| Total compulsory ECTS credits                      |                                                                    |                                                                             |                                                                      | 57           |                   |
| 5th PROGRAMME YEAR: compulsory learning activities |                                                                    |                                                                             |                                                                      |              |                   |
| Type*                                              | Study field                                                        | Course/Integrated Course                                                    | Module                                                               | ECTS credits | SSD of the module |
| B                                                  | Pharmacological, Toxicological and Veterinary Clinical Disciplines | Equine Clinic                                                               | Equine Obstetric-Gynaecological, Andrological and Neonatology Clinic | 2            | VET/10            |
|                                                    |                                                                    |                                                                             | Equine Surgery                                                       | 3            | VET/09            |
|                                                    |                                                                    |                                                                             | Equine Orthopaedics and Traumatology                                 | 1            | VET/09            |
|                                                    |                                                                    |                                                                             | Equine Internal Medicine                                             | 3            | VET/08            |

|                                        |                                                                    |                                                 |                                                                             |     |        |
|----------------------------------------|--------------------------------------------------------------------|-------------------------------------------------|-----------------------------------------------------------------------------|-----|--------|
|                                        |                                                                    |                                                 | Veterinary Prescription and Drug Management for Non-Livestock Facilities    | 1   | VET/08 |
| B                                      | Pharmacological, Toxicological and Veterinary Clinical Disciplines | Small Animal and Non-Conventional Animal Clinic | Small Animal Internal Medicine                                              | 3   | VET/08 |
|                                        |                                                                    |                                                 | Small Animal Obstetric-Gynaecological , Andrological and Neonatology Clinic | 3   | VET/10 |
|                                        |                                                                    |                                                 | Non-Conventional Animal Clinic                                              | 1   | VET/09 |
|                                        |                                                                    |                                                 | Small Animal Surgery                                                        | 3   | VET/09 |
|                                        |                                                                    |                                                 | Small Animal Orthopaedics and Traumatology                                  | 2   | VET/09 |
| B                                      | Pharmacological, Toxicological and Veterinary Clinical Disciplines | Farm Animal Clinic                              | Farm Animal Obstetric-Gynaecological, Andrological and Neonatology Clinic   | 3   | VET/10 |
|                                        |                                                                    |                                                 | Farm Animal Clinic and Health Management                                    | 3   | VET/08 |
|                                        |                                                                    |                                                 | Veterinary Prescription and Drug Management for Livestock Facilities        | 1   | VET/08 |
| Total compulsory ECTS credits          |                                                                    |                                                 |                                                                             | 29  |        |
| Total compulsory ECTS credits I-V year |                                                                    |                                                 |                                                                             | 247 |        |

| Type* |                                                                 |                                      | Learning activities | ECTS credits | Programme Year |
|-------|-----------------------------------------------------------------|--------------------------------------|---------------------|--------------|----------------|
| D     | Elective activities (at the student's choice)                   |                                      | -                   | 8            | 5              |
| E     | Final exam and foreign language (art.10, paragraph 5, letter c) | Final exam                           | -                   | 6            | 5              |
| F     | Other training activities (art. 10, paragraph 5, letter d)      | Additional language skills           | English             | 3            | 1              |
|       |                                                                 | Computer skills                      |                     | -            |                |
|       |                                                                 | Training and orientation internships |                     | -            |                |

|   |       |                                                                                                     |  |    |        |
|---|-------|-----------------------------------------------------------------------------------------------------|--|----|--------|
|   |       | Other skills useful for entering the job market                                                     |  | -  |        |
| S |       | For internships and placements in companies, public or private bodies, or professional associations |  | -  |        |
|   |       | Practical Evaluation Internship (TPV)                                                               |  | 36 | 1 to 5 |
|   | Total |                                                                                                     |  | 53 |        |

\*A= Basic course

B= Core course

C= Supplementary course

D= Elective courses chosen by the student (art.10, paragraph 5, letter a)

E= For the final examination and the foreign language (art.10, paragraph 5, letter c)

F= Other training activities (art.10, paragraph 5, letter d)

S= For internships and traineeships with companies, public or private bodies, or professional associations (art.10, paragraph 5, letter e)

The learning objectives of each and all courses are published on the website of the degree programme.

### Prerequisites

The prerequisites for sitting exams are established annually in the Programme Description (attached is the table of prerequisites for this study plan).

