



UNIVERSITA' DEGLI STUDI DI MILANO
PROGRAMME DESCRIPTION - ACADEMIC YEAR 2023/24
SINGLE-CYCLE DEGREE
Veterinary Medicine (Classe LM-42)
enrolled since 2009/10 academic year

HEADING

Degree classification - Denomination and code:	LM-42 Veterinary medicine
Degree title:	Dottore Magistrale
Length of course:	5 years
Total number of credits required to complete programme:	300
Years of course currently available:	5th
Access procedures:	Cap on student, student selection based on entrance test
Course code:	H15

PERSONS/ROLES

Head of Study Programme

prof.ssa Silvia Modina

Tutors - Faculty

Tutor per l'orientamento:

- I anno: Prof. Armando Negri
- II anno: Prof.ssa Mariangela Albertini
- III anno: Prof. Giuseppe Sironi
- IV anno: Prof. Alessandro Pecile
- V anno: Prof.ssa Roberta Perego

Tutor per la mobilità internazionale e l'Erasmus: prof. Camilla Luzzago, prof. Valeria Grieco, Prof.ssa Paola Dall'Ara

Referente per disabilità: prof. Guido Grilli

Degree Course website

<https://veterinaria.cdl.unimi.it/it>

Via Dell'Università, 6 - Lodi La segreteria è aperta al pubblico previo appuntamento tramite il servizio Informastudenti nei giorni:
Martedì 13:00 - 15:00 Mercoledì 9:00 - 12:00 Giovedì 13:00 - 15:00 <https://www.unimi.it/it/studiare/servizi-gli-studenti/segreterie-informastudenti>

Via dell'Università 6, Lodi. Phone tel 02 503 31114 <https://www.ospedaleveterinario.unimi.it/>

CHARACTERISTICS OF DEGREE PROGRAMME

General and specific learning objectives

This Manifesto deals with the Single-Cycle Degree in Veterinary Medicine of the Università degli Studi di Milano.

In compliance with art. 11, comma 2, Law 19 November 1990, n. 341, with art. 12, M.D. 22 October 2004, n. 270 and the policies in M.D. 26 July 2007, n. 386, and in the respect of teaching freedom as well as of rights and duties of professors and students, this Manifesto specifies the organization concerning the Single-Cycle Degree in Veterinary Medicine, in relation to the connected Teaching Norms, as defined in University Teaching Regulations, according to Degree Class LM 42, as in M.D. 16 March 2007, and according to the rules defined in the General and Didactic Regulations of Veterinary Medicine Degree Course.

General and Specific Educational Goals

Pursuant to the provisions of M.D. 270 dated 22 October 2004 (Changes of Regulations as to University Teaching Autonomy approved by M.D. 3 November 1999, n.509 issued by the University, Scientific and Technological Research Ministry), and of M.D. 386 dated 26 July 2007 (Applied Policies), following the qualifying instructional aims given in a Class, the five-year curriculum of the Single-Cycle Degree Course in Veterinary Medicine focuses on the fundamental education and expertise necessary to graduates for their veterinary profession; thus, theoretical knowledge and skills indispensable to their professional practice will be acquired gradually through the culture-related and professional disciplines identified below and within a clear, qualifying training design.

Expected learning outcomes

Basic Subjects: Preliminary knowledge deriving from fundamentals helps with understanding the cultural meaning underlying veterinary medicine. This is the aim of the Physics, Chemistry and Biology (animal and plant) Training Discipline set. Biochemistry, Anatomy and Physiology of domestic animals are also within the teaching programme objectives, as well as basics of Genetics, Animal Improvement, Microbiology and Immunology, the latter to be considered prerequisites to animal health. Basic knowledge of Mathematics and Computer Science is necessary to Biostatistics. Lectures, exercises and assessment of individual learning represent the teaching format. Animal Production: Animal breeding systems, animal nutrition and feed are taught considering structural, technological and managerial aspects and including genetic improvement, applied ethology and animal welfare. Education here is mainly applicative and focuses on both pets and livestock. The students' practical skills and problem solving ability determine their learning evaluation. Clinical area: knowledge of Anatomy and Physiology together with General Pathology and Veterinary Anatomic Pathology are fundamental to the study and to the medical, surgical and obstetrical expertise on diseases involving organs and systems; indications related to sector pathologies are preliminary to clinical, radiological and laboratory diagnostics as well as to medical and surgical clinical indications which can cure animal diseases. Applicative understanding, analytical capacity and independent evaluation are important requirements to professional veterinarians, as well as Forensic and Veterinary Forensic knowledge. Animal Health: infectious and parasitic diseases are an important veterinary issue both when related to a single pet or sports animal and to livestock. Thus, systematically updated skills regarding every species are to be acquired in the field. Carefully monitored learning, even in its practical application, of etiology, epidemiology, diagnosis, control, prophylaxis, and treatment is necessary; as to multi-factorial pathologies, commonly found in intensive farms, what can interact in affecting the welfare of livestock and their receptivity and what can cause anthroponosis are to be considered, even in connection to the regulations of veterinary public health and to environmental impact due to animal farming. Food Inspection: veterinary inspectors are required to have knowledge of animal food production chain and of the hygiene of animal food and derived products; moreover, they are to consider and understand all processing and transformation steps to the final product in their affecting human health. Practical and verifiable expertise should include necessary information about a proper evaluation of food quality in compliance with national and international regulations. Foreign Language: English language is taught and assessed

Terminal Learning Objectives

At the end of the Programme, a Single-Cycle Degree in Veterinary Medicine, Class 42 (LM-42, Veterinary Medicine) is achieved; the primary objective of a Veterinary Medicine graduate is to ensure animal health and consequently the health of humans in direct contact with animals or connected to animal food consumption. Control of the quality of animal products and of their health as well as environmental protection are also among the concerns of a Veterinary Medicine graduate.

Professional profile and employment opportunities

Career opportunities for a DVM refer to university curriculum information and are arranged in ISTAT classes 2.3.1.4.0 (Group and Class: Life Sciences specialists; Category and Profession: veterinaries and assimilated). To practice as a veterinarian, most employments require a State License based on a public examination. Employments can be found firstly within specific areas of the National Health Service (Animal Health, Food, Environment, and Animal Welfare) and, after obtaining required qualifications, both in Local Health Services and in Experimental Zootechnic Institutes. Then, in the zootechnic industry (Animal Feed, Nutritional Supplements, Genetic Selection and Production Development), in the pharmaceutical industry (Consultancy, Technical Support, Research and Development, Regulation and Registration), and in the food industry (Production Hygiene, Processing Technologies and Animal Food Production Management). Last, in the traditional areas of private practice such as surgical and obstetrical-gynaecological Clinics in private surgeries and on-site for pets and livestock, but also in the last field of behavioural sciences. New opportunities are to be found in international and EU organizations fostering cooperation and development.

Notes

Admission Requirements

Law 2.8.1999 n. 264 and in application of Directive 78/1027/CEE. The number of students to accept is proposed by the Teaching Coordination Board each year, approved by the Department Board and Directive Committee and defined with the application of Regulations in art. 3 Law 264; in compliance with art. 4 of the same law, a secondary school leaving certificate is required; admission is eventually defined after general knowledge exams assessing the future student's endowment to the disciplines taught. Students admitted to the Programme must show, according to their knowledge, required skills and commitment to the veterinary job and to the achievement of a Single-Cycle Degree in Veterinary Medicine.

Degree Programme Organization

Single-Cycle Degree in Veterinary Medicine is completed in 5 years; its Programme is divided into 10 semesters, for a total of 300 Credits. Students must acquire 72 credits for fundamentals, 171 credits for specific learning activities, 12 credits for parallel or integrative learning activities (inclusive of 3 credits for English as L2), 8 credits for free-choice learning activities, 7 in for learning activities connected to the final exam, and 30 credits for practical training. Teaching/Learning formats include: lectures, individual studying, lab practice (Computer Science, Physics, Chemistry, Diagnostics), outpatient clinics for pets and livestock, training at livestock breeding farms, seminars, conferences and congresses. Official training discipline sets of the Degree Programme are organised as integrated courses including two or more disciplines, or as monographic courses. Apart from technical and specialising information, the main scope of teaching consists in cultural and gradual professional education of the students whose professionalism asks for knowledge awareness and independent assessment. One credit (CR.) equals a 25-hour standard activity set for each student divided into: 8 hours for theory and 17 hours for personal study; 16 hours for exercises or laboratory activities and 9 hours for personal study; 25 hours for practical training or for individual study. Academic achievements are checked, as in the rules laid down in the University Teaching

Regulation, by a collegiate inclusive assessment from professors in charge of single disciplines or of a coordinated discipline set. Credits required for each discipline set are obtainable after passing a written and/or oral examination scored over thirty according University and Degree Course rules. Each discipline corresponds to an examination; in case of integrated courses, i.e. courses composed of a set of disciplines taught by different professors, one professor is to be in charge of the coordination of exam arrangements and recording. The assessment of a foreign language competence is proven by an examination of owned or acquired English language skills of each student. As it is a five-year Single-Cycle Degree, more than thirty examinations in total are not allowed. With regard to free-choice learning activities, integrated courses (8 credits each) are available from Year 5. These activities, whose objective is a deep preparation in specific areas of Veterinary Medicine, are divided into sets and are approved by the Teaching Coordination Board of Veterinary Medicine on the understanding of full free choice of the students. Due credits are acquired by passing examinations scored over thirty. As to practical training and its related 30 credits, the Faculty provides students with training exercises in its facilities (Veterinary Hospital for pets and livestock, surgeries, surgical and anatomical rooms, experimental zootechnic teaching centre, livestock facilities, diagnostic and research laboratories), in affiliated public or private institutions. Training exercises are regulated by rules the Teaching Coordination Board of Veterinary Medicine establishes; the Board also approves educational curricula and student tutors. Nature and extent of participation are agreed between students and professors; tutors certify in writing the performed training to the Teaching School Secretary. Practical training is required for admission to the State Examination.

Conscientious objection

Students of the Faculty of Veterinary Medicine of the University of Milan who wish to declare their conscientious objection to animal testing, based on the law of 12 October 1993 n. 413 "Rules on conscientious objection to animal experimentation" can do so at any time during their training. Anyway, the Veterinary Medicine Degree Course of the University of Milan does not use of animal testing as part of the courses of the degree. For this reason, as regards teaching do not occur the conditions for the application of Law no. 413 of 12 October 1993. The case of some specialization schools is different, and moreover of the that could be developed within a research that foresees experimentations with engagement of animals. In this regard it is emphasized that the student always has the possibility of developing a thesis that does not include animal testing activities. We also inform you that most of the thesis topics proposed do not involve acts connected with animal experimentation.

Note

To enroll in singular Veterinary Medicine courses, preventive authorization must be requested from the competent bodies by submitting a paper application to the Student Secretariat without making payment. Enrollment is only allowed for courses for which previous passing of other mandatory exams is not a prerequisite. Deadlines for enrollment in single courses are available at the link <http://www.unimi.it/studenti/matricole/77567.htm>

Compulsory Attendance of Lessons

Attendance of lessons and practices is mandatory.

EXPERIENCE OF STUDY ABROAD AS PART OF THE TRAINING PROGRAM

The University of Milan supports international mobility by providing its students with the opportunity to spend study and internship periods abroad. It is a unique chance to enrich your educational path in a new exciting environment.

The agreements entered into by the University with over 300 universities from the 27 EU member countries under the European Erasmus+ programme allow regularly enrolled students to carry out part of their studies at one of the partner universities or to undertake internships at companies, training and research centres and other organizations.

Similar international mobility opportunities are provided outside Europe, through agreements with a number of prestigious institutions.

Study and internships abroad

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How to participate in Erasmus mobility programs

How to participate in Erasmus+ mobility programmes

The students of the University of Milan can participate in mobility programmes, through a public selection procedure.

Ad hoc commissions will evaluate:

- Academic career
- the candidate's proposed study programme abroad
- his/her foreign language proficiency
- the reasons behind his/her application

Call for applications and informative meetings

The public selection for Erasmus+ mobility for study generally begins around February each year with the publication of a call for applications specifying destinations and requirements. Regarding the Erasmus+ Mobility for Traineeship, the University of Milan usually publishes two calls a year enabling students to choose a destination defined by an inter-institutional agreement or to find a traineeship position on their own.

The University organizes informative meetings to illustrate mobility opportunities and rules for participation.

Erasmus+ scholarship

The European Union grants the winners of the Erasmus+ programme selection a scholarship to contribute to their mobility costs, which may be supplemented by the University funding for disadvantaged students.

Language courses

Students who pass the selections for mobility programmes can benefit from intensive foreign language courses offered each year by the University Language Centre (SLAM).

<https://www.unimi.it/en/node/8/>

Learn more at <https://www.unimi.it/en/node/274/>

For assistance, please contact:

International Mobility Office

Via Santa Sofia 9 (second floor)

Tel. 02 503 13501-12589-13495-13502

Contacts: InformaStudenti; mobility.out@unimi.it

Student Desk booking through InformaStudenti

1st COURSE YEAR (disactivated from academic year 2020/21) Core/compulsory courses/activities common		
Learning activity	Ects	Sector
Agronomy, Crop Science, Rural Buildings and Economics	9	(3) AGR/10, (3) AGR/02, (3) AGR/01
Biochemistry and Molecular Biology	9	BIO/10
Biology, Histology and Embryology	10	(3) BIO/05, (4) VET/01, (3) BIO/01
General Zootechnics and Genetic Improvement	7	AGR/17
Physics, Chemistry, Informatics Biostatistics and English	14	(5) SECS-S/02, (3) CHIM/03, (3) FIS/07, (3) L-LIN/12, (3) CHIM/06
Systematic and Comparative Veterinary Anatomy	11	VET/01
Total compulsory credits	60	
2nd COURSE YEAR (disactivated from academic year 2021/22) Core/compulsory courses/activities common		
Learning activity	Ects	Sector
Clinical Biochemistry	6	BIO/12
General Veterinary Pathology, Veterinary Microbiology and Immunology	14	(8) VET/03, (6) VET/05
Physiology and Endocrinology of Domestic Animals	9	VET/02
Physiology and Ethology of Domestic Animals	10	VET/02
Special Husbandry and Animal Breeding	9	(6) AGR/19, (3) AGR/20
Systematic and Topographic Veterinary Anatomy	8	VET/01
Total compulsory credits	56	
3rd COURSE YEAR (disactivated from academic year 2022/23) Core/compulsory courses/activities common		
Learning activity	Ects	Sector
Animal Nutrition	10	AGR/18
Infectious Diseases of Domestic Animals 2 and Veterinary Epidemiology	9	VET/05
Infectious Diseases of Domestic Animals and Avian Pathology	8	VET/05
Veterinary Anatomic Pathology 1	5	VET/03
Veterinary Anatomic Pathology 2	8	VET/03
Veterinary parasitology and Parasitic Diseases	9	VET/06
Veterinary Pharmacology and Toxicology	9	VET/07
Total compulsory credits	58	

4th COURSE YEAR (disactivated from academic year 2023/24) Core/compulsory courses/activities common		
Learning activity	Ects	Sector
Inspection of Animal Source Foods 1	9	VET/04
Inspection of Animal Source Foods 2	8	VET/04
Surgical Pathology, Semeiotics and Veterinary Radiology	9	VET/09
Veterinary Anesthesiology and Surgical Techniques	6	VET/09
Veterinary Medical Pathology and Clinical Epidemiology	6	VET/08
Veterinary Medical Semiotics and Legal Medicine	9	VET/08
Veterinary Obstetrics, Pathology and Reproductive Technologies	6	VET/10
Total compulsory credits	53	
5th COURSE YEAR Core/compulsory courses/activities common		
Learning activity	Ects	Sector
Andrology and Obstetrical-Gynecological Clinics	8	VET/10
Veterinary Internal Medicine and Therapy	12	VET/08
Veterinary Surgical	8	VET/09
Total compulsory credits	28	
Elective courses		
Training course 01A: Dermopathology: diagnostic and internal medicine findings	8	(4) VET/06, (4) VET/09, (5) VET/08, (4) VET/10, (7) VET/03, (4) VET/05
Training course 02 A: Diagnostic and prophylactic approach to infectious diseases of pets	8	(4) VET/06, (4) VET/09, (4) VET/08, (4) VET/10, (4) VET/03, (8) VET/05
Training Course 03: BOVINE HEALTH MANAGEMENT	8	(1) AGR/18, (5) VET/06, (4) VET/09, (4) VET/08, (4) VET/10, (1) VET/02, (4) VET/03, (5) VET/05
Training course 04: Diagnosis and therapy of the soft tissue diseases in dogs and cats	8	(4) VET/06, (6) VET/09, (4) VET/08, (5) VET/10, (5) VET/03, (4) VET/05
Training course 05 A: Behavioural disorders in pets and horses	8	(3) AGR/19, (4) VET/06, (4) VET/09, (4) VET/08, (4) VET/10, (1) VET/02, (4) VET/03, (4) VET/05
Training course 06: Genetics and management of companion animals	8	(4) VET/06, (1) AGR/18, (4) VET/09, (2) AGR/17, (4) VET/08, (4) VET/10, (1) AGR/20, (4) VET/03, (4) VET/05
Training course 07A: Wildlife management	8	(5) VET/06, (4) VET/09, (4) VET/08, (4) VET/10, (6) VET/03, (5) VET/05
Training course 08 A: Innovation and Nutritional Safety for the Health and Longevity of the Dog, Cat and Horse	8	(4) AGR/18, (4) VET/06, (4) VET/09, (4) VET/08, (4) VET/10, (4) VET/03, (4) VET/05
Training course 09 A: Clinic for cattle and small ruminants	8	(4) VET/06, (4) VET/09, (5) VET/08, (5) VET/10, (5) VET/03, (5) VET/05
Training course 10: Small animal internal and behavioural medicine	8	(1) AGR/19, (4) VET/06, (5) VET/09, (5) VET/08, (4) VET/10, (4) VET/03, (5) VET/05
Training course 11 A: Veterinary Oncology	8	(4) VET/06, (5) VET/09, (4) VET/08, (4) VET/10, (7) VET/03, (4) VET/05
Training course 12 A: Clinical pathology of small animals	8	(4) VET/06, (4) VET/09, (4) VET/08, (4) VET/10, (8) VET/03, (4) VET/05
Training course 14: Small animal reproduction	8	(4) VET/06, (4) VET/09, (4) VET/08, (8) VET/10, (4) VET/03, (4) VET/05
Training course 15: Veterinarian's role in evaluating farm animal welfare	8	(2) AGR/19, (4) VET/06, (4) VET/09, (5) VET/08, (4) VET/10, (4) VET/03,

		(1) VET/04, (4) VET/05
Training course 16: Ultrasonography and endoscopy in companion animals (small animals and sport horses)	8	(4) VET/06, (5) VET/09, (7) VET/08, (4) VET/10, (4) VET/03, (4) VET/05
Training course 13 A: Veterinarian role in the production of food of animal origin	8	(4) VET/06, (4) VET/09, (4) VET/08, (4) VET/10, (4) VET/03, (4) VET/04, (4) VET/05
End of course requirements		
Final examination	7	NN
Practical training	30	NN
	Total compulsory credits	37

COURSE PROGRESSION REQUIREMENTS

The course contains the following obligatory or advised prerequisites

Learning activity	Prescribed foundation courses	O/S
Veterinary Anatomic Pathology 2	Veterinary Anatomic Pathology 1	Core/compulsory
	General Veterinary Pathology, Veterinary Microbiology and Immunology	Core/compulsory
	Veterinary parasitology and Parasitic Diseases	Core/compulsory
Veterinary Anatomic Pathology 1	General Veterinary Pathology, Veterinary Microbiology and Immunology	Core/compulsory
Physiology and Ethology of Domestic Animals	Biochemistry and Molecular Biology	Core/compulsory
	Systematic and Topographic Veterinary Anatomy	Recommended
	Systematic and Comparative Veterinary Anatomy	Core/compulsory
Physiology and Endocrinology of Domestic Animals	Biochemistry and Molecular Biology	Core/compulsory
	Systematic and Topographic Veterinary Anatomy	Recommended
	Systematic and Comparative Veterinary Anatomy	Core/compulsory
Biochemistry and Molecular Biology	Physics, Chemistry, Informatics Biostatistics and English	Core/compulsory
Clinical Biochemistry	Biochemistry and Molecular Biology	Core/compulsory
Systematic and Topographic Veterinary Anatomy	Biology, Histology and Embryology	Core/compulsory
	Systematic and Comparative Veterinary Anatomy	Core/compulsory
Infectious Diseases of Domestic Animals 2 and Veterinary Epidemiology	Veterinary Anatomic Pathology 2	Recommended
	Veterinary Anatomic Pathology 1	Core/compulsory
Systematic and Comparative Veterinary Anatomy	Biology, Histology and Embryology	Core/compulsory
Special Husbandry and Animal Breeding	Physiology and Ethology of Domestic Animals	Core/compulsory
	Physiology and Endocrinology of Domestic Animals	Core/compulsory
Veterinary Medical Semiotics and Legal Medicine	Clinical Biochemistry	Core/compulsory
	Veterinary Medical Pathology and Clinical Epidemiology	Recommended
Surgical Pathology, Semiotics and Veterinary Radiology	Veterinary Anatomic Pathology 2	Core/compulsory
	Veterinary Anatomic Pathology 1	Core/compulsory
Veterinary Medical Pathology and Clinical Epidemiology	Veterinary Anatomic Pathology 2	Core/compulsory
	Veterinary Anatomic Pathology 1	Core/compulsory
	Animal Nutrition	Core/compulsory
General Veterinary Pathology, Veterinary Microbiology and Immunology	Physiology and Ethology of Domestic Animals	Core/compulsory
	Physiology and Endocrinology of Domestic Animals	Core/compulsory
	Biology, Histology and Embryology	Core/compulsory
	Systematic and Topographic Veterinary Anatomy	Recommended
Infectious Diseases of Domestic Animals and Avian Pathology	Veterinary Anatomic Pathology 2	Recommended
	Veterinary Anatomic Pathology 1	Core/compulsory
Veterinary parasitology and Parasitic Diseases	General Veterinary Pathology, Veterinary Microbiology and Immunology	Core/compulsory
Veterinary Obstetrics, Pathology and Reproductive Technologies	Veterinary Anatomic Pathology 2	Core/compulsory
	Veterinary Anatomic Pathology 1	Core/compulsory
Animal Nutrition	General Zootechnics and Genetic Improvement	Core/compulsory
	Special Husbandry and Animal Breeding	Core/compulsory
Inspection of Animal Source Foods 2	Infectious Diseases of Domestic Animals 2 and Veterinary Epidemiology	Core/compulsory
	Infectious Diseases of Domestic Animals and Avian Pathology	Core/compulsory
	Veterinary Pharmacology and Toxicology	Core/compulsory
Inspection of Animal Source Foods 1	Veterinary Pharmacology and Toxicology	Core/compulsory
Veterinary Pharmacology and Toxicology	General Veterinary Pathology, Veterinary Microbiology and Immunology	Core/compulsory
Veterinary Internal Medicine and Therapy	Infectious Diseases of Domestic Animals 2 and Veterinary	Core/compulsory

	Epidemiology	
	Veterinary Medical Semiotics and Legal Medicine	Core/compulsory
	Veterinary Medical Pathology and Clinical Epidemiology	Core/compulsory
	Infectious Diseases of Domestic Animals and Avian Pathology	Core/compulsory
	Veterinary Pharmacology and Toxicology	Core/compulsory
Veterinary Surgical	Infectious Diseases of Domestic Animals 2 and Veterinary Epidemiology	Core/compulsory
	Surgical Pathology, Semeiotics and Veterinary Radiology	Core/compulsory
	Infectious Diseases of Domestic Animals and Avian Pathology	Core/compulsory
	Veterinary Pharmacology and Toxicology	Core/compulsory
Veterinary Anesthesiology and Surgical Techniques	Veterinary Pharmacology and Toxicology	Core/compulsory
Andrology and Obstetrical-Gynecological Clinics	Infectious Diseases of Domestic Animals 2 and Veterinary Epidemiology	Core/compulsory
	Infectious Diseases of Domestic Animals and Avian Pathology	Core/compulsory
	Veterinary Obstetrics, Pathology and Reproductive Technologies	Core/compulsory
	Veterinary Pharmacology and Toxicology	Core/compulsory