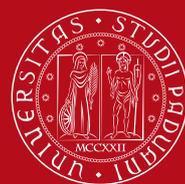




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UNIVERSITÀ
DEGLI STUDI
DI PADOVA

SELF-EVALUATION REPORT

EAEVE VISITATION, MARCH 2020

SER2020

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Rector's Welcome

In welcoming the ESEVT Evaluation Team to the School of Agricultural Sciences and Veterinary Medicine (SASVM), we look forward to sharing the most recent developments that have taken place at the University level and to receiving critique of our efforts and achievements.

Established in 1222, the University of Padova is not only the one of the oldest universities in Europe, but also one of the largest in Italy. Nicolaus Copernicus, Galileo Galilei, Andrea Vesalio, William Harvey, Pietro d'Abano and Carlo Goldoni are just some of the scientists, physicians, philosophers, jurists and writers who have made Padova a landmark for the discovery and spread of European science and culture. It was in Padova where Elena Lucrezia Cornaro Piscopia graduated in Philosophy in 1678, becoming one of the world's first woman to be awarded a degree.

The University of Padova, loyal to its motto **Universa Universis Patavina Libertas**, has always been a bastion of free thought, study and research.

The University has 8 schools and 32 departments in almost all disciplines and research areas. There are more than 2,100 research staff, 2,100 technical and administrative staff, 60,000 students, 11,700 graduates/year and 1,500 PhD students. Courses at the University of Padova are constantly updated in order to meet the ever-changing needs of the labour market. Students can choose from a wide range of first cycle (80), second cycle (84) and single cycle (9) degree programmes, as well as a vast array of Postgraduate courses.

In the a.y. 2019/20, 24 full degree programmes (2 Bachelor's degrees + 21 Master's degrees + 1 single-cycle degree in Medicine and Surgery) will be completely held in English: <https://www.unipd.it/en/english-degrees>. Courses entirely held in English also include 20 doctoral programmes, more than 700-course units and numerous short specialisation courses.

Furthermore, highly motivated students may apply for admission to the Galilean School of Higher Education. Each year, after a demanding selection process, 30 students are chosen to attend the School's high-level in-house courses and to use its special services.

Thanks to an extensive network of contacts and agreements with other universities all over the world, the University of Padova offers several international opportunities: every year hundreds of students take part in (incoming or outgoing) mobility programmes or attend international courses, thus having the opportunity to study new subjects, get to know different cultures and see what other educational systems are like.

The Quality Assurance (QA) system of the University of Padova sets objectives, monitors action and carries out inspections to ensure the success of its quality policy and the continuous improvement of the educational offer, research and Third Mission activities.

Today, the University's QA system covers three domains: Teaching, Research, and Third Mission. It is based on the European Standard and Guidelines for Quality Assurance (ESG 2015) in the European Higher Education Area (EHEA) and comprises the processes of Self-assessment, Assessment and Accreditation (AVA) established by the Italian National Agency for the Evaluation of Universities and Research Institutes (ANVUR).

With regard to the educational offer, any degree course undergoes a regular accreditation process to verify the fulfilment of Initial Accreditation requirements, as well as compliance with QA standards and requirements audited by the CEV (ANVUR's Evaluation Experts Committee - *Comitato di Esperti Valutatori*). During the CEV visitation, a number of important indicators are taken into account, such as university quality policies, quality monitoring, application of QA systems in degree programs, research quality policies, teaching sustainability, etc. ANVUR establishes a timetable of annual visits and selects a sample of Italian courses and departments to undergo such evaluation. The University of Padova was visited by CEV in November 2018 and was awarded the the highest rating (A) possible. It is worth noting that such a rating had never been given before to a large university. In terms of QA, the University of Padova has developed the so-called Teaching4Learning project to improve and modernise teaching. Through project courses, teachers will become part of departmental and inter-departmental communities where they can initiate and share good teaching practices and promote innovative, technological methods. These communities will be referred to as Faculty Learning Communities (FLC).

The project, which was launched in early 2016, represents the first step for UNIPD to foster innovative teaching in response to European recommendations (European Commission 2011; 2013). It encourages faculty to try out new teaching strategies, while involving students and promoting their active participation in educational activities; furthermore, it de-privatizes teaching and progressively increases the number of FLCs. Throughout the activity of Change Agents, each of department involved implements a faculty development program based on the needs of its instructors. The goal is to introduce interactive teaching practices reflecting a model (the so-called "Italian Way") based on contemporary research of effective practices for student teaching and learning.

More recently, the University of Padova won the silver medal for "Best innovation in block chain technology" at the Wharton-QS Reimagine Education Awards 2019/2020 (the "Oscars" of education), with a project titled "Improving students and graduates international mobility and employability by digital academic credentialing". This world class educational competition is designed to identify the most effective, unique, innovative, and scalable approaches to education. One thousand five hundred eighteen (1518) educational innovators from 84 countries submitted their projects to 16 Award Categories. The shortlisted applicants, comprising the top 15% of applications, showcased their innovations to a global audience of 650 educational leaders at the 2019 Reimagine Education Conference in London.

Research

The University of Padova fosters top-quality research activities and actors in all scientific areas, increasingly attracting public and private funding. Up to 5.2% of Italian public funding for scientific projects of national importance are awarded to researchers at the University of Padova, whereas European funds for research projects at Padova have soared by 40% over the last three years. Twenty-eight projects are funded by the European Research Council (ERC). These are ground-breaking research projects led by excellent scientists who chose Padova to carry out their outstanding research activities.

Synergies with the Industry

University research is deeply connected with its territory, as witnessed by the high number of ongoing contracts with public and private bodies for experimental activities. Commercial research services alone account for 32% of departments' income. A particular effort is being made to enhance cooperation between university research groups and the industry, with special emphasis on SMEs in North-East Italy. On top of that, a special mention is to be made to the almost 50 spin-off companies established within the University of Padova and supported by its start-up incubator.

The University is also the scientific and cultural heart of Italy's industrious North-East, providing highly specialised training for its 7-million-plus residents and its 650,000-plus businesses, a position which has been reached thanks to its extensive network of campuses located across the Veneto Region.

Three main Reasons to choose the University of Padova

High-quality education - The University of Padova is ranked among the first universities in Italy for the quality of its education, providing students with a solid cultural background and professional training. A qualification from the University of Padova means the achievement of an ambitious objective and recognised education.

The University of Padova is ranked 116 in **Best Global Universities Rankings** by U.S. News & World Report (October 2019) and has an overall score of 4.2 stars, according to student reviews on *Studyportals*, a platform that enables students to explore all their study options in one place and to find the right

study programme that matches their needs, goals, and preferences.

August 2019 - Based on Centre for World University Rankings - CWUR 2019/2020, the University of Padova ranks second in Italy (after the Sapienza University of Rome) and 60th in the world. The CWUR selected the best two thousand universities out of around twenty thousand, taking into consideration parameters such as the evaluation of teaching and research.

Finally, in light of great efforts made over the last few years towards the achievement of shared goals, and in preparation for the ESEVT Visitation of March 2020, we welcome your advice and encouragement.



Rosario Rizzuto





INTRODUCTION

Written by:
S. Romagnoli e M. Castagnaro

Brief History of the Establishment and of its previous ESEVT visitations

The former Faculty of Veterinary Medicine of the University of Padova (UniPD) was officially founded in 1992. In spite of its recent establishment, however, the teaching of veterinary medicine in Padova goes back centuries. In fact, the very first Chair of Agriculture was established in 1765 thanks to botanist Pietro Arduino, who was responsible, among other things, for investigating the reasons for insufficient cattle production. At that time, the Republic of Venice, which included Padova, was importing large quantities of livestock from Eastern countries (mainly Dalmatia, Slovenia and Hungary), and the high animal mortality rate caused by unhealthy local farming conditions had led to financial and public health concerns.

In September 1773, just a few years after the establishment of the first two schools of veterinary medicine in France (Lyon and Alfort), the Republic of Venice officially founded the Collegium Zoiatricum Patavinum (Zoiatric College), which was located in an old convent in Padova and was under the supervision of Giuseppe Orus, a graduate of Alfort. In addition to being responsible for the organisation of the school, Orus acted as an official meat and hygiene inspector for the Republic of Venice, travelling to any area where cattle disease outbreaks were reported. After the fall of the Republic of Venice in 1797, the veterinary curriculum at UniPD remained active until 1873, which is when the new regulations adopted by the newly established Kingdom of Italy (1860) were introduced, leading to the suppression of veterinary studies in Padova.

It was only in 1992 that the Academic Senate of UniPD decided to re-establish the Faculty of Veterinary Medicine, thanks to the right combination of prosperity, economic expansion and increasing need for professionals in veterinary medicine and public health that North-Eastern Italy was experiencing in those years. For a more detailed description of the history of the Degree Course in Veterinary Medicine (DCVM), visit <https://www.agrariamedicinaveterinaria.unipd.it/history>.

The Establishment underwent its first EAEVE visit in 2000. Some major deficiencies were reported at the time and related to caseloads (clinical and necropsy material) and practical clinical training (hands-on) in some species and disciplines. A second visit took place in 2010. By that time, all major deficiencies had been addressed thanks to the successful implementation of practical training activities, the development of new clinical facilities and new services (24-hour emergency clinical and necropsy services). This brought clinical and necropsy caseloads well above the required threshold.

Main features of the establishment

- **Location.** The School of Agricultural Sciences and Veterinary Medicine (SASVM) is located in the North-Eastern part of Italy, a very strategic area catering for the dynamic and industrious needs of the Veneto, Trentino-Alto Adige and Friuli-Venezia Giulia Regions. These Regions alone account for almost 14% of the Italian GDP and are home to one of the highest concentrations of farm and companion animals in the whole country.
- **Staff.** In order to ensure that all students receive a quality learning experience, both the Establishment and UniPD thoroughly assess the qualifications of their staff members to select the most adequate candidates. Furthermore, in order to ensure that existing staff are always up-to-date with the latest

developments and innovations in teaching methodologies, refresher courses to further improve teaching skills are provided on a regular basis.

- **Students:** Because the veterinary curriculum only offers a limited number of places, students applying to sit the entrance test (850-900 per year) are very motivated. This means that only students with an excellent high school background are admitted. Furthermore, according to *AlmaLaurea* surveys, the overall satisfaction of veterinary students is very high compared to the national average.
- **National and international ranking:** The DCVM has not only been ranked among the top two veterinary curricula in Italy over the last decade (<http://www.censis.it/formazione/le-classifiche-della-didattica-lauree-magistrali-ciclo-unico-edizione-20192020>), but it has also been included within the top 100 at the international level, according to *ShanghaiRanking* (<http://www.shanghairanking.com/Shanghairanking-Subject-Rankings/veterinary-sciences.html>).

Main developments since the last Visitation

The most important developments since the last EAEVE visit are:

- The overall reorganisation of the curriculum with the implementation of three different streams (see Chapter 3) aimed at further broadening the training of veterinarians through the enhancement of practical activities in different professional areas.
- The abolishment of faculties and deans, the introduction of “University Schools” and the increase in the number of staff members (40) necessary to establish a department, as a result of the enactment of Law no. 240/2010, commonly referred to as Gelmini reform. In particular, the four original veterinary departments merged into the Dept. of Comparative Biomedicine and Food Science (**BCA**) and the Dept. of Animal Medicine, Production and Health (**MAPS**), with the latter being entrusted with the task of overseeing and managing the veterinary medicine curriculum. The decision regarding which of the two departments shall have the responsibility for veterinary teaching was based on teaching loads (i.e. number of ECTS allocated to staff members).
- The establishment of the **SASVM** with the aim of addressing all teaching aspects of the various curricula (including the veterinary medicine curriculum). As of 2017, the SASVM has its own budget (see Chapter 2), which is mainly used for stationery and to coordinate UniPD’s teaching projects (Teaching4Learning, soft skills, communication skills, etc.).
- The remarkable growth of the VTH, whose dedicated veterinarians (24-hour service and other specialist services) have increased from 4 to 16. The VTH, which was previously an independent university centre, has now become a departmental centre. Such a change was introduced to optimize the allocation of human resources by UniPD. Additionally, the VTH’s employees’ salaries are no longer paid for by UniPD but borne by the VTH itself.
- The implementation of the ‘Lucio Toniolo’ Experimental Farm activities, allowing the involvement of a great number of students in practical activities.
- The increase both in companion animal (more than 100% compared to 2010) and equine caseloads.
- The introduction of a national compulsory Quality Assurance system (more commonly referred to as AVA), as established by Law no. 240/2010.

- The improvement in the scientific quality of recruited and promoted academic staff thanks to the introduction of the National Qualification System (NQS - Chapter 9)
- The increase in the numbers of EBVS Diplomates and Residency Training programmes (Chapter 9).

Major problems encountered by the Establishments

The main problems encountered in 2010 included the overall equine caseload, the restructuring of the large animal isolation unit and the refurbishment of the large animal barn.

At the time of the 2010 EAEVE visit, the Establishment had signed an agreement with a private equine hospital, Centro Medico Equino. The hospital, which had an annual caseload of around 470 horses, allowed small groups of students to carry out a relevant part of their hands-on practical training on its premises. Unfortunately, the equine hospital was severely affected by the financial crisis that broke out in 2008-2009 and went bankrupt in 2012, as did many other equine hospitals within the Veneto Region. As a result of such events, it was necessary to enter agreements with smaller equine clinics in order to continue allowing students to carry out their practical training. In the meantime, in an effort to fill the 'vacuum' created and address local horse owners' needs, a team of equine clinicians was established at the VTH to attract new equine clients. In spite of a number of bureaucratic problems related to the fact that the operation was not initially self-sustainable, the current equine caseload has seen a sharp increase over the last 3 years and shows a steady trend towards growth (Chapter 5). Finally, as concerns the renovation of existing buildings and the construction of new ones, works on the large animal isolation barn and the basic sciences building have suffered a setback due to a decrease in ministerial funds allocated to this purpose. More significant financial support was granted as of 2016.

Version and date of the ESEVT SOP which is valid for the visitation: Uppsala, May 2016.



1.

OBJECTIVES AND ORGANIZATION

Written by:
G. Gabai, G. Radaelli and S. Romagnoli

1.1 Factual information

As of the a.y. 2012/2013, the DCVM is managed and coordinated by the Department of MAPS. The Department of BCA supports MAPS in managing the DCVM and provides approximately 40% of the teaching staff. Both departments belong to the SASVM, which coordinates the organization of all degree courses offered by the four Departments of the Agripolis Campus, namely MAPS

and BCA for veterinary studies and DAFNAE and TESAF for agrarian studies. For practical activities, students also use the facilities of the VTH, commonly referred to as OVUD, and the “Lucio Toniolo” Experimental Farm, which is an independent body of UniPD. The connections between the establishment and the government bodies are described in **Figure 1.1**.

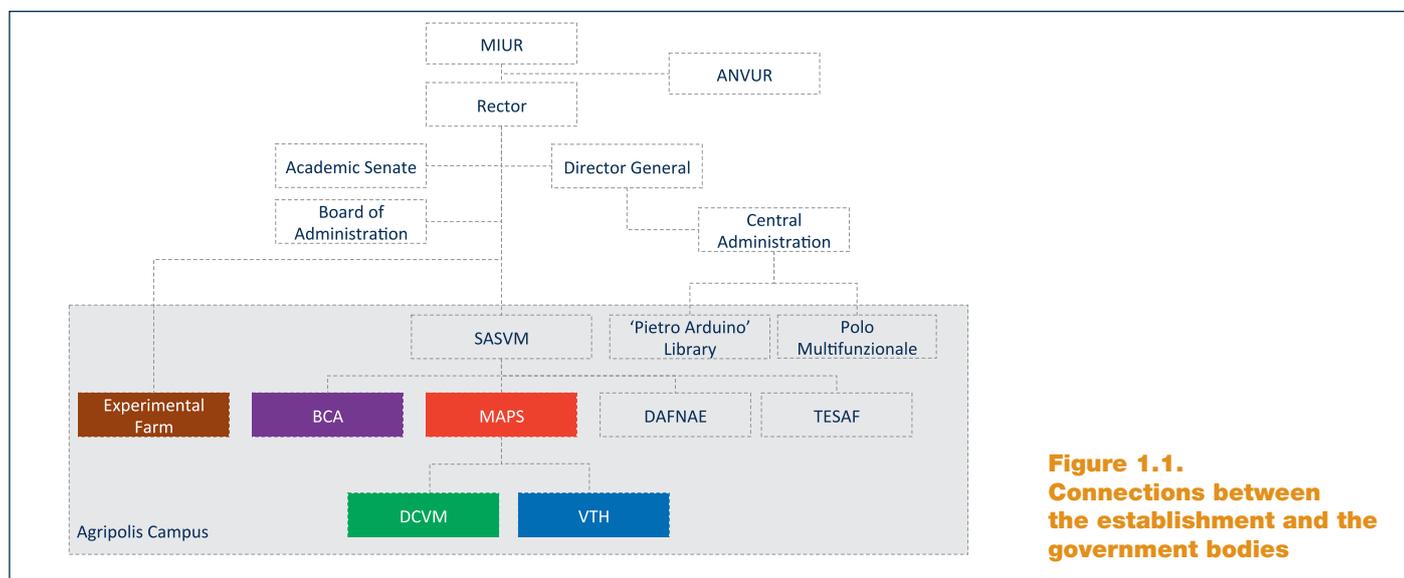


Figure 1.1.
Connections between the establishment and the government bodies

1.1.1 Details of the Establishment, i.e. official name, address, phone number, Email and website addresses, Establishment's Head, name and degrees of the person(s) responsible for the professional, ethical, and academic affairs of the VTH, official authority overseeing the Establishment

Department of Animal Medicine, Production and Health (MAPS)

Address: Agripolis, Viale dell'Università, 16 - 35020, Legnaro (PD)
 Telephone/Fax: +39 0498272592
 Website: www.maps.unipd.it
 E-mail: direzione.maps@unipd.it
 Head of Department: Prof. Alessandro Zotti - DVM, PhD
 Degree course Director: Prof. Matteo Giancesella - DVM, PhD

Veterinary Teaching Hospital - Ospedale Veterinario Universitario Didattico (OVUD)

Address: Agripolis, Viale dell'Università, 16 - 35020, Legnaro (PD)
 Telephone: +39 049 8272608
 E-mail: centro.ovud@unipd.it
 Hospital Director: Prof. Carlo Guglielmini - DVM, PhD

Department of Comparative Biomedicine and Food Science (BCA)

Address: Agripolis, Viale dell'Università, 16 - 35020, Legnaro (PD)
 Telephone: +39 0498272601
 Fax: +39 0498272604
 Website: www.bca.unipd.it
 E-mail: segreteria.bca@unipd.it
 Head of Department: Prof. Bruno Cozzi, DVM, PhD

“Lucio Toniolo” Experimental Farm

Address: Viale dell' Università 4 - 35020, Legnaro (PD)
 Telephone: +39 049 8272569-2567
 Fax: +39 0498272566
 Website: <https://www.aziendagraria.unipd.it/ufftecnico.azagr@unipd.it>
 E-mail: ufftecnico.azagr@unipd.it
 Farm Director: Prof. Antonio Berti

School of Agricultural sciences and Veterinary Medicine (SASVM)

Address: Agripolis, Viale dell'Università, 16 - 35020, Legnaro (PD)
 Telephone: +39 0498272535
 Fax: +39 0498272529
 Website: <https://www.agrariamedicinaveterinaria.unipd.it/en/vetmed>
<https://www.agrariamedicinaveterinaria.unipd.it/en>
 E-mail: agraria.medicinaveterinaria@unipd.it
 Head of School: Prof. Luigi Sartori

The Establishment is part of the following university:

University of Padova - Università degli Studi di Padova (UniPD)

Address: Via 8 Febbraio, 2 - 35122, Padova (PD)
 Telephone: +39 0498275111
 Website: amministrazione.centrale@pec.unipd.it
 Certified e-mail: <http://www.unipd.it/en>
 Rector: Prof. Rosario Rizzuto, MD, PhD

Official authority overseeing the Establishment:

Ministry of Education, University and Research (MIUR) - <https://www.miur.gov.it/>

1.1.2 Summary of the Establishment Strategic Plan with an updated SWOT analysis, the mission and the objectives

The DCVM's strategic plan is described in the so-called SUA form (Annex 1.1). The document, in addition to providing a number of provisions for the correct implementation, evaluation and revision of the DCVM, sets out the course **mission**, **objectives** and **values**. These components are shared by the aforementioned departments, although each with its own specific features.

The DCVM's core mission is veterinary education. The course aims at providing the best possible environment for the student's intellectual and professional development, so that they can act as **independent veterinary professionals from "day one"**. To this end, the DCVM is dedicated to providing future veterinarians and scientists with the most advanced education and training to serve society in a variety of fields, ranging from clinical and diagnostic veterinary medicine to public health and food safety; from scientific inquiry to public policy.

Being well aware that high standard academic education cannot exist without high-quality research, MAPS and BCA consider the improvement of animal health through research, the delivery of excellent clinical care and the continual vigilance against the spread of disease, to be of the utmost importance. Moreover, scholarships are valued across the spectrum of biological and medical sciences, from molecular to medical application,

reaffirming the DCMV's commitment in favour of **research**, educational programmes and professional service. In addition to endorsing the concept of "**One-Health**" through improving the understanding of both animal and human health, the DCVM, together with the two supporting departments, encourages and fosters open collaboration across disciplines and institutional boundaries, and seeks to integrate discovery and application in order to deliver the greatest possible benefits to society.

The DCVM's **vision** is to be a frontrunner in the promotion and advancement of veterinary practices that meet the needs of both society and the veterinary profession, in addition to further improving its position among international rankings and strengthening the university's international vocation.

In light of the national funding shortage experienced since the last EAEVE visitation in 2010 that led to a setback in upgrading animal hospitalization facilities and constructing new buildings, the following objectives have been included in the strategic plan:

- The compliance with the new governance of the Italian university system;
- The continuous improvement of the curriculum to include and further develop the following training areas: Veterinary Bioethics, Organization and Business Economics, Management, Communication, Veterinary Legislation and Professional Ethics, Zoognostics, Public Health and Problem solving;
- The broadening of activities provided by the VTH and the increase in the number of EBVS diplomates;
- The diversification of *Tirocinio*¹ to include more animal species and/or animal-related activities;
- The planning and implementation of training initiatives for non-academic members of the teaching staff and newly recruited teaching staff members;
- The strengthening and implementation of international relationships and teaching initiatives;
- The continuous improvement and implementation of a Quality Assessment system;
- The maintenance and implementation of a high standard research profile.



¹ "Tirocinio", the Italian word for Practical Training, will be used throughout this SER to refer to structured, supervised practical activities carried out by students as a prerequisite for the completion of their studies.

SWOT Analysis

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> - The Ministry of Education, University and Research (MIUR) has created guidelines for developing a Quality Assurance system in Italian universities. - The new Italian Law no. 240/2010 has implemented the functions and activities of the National Agency for the Evaluation of University and Research (ANVUR), which is responsible for monitoring, evaluating and accrediting the entire national higher education system at institutional and programme levels. - UniPD has developed a Quality Assurance policy of teaching activities, which is continuously monitored. - The DCVM itself has developed initiatives aimed both at implementing quality assurance policies and improving teaching (English website, safety manual, etc.). - UniPD is among the best-ranked universities in Italy. It was also granted the accreditation status (A level) by the ANVUR Evaluation Committee, which carried out an on-site visit in November 2018. - The DCVM has been constantly ranked among the top two veterinary programmes in Italy over the last decade. - UniPD has developed a policy to improve the teaching skills of permanent teaching staff (with particular focus on newly recruited members), as well as a specific programme called "Teaching4Learning", which is being implemented in all Schools. - The Academic Senate has a strong policy for increasing the quality of teaching and research, and develops guidelines and criteria for the allocation of budget to departments for staff recruitment purposes. It also provides support with regard to research and teaching activities. - Based on national examination results, students of the DCVM are not only the best students in terms of performance in Italy, but also hold top positions with regard to average graduation age and mark. - The employment rate of students graduating from the DCVM is among the highest in Italy. - The DCVM has received positive evaluations by alumni. - There is a high degree of satisfaction among enrolled students with both the DCVM in general and practical training in particular. - The "Lucio Toniolo" Experimental Farm provides excellent opportunities for hands-on practice with little if any financial commitment from the DCVM, as it is an independent body funded directly by UniPD. - The DCVM has good interaction with stakeholders. - Based on ANVUR's last national evaluation report on research, both veterinary departments (MAPS and BCA) were ranked at the top of the agro-veterinary sector. - As a result of a special project launched by MIUR, both MAPS and BCA have been recognised as "Departments of excellence". - The DCVM has excellent relationships with foreign universities. - Employees of the National Animal Health Service are involved in <i>Tirocinio</i> activities. - Professional veterinary surgeons are involved in <i>Tirocinio</i> activities. 	<ul style="list-style-type: none"> - Due to the national funding shortages experienced since the last EAEVE visitation, actions addressed at upgrading animal hospitalization facilities and constructing new buildings suffered a major setback, and were only resumed in 2015. - The implementation of VTH activities is limited because of lack of space. - While on the one hand the number of EBVS specialists is significant, on the other hand the number of accredited residencies should be increased further. - Both the provisions established by Italian Law no. 240/2010 (which sets the minimum no. of teaching hours per teaching staff member at 120 hrs/yr.) and current UniPD's budget allocation regulations restrict the recruitment of young teachers, as well as senior teaching staff promotions. - Due to national funding shortages, the number of support staff members involved in teaching and research activities has not increased enough over the last years. - The horse caseload has suffered a setback due to the financial crisis which has seriously hit equine breeders from 2012 onwards, leading to a significant reduction in the number of sport horses in the Veneto Region. - Although most teachers of the DCVM have a good command of English, they do not feel confident in teaching their courses in English as they fear they may be given a poor evaluation by students. As a result, the vast majority of disciplines of the veterinary curriculum are taught in Italian, which can be a limiting factor when it comes to attracting undergraduate students through the Erasmus programme. - Due to the above limitations, the number of incoming foreign students (although adequate) has not increased as expected. - Veterinary students are somewhat reluctant to take advantage of the opportunities offered by the Erasmus programme because of a widespread concern that this may prolong the duration of their studies, thus delaying their entry in the workforce. As a result, the number of outgoing students (although adequate) has not increased as expected over the years. - Although increasing attention has been paid to professional topics such as communication or management, the new curriculum does not yet feature courses officially labelled as "Client Communication". - There's a lack of information available in the English language on the University's website.
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> - High attractiveness of the DCVM. - The EAEVE visitation represents an opportunity to revise, update and adapt Quality Assurance policy and procedures. - The VTH has established itself as a point of reference for an increasing number of small animal clients. - A high percentage of young teachers, who are highly motivated to improve their teaching and communication skills, as well as to teach their courses in English. - A number of enthusiastic clinical teachers who have committed themselves to include "Client Communication" within their courses. - A small group of enthusiastic, highly motivated and very professional equine clinicians who have done incredibly well over the last few years to expand the equine section of the VTH and increase the horse caseload. - Although still limited, UniPD has recently started offering courses to teachers who wish to teach in the English language. - Proximity and strong relationships with Istituto <i>Zooprofittico Sperimentale delle Venezie (IZSVe)</i>. - Good relationships with the Professional Association of Veterinary Surgeons of the Veneto Region. 	<ul style="list-style-type: none"> - General decrease in terms of economic resources at a national level. - Long bureaucratic procedures for the construction of new buildings. - The general criteria for the allocation of resources favour larger departments, as well as degree courses with a large number of students. If such criteria were strictly applied to the DCVM, the full achievement of the objectives of the strategic plan would be heavily threatened. - The number of students admitted per academic year is established by MIUR at the national level. - Student admission criteria and procedures are established by MIUR at the national level and on an annual basis. - Programmes for the maintenance and modernisation of buildings and facilities are slowed down by the lack of autonomy with regard to this kind of expenditure specifically.

OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> - The SASVM is located within the Agripolis Campus, which allows for good interactions with the departments of agricultural sciences (DAFNAE and TESAF) and a more efficient use of facilities. - The local decrease in the number of equine clinics may favour the growth of the VTH equine section - An increase in the number of companion animals in the urban areas of North-Eastern Italy. - The North-Eastern regions of Italy (with particular regard to the Veneto Region) have sound economic fundamentals and a strong orientation towards animal production. 	<ul style="list-style-type: none"> - Reduction in the number of dairy farms due to the 2008 economic crisis (https://www.vetinfo.it/j6_statistiche/#/). - Reduction in the number of sport horses.

Table 1.1.2. SWOT Analysis.

1.1.3 Summary of the Establishment Operating Plan with timeframe and indicators of the achievement of its objectives

The Academic Senate and the Board of Administration (BoA) enacted both the **Strategic Lines 2016/18** (<https://www.unipd.it/linee-strategiche-2016-2018>) and the **Plan for the Recruitment of Personnel** (<https://www.unipd.it/trasparenza/piano-programma-zione-reclutamento-personale> - BoA resolution no. 352, 18 December 2018) for the period 2019/21. In addition to providing strict guidelines to the departments, such documents also establish the criteria to be taken into account for promotion purposes as well as for the allocation of budget to be used for research, teaching and staff recruitment. The last mentioned is based on six indicators, which take into account the following: a) employee turnover due to retirement; b) the quality of research; c) teaching efficiency. The latter point considers both the number of ECTS awarded by each department and a dimensional factor describing the number of students as parameters to measure teaching efficiency. As a result, larger departments with a high number of students are more likely to benefit from financial resources.

The Departments have produced their own **Three-year Plan for the Recruitment of Personnel** (2019/21) (<https://www.unipd.it/sites/unipd.it/files/Trasparenza/Piano%20programmazione%20reclutamento%20personale%2019-21%20pdfa.pdf>), with a description of both departmental policies with regard to personnel recruitment and promotion procedures, and the strategies to increase teaching efficiency and quality. Moreover, it is compulsory for each department to develop both a **Three-year Plan for Research Development** (2019/21) and a **Three-year Plan for Third Mission** (2019/21). The documents will be subsequently evaluated by UniPD's Committee for the Quality of Research (CPQR) in 2022. It is worth noting that both MAPS and BCA received an A grade in the most recent assessment. The distribution of budget for research and teaching activities in the subsequent three years will take into account the degree of achievement of previous targets.

The implementation of a high standard research profile is of the utmost importance for all departments, as research quality represents a major criterion for budget allocation.

Both MAPS and BCA have agreed to develop their operating plans taking into consideration the one adopted specifically for the DCVM

Objective/Action	Timeframe	Indicators
General management		
Compliance with the New Governance structure adopted by the Italian university system	2012-ongoing	<ul style="list-style-type: none"> - New curriculum - SUA form (Annex 1.1)
Implementation of a Quality Assessment system	2018-ongoing	<ul style="list-style-type: none"> - Documents and reports released by DCVM and Departments
Implementation of the DCVM's webpage	2018-ongoing	<ul style="list-style-type: none"> - Weekly update
Revision and Implementation of the Curriculum		
Improvement of <i>Tirocinio</i> activities	2010-ongoing	<ul style="list-style-type: none"> - Yearly update of the Logbook - Yearly results of students' evaluations
Increase extra-mural <i>Tirocinio</i> activities	2010-ongoing	<ul style="list-style-type: none"> - Maintain the number of professional veterinarians hired for <i>Tirocinio</i> - Maintain the number of agreements with external facilities (e.g.: animal shelters) for implementing students' activities
Modification of the curriculum by including and further developing the following training areas: veterinary bioethics, organization and business economics, management, communication, veterinary legislation and professional ethics, zoognostics, public health and problem solving.	2015-ongoing	<ul style="list-style-type: none"> - Yearly publication of new syllabus - Implementation of the new curriculum across the entire DCVM (from first to fifth year).
Monitoring of the curriculum	2019-2021	<ul style="list-style-type: none"> - SUA form (Annex 1.1)
Improvement of the Veterinary Teaching Hospital (OVUD)		
Strengthening of international relationships and implementation of teaching initiatives	2019-2025	<ul style="list-style-type: none"> - Number of foreign students and veterinarians who apply to attend the VTH (3 for 2017, 7 for 2018 and 8 for 2019. Thirteen applications have also been submitted for 2020)
Expand VTH activities	2019-2025	<ul style="list-style-type: none"> - Continuous monitoring (through the minutes of the VTH Management Committee) and reorganisation of the different hospital's units - Maintain or increase the overall number of DVMS (from 4 to 16 during the 2010-2019 period; a further 10% increase is expected in the future, provided that new facilities are built)

Increase in the number of DVM specialists working for the VTH	2019-2025	- Hire at least one College Diplomate in all core disciplines
Increase in the number and quality of medical equipment	2019-2025	- Number of new instruments acquired (1 MRI, 1 CT scan, 1 Ultrasound machine for cardiology) - Number of old instruments replaced (1 Digital radiology unit, 1 portable Rx tube, 1 US machine)
Improvement of medical datasets	2019-2021	- Implementation of the VTH management software
New Buildings		
Expansion and modernization of teaching and research facilities	2015-2025	- Building projects - Degree of building construction achieved
Staff and Teacher training		
Increase in the number of teaching staff members with a degree in veterinary medicine	2019-2021	- Number of teaching staff members holding a degree in Veterinary Medicine
Internal staff training	2019-2025	- Percentage of teaching staff who have attended Teaching4Learning courses
External staff training	Ongoing	- Continuous monitoring and improvement of online courses

Table 1.1.3. DCVM strategic objectives.

1.1.4 Organizational Chart of the Establishment

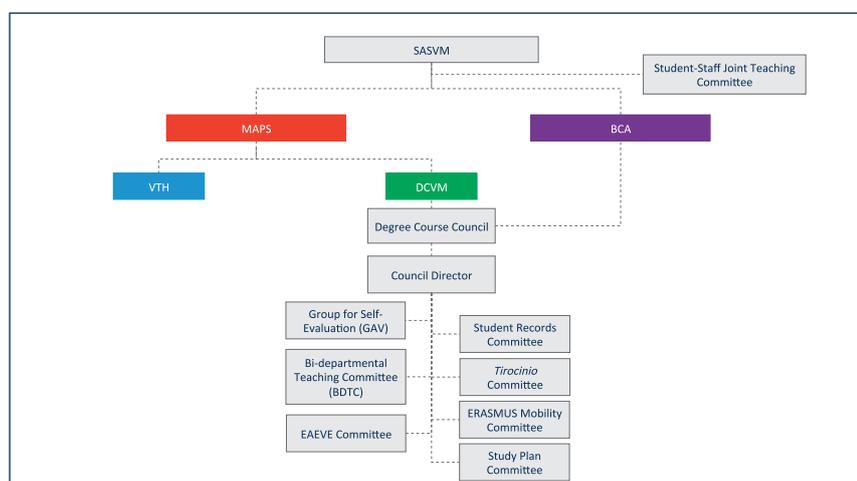


Figure 1.2. Diagram of the Establishment.

The DCVM is managed and administered by MAPS on the basis of the indications provided by the DCC. BCA supports MAPS in managing the DCVM and provides approximately 40% of the teaching staff. Each department has its own DC, which is chaired by the Directors of the Department (Annex 1.2) and consists of the following members: teaching staff, research staff, support staff representatives, PhD students, post-doctoral fellows, and undergraduate students. The DCC is chaired by the Director of the DCVM and is composed of the whole teaching staff, as well as of support staff and student representatives. The SASVM is responsible for organizing the teaching activities of the degree courses on offer at the Agripolis Campus. It is chaired by the Director of the School and managed by the School Council, which is composed of the four Directors of BCA, MAPS, TESAF and DAFNAE, the degree course representatives, one specialization school representative, one PhD school representative, and the student representatives (Annex 1.3).

1.1.5 List of departments/units/clinics and councils/boards/committees with a very brief description of their composition/function/responsibilities

Department of Animal Medicine, Production and Health (MAPS). The mission of this department is to pursue high-quality research and education in veterinary medicine, and to provide permanent education for both veterinarians working as clinicians and experts operating in the areas of public health, food safety and animal husbandry. The staff is composed of 49 teachers, 28 technical-administrative employees, 11 PhD students and 19 research fellows. MAPS is responsible for managing and administering the DCVM, following the indications provided by the Degree Course Council (DCC). The Department hosts the **Veterinary Teaching Hospital**, which was established in 2010 and represents a reference point for the cure of diseases affecting pets and horses (<https://www.agrariamedicinaveterinaria.unipd.it/veterinary-teaching-hospital> - Annex 1.4). It provides 24-hour emergency services, including hospitalization, specialist medical consultation in the various disciplines of veterinary medicine, intensive treatment and diagnostic laboratory services (Annex 1.5).

Department of Comparative Biomedicine and Food Science (BCA). The department's primary goal is to pursue excellence in

research and education in disciplines pertaining to veterinary sciences and medicine.

The Department is also responsible for managing and administering two Bachelor's degree courses (SIA and AC) and one Master's degree course (BAL). The staff is composed of 45 teachers, 31 technical-administrative employees, 21 PhD students and 17 research colleagues. Laboratories and facilities are fully equipped for teaching and research activities. Support services are also available to animal owners and veterinarians. Whilst carrying out post-mortem examinations, BCA also provides the following services to the VTH: cytology, histopathology and behavioural medicine services.

The 'Lucio Toniolo' Experimental Farm. It was founded in 1960, and currently occupies an area of 68 hectares. Its mission is to support the teaching and research activities of the four Departments of the SASVM. The farm's animal facilities, including the dairy barn and poultry, sheep and equine units, support the practical training of veterinary students (<https://www.aziendagraria.unipd.it> - Annex 1.6). The Farm, which is an independent body of UniPD with operational independence and its own budget, is governed by a statute (Rectoral Decree no. 1100 of 17 April 2013). The Farm's governing board is composed of the Rector (or his delegate), the General Director of UniPD, the Directors of the four Departments of the SASVM, the Director

of the Experimental Farm, one member of DAFNAE with technical/managerial expertise in animal husbandry, and the administrative secretary of the Experimental Farm.

Councils, Boards and Committees

The **Degree Course Council (DCC)** is chaired by the DCVM Director (who is elected from the teachers of the DCVM) and is composed of 47 teachers and researchers, 8 student representatives and 1 technical-administrative representative. In addition to this, a number of members are usually invited to attend the meetings (e.g. external staff members, stakeholders, teachers from other departments, etc.). The DCC is responsible for managing teaching activities and providing advice on issues falling within the competences of the degree course. In particular, it is responsible for monitoring and reviewing the curriculum, collectively discussing and approving the documents drafted by the committees, defining accreditation procedures, discussing teaching evaluation results, developing proposals concerning the degree course regulations to be submitted to the Schools and Departments, approving individual study plans, and monitoring the teaching activities on offer (<https://www.agrariamedicinaveterinaria.unipd.it/en/governing-bodies>).

The **Group for Accreditation and Evaluation (GAV)** is chaired by the Director of the DCVM, and consists of teachers, students and stakeholders. It is responsible for managing and supervising the drafting of the SUA form, the Annual Monitoring Report and the Cyclical Review Report. Furthermore, the GAV, together with the Student-Staff Joint Teaching Committee (JTC) and UniPD's Managing Board, is responsible for a number of issues, such as the identification and implementation of the necessary improvement and innovation measures (taking into consideration their impact on the quality of training and teaching), as well as the verification and modification of teaching contents. Moreover, the GAV can identify and propose indicators aimed at evaluating teaching outcomes, put forward initiatives to improve the organization of teaching activities to the DCC of MAPS, express opinions with regard to the revision of the educational regulations of the DCVM, and express opinions concerning the consistency between the credits assigned to the various teaching activities and the specific teaching objectives.

The **Bi-departmental Teaching Committee (BDTC)** was appointed by the DCC in 2015 for the sole purpose of revising the DCVM and providing suggestions on the organization of teaching activities. Any decision or proposal was submitted to the DCC for final discussion and approval. The Committee was chaired by the Director of the DCVM and was composed of 4 teaching staff members from MAPS and BCA appointed by the Departmental Directors. Upon the expiry of their term of office, the Committee was disbanded.

The **Tirocinio Committee** is composed of teachers and students and is responsible for establishing the activities that students shall carry out and that are described in the trainee's logbook; proposing amendments of and/or additions to the *Tirocinio* activities included in the trainee's logbook; establishing a timetable for *Tirocinio* activities; organising and verifying procedures and services aimed at activating, carrying out and monitoring the quality of *Tirocinio*; defining evaluation procedures for *Tirocinio* activities performed by students, as well as the

level of student satisfaction with regard to activities provided (<https://www.agrariamedicinaveterinaria.unipd.it/en/governing-bodies>).

The **ERASMUS Mobility Committee** encourages and supports the mobility of both incoming and outgoing students and staff members. It is also responsible for making a number of decisions with regard to course units and grade conversion of students participating in the Erasmus Programme.

The **Student Records Committee** is responsible for addressing a number of student-related issues, such as transfer procedures of students proceeding from other degree courses and/or other Italian or European Universities.

The **Study Plan Committee** is responsible for approving, modifying or rejecting the study plan, in addition to evaluating its adequacy against the degree course.

The **Student-Staff Joint Teaching Committee (JTC)** is responsible for making judgments on both teaching activities and the organization of the degree courses offered within the SASVM. The Committee, which meets periodically and is conceived as a permanent 'observatory' of educational activities, is composed of the Director of the SASVM and an equal number of representatives of teachers and students. Directors of the degree courses and members of GAV cannot be members of the JTC (<https://www.agrariamedicinaveterinaria.unipd.it/en/governing-bodies>).

The **Veterinary Teaching Hospital Management Committee** is responsible for managing and administering the clinical activities of the VTH, in addition to putting forward proposals concerning the allocation of the hospital's financial resources to MAPS. The committee is composed of the following members: the VTH Director, the Director of MAPS, the Director of the DCVM, 8 teachers on the veterinary course in charge of an operating unit (7 teachers from MAPS and one from BCA) and the Secretary of MAPS present in an advisory capacity.

The **EAEVE Committee** was appointed in 2016 for coordinating the drafting of the Self-Evaluation Report, as well as the organisation of the visit. It is composed of a number of teachers from MAPS and BCA, as well as technical-administrative staff of the School. In the last year prior to the visitation, a number of Committee members, along with external collaborators and consultants, established the EAEVE Accreditation Team.

1.1.6. Description of how and by who the strategic plan and the organization of the Establishment are decided, communicated to staff, students and stakeholders, implemented, assessed and revised

Strategic Plan - Decision making. The National legislation (Italian Law no. 240/2010) establishes the organizational framework of the degree courses in veterinary medicine. Such a framework provides for an adequate degree of flexibility for a given DCVM to be adapted to specific local conditions. The original DCVM was designed by the DCC and approved by the

departments involved (MAPS and BCA). UniPD (CPQD and NdV) scrutinized and evaluated the DCVM and submitted it to MIUR and ANVUR for the final approval.

Implementation, assessment and revision. The curriculum is constantly monitored by both the GAV and the JTC, which scrutinise the DCVM every year and communicate their analyses to the DCC. Based on the evaluations made by GAV and BDTC, and the modifications proposed by BDTC, the DCC discussed and approved the present curriculum. Measures approved by the DCC must also be approved by the department responsible for managing and administering the degree course. In the case of the DCVM, both MAPS and BCA are expected to approve any measure adopted by the DCC. Any curriculum change is scrutinized by UniPD (CPQD and NdV), and substantial changes are subject to the evaluation and approval by MIUR/ANVUR. From 2015, major changes have been made to the curriculum (see Chapter III) and are still in the assessment phase.

Communication. The very first level through which information concerning strategic planning and the organization of the Establishment is communicated to students and staff representatives, as well as the whole teaching staff is the DCC. Subsequently, detailed information on the state of the art of the DCVM is given every year during the **Week for the Improvement of Teaching** (<https://www.agrariamedicinaveterinaria.unipd.it/en/teaching-quality>). On such an occasion figures and data regarding the DCVM are shared with teaching staff members, students and stakeholders. Furthermore, since all aspects of the strategic plan must be discussed and approved by all departmental and school bodies, a number of representatives are appointed to pass information to their peers on the state and progress of the strategic plan implementation. When the complexity of the matter so requires, the Director of the DCVM may call a general assembly. Finally, all relevant documents and minutes of the meetings of the DCVM's managing bodies are regularly uploaded on the following webpage: <https://elearning.unipd.it/scuolaamv/course/view.php?id=1345>.

1.2 Comments

In 2010, the new regulations regarding the governance of Italian universities were implemented, leading to some important changes in the UniPD system. Among these were the abrogation of faculties, the transfer of teaching responsibilities from faculties to departments, and the introduction of schools as coordinating bodies. At UniPD, the newly formed departments, among which were MAPS and BCA, were activated in 2012. During this transition phase, UniPD was able to seize the opportunities resulting from such new changes, while minimising any negative impact. The DCVM has therefore been constantly monitored and improved, placing UniPD among the top-ranked universities with regards to the teaching of veterinary medicine.

1.3 Suggestions for improvement

At both national and local levels, criteria for allocating resources tend to favour degree courses with a highly number of students as well as large departments. The DCVM is highly demanding in terms of both teaching staff and infrastructures. If the general criteria for the allocation of resources were strictly applied to the DCVM, the full achievement of the strategic plan's objectives would be seriously threatened. If, on the one hand, very little, if anything, can be done to modify the existing national legislation, on the other UniPD Governance may take some measures at the local level to improve the DCVM's strategic plan, with particular attention to:

- Facilitating and accelerating the procedures for the construction of new buildings upon approval by the Academic Senate and the Administration Council;
- Increasing funding opportunities to improve infrastructures and facilities;
- Adopting a policy to increase recruitment opportunities for young academic staff members;
- Increasing the number of support staff members;
- Receiving further support from UniPD to improve teaching training of both academic and external staff members.





2.

FINANCES

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2.1. Factual information

It should be noted that the financial year does not align with the academic year, as the former begins on 1st January and ends on 31st December.

2.1.1 Description of the global financial process of the Establishment

As explained in previous chapters, the enforcement of Italian Law no. 240 has introduced a number of significant changes, some of which have also affected the way the DCVM is financed. More specifically, the main institutions involved in the funding of the DCVM are:

- 1) The Ministry of Education, Universities and Research (MIUR), which makes funding available through UniPD. As happens with any other Italian state-funded university, UniPD receives part of the so-called *Fondo per il Funzionamento Ordinario* – FFO (Ordinary Financing Budget). The FFO is subject to national regulations.
- 2) UniPD, which, in addition to providing part of the FFO, allocates some of the financial resources deriving from both tuition fees and other public and private institutions to a) MAPS and b) BCA.
- 3) MAPS and BCA, which receive financial resources either from UniPD or from public and private institutions. Additional resources are made available through fundraising activities related to research projects awarded through competitive calls, commissioned research and clinical and diagnostic services. These resources are all managed at the departmental level, with MAPS serving as the reference Department.
- 4) The VTH, which receives funding both from private clients and UniPD.

The above-mentioned funds shall be used to cover the following expenditure:

- 1) In addition to being used for the payment of the salaries of the academic and technical-administrative staff, the FFO contributes to ordinary operating costs (i.e. electricity, telephone, data network, heating and air conditioning, cleaning, building maintenance, etc.). Furthermore, UniPD uses these funds to support PhD scholarships, which are awarded according to UniPD's general policy and are further supplemented by private funds from the Departments.
- 2) Revenues obtained from tuition fees and research grants are made available to MAPS and BCA by UniPD. Such resources are used to cover the annual ordinary operating costs incurred by the Departments and the School, as well as the costs

resulting from administrative services. This expenditure ensures both the proper functioning of structures and their security, and covers, among other things, the following costs: printer and photocopier rental, purchases of consumables, services and software licenses, ordinary maintenance of buildings and equipment, maintenance fees, etc.

More specifically, resources allocated to MAPS and BCA are mainly used for additional teaching activities (e.g. the *Tirocinio* carried out by external staff members), the organization of seminars and study trips, and the purchase of consumables and services necessary to ensure an adequate level of teaching quality. Finally, these funds are used for purchasing new books and study materials, as well as for subscription renewals.

- 3) The annual budget for research activities is used to recruit new research support staff, as well as to cover the cost of goods and services necessary to ensure the proper functioning and organisation of research. Part of these resources is also used by UniPD to cover ordinary operating costs (i.e. electricity, telephone, data network, heating and air conditioning, cleaning, building maintenance, etc.). For further information relating to percentage rates, see Chapter 2.1.3.
- 4) Financial resources obtained from the VTH are used both for the purchasing of equipment and consumables, and the payment of salaries of clinical staff working in different services. It should be noted that the salaries of veterinary staff members who provide support within the 24-hour Emergency Service (night shifts