### Final exam

Pursuant to articles 1 and 3 of Law no. 163 of 8 November 2021, the final exam for the award of the single-cycle Master's degree in Veterinary Medicine (class LM-42) qualifies graduates to work as veterinary surgeons.

The final exam consists of the Practical Evaluation Test (*Prova Pratica Valutativa*, PPV) and the thesis defence, which is public and worth 6 ECTS credits. The PPV is structured in three parts, each corresponding to a different professional field: companion animal, horse and exotic animal clinics; veterinary public health and food safety; animal production and medicine of food-producing animals.

The PPV Examining Board is composed of at least six members. Half of the members are university professors appointed by the lead Department of the programme – preferably among those registered with the Order of Veterinary Surgeons – and one of them acts as Chair. The other half are professionals with proven experience, also in the field of education, appointed by the local representations of the Order of Veterinary Surgeons.

The PPV is graded on a pass/fail basis and does not contribute to the final graduation mark.

Students who pass the PPV can proceed with the thesis defence.

The thesis defence takes place in front of a dedicated board and involves the presentation of a written work (thesis) prepared by the student under the supervision of a tutor. The thesis must be based on an experimental project in which the student has taken part, or on up-to-date, comprehensive and in-depth bibliographic research on veterinary medicine topics.

## Art. 6 - Organisation of the Quality Assurance System (SUA form - Section D2)

The Quality Assurance (QA) system of the degree programme operates in a cyclical, sustainable and transparent manner, following the guidelines issued by the University's Quality Assurance Board as well as by national (ANVUR) and European (EAEVE) evaluation agencies. It involves professors, students, technical-administrative staff and other stakeholders of the degree

programme.

The collective and ordinary management of teaching and training activities is delegated to the Academic Board, which is composed of all professors and researchers involved in teaching activities for the degree programme, and of the student representatives sitting on the Department Council. The Academic Board is entitled to submit requests and proposals to the Department Council in matters within its remit.

The Board is chaired by the President, who is appointed by the Board itself and is responsible for monitoring the progress of teaching activities, as well as for verifying that each professor fulfils their teaching duties.

In accordance with the model established by the University's Quality Assurance Board for the implementation of the Quality Assurance System, a QA Delegate for teaching has been appointed to promote a culture of quality within the degree programme, to support the President of the Academic Board in managing QA processes, and to act as a liaison between the degree programme and the Quality Assurance Board, ensuring appropriate information flows.

The QA Delegate actively participates in the degree programme's self-assessment activities (monitoring and review) as a member of the Review Group, which carries out planned and periodic reviews of the degree programme. The Review Group checks the correspondence between the programme's structure and its learning objectives, identifies strengths and weaknesses, and suggests possible actions for improvement.

The Review Group is chaired by the President of the Academic Board and includes at least one student representative, as well as other members from within the Board. The QA Delegate also collaborates with the Joint Teaching Staff-Student Committee for the degree programme.

The [Joint Teaching Staff-Student Committee](#) is responsible for monitoring courses, quality of teaching and student services by identifying and applying indicators for evaluating results. It makes proposals for improving teaching activities to be submitted to the Academic Board and the Department Council, assesses the consistency between the number of ECTS credits awarded for each learning activity and the related learning objectives, and monitors student satisfaction levels.

In addition to these actors and bodies identified by the University's QA System ([Actors and Bodies of the QA System of the University of Milan](#)), the Veterinary Medicine degree programme is supported by the following Committees:

- **The Teaching Committee** supports the Academic Board.

The Committee assists the Academic Board in managing teaching activities, taking into account suggestions from students, professors, and external stakeholders, in line with the guidelines of the University of Milan and the Ministry of University and Research. The Committee collaborates with the Joint Teaching Staff-Student Committee, the Internship Committee, the Quality Assurance Committee and the Committee for EAEVE Matters of the Department of Veterinary Medicine and Animal Sciences (DIVAS).

- **The Internship Committee** is responsible for developing, promoting and monitoring students' practical training (internship ECTS credits), both within the facilities of the Department (Experimental Zootechnical Centre and Veterinary Teaching Hospital) and at affiliated public or private institutions.

- **The Committee for EAEVE Matters** coordinates activities aimed at continuously aligning the degree programme with the European standards of the European Association of Establishments for Veterinary Education (EAEVE).

- **The Steering Committee** supports the Veterinary Medicine degree programme in developing competencies consistent with labour market needs and promotes models and methods that ensure the quality of the educational offer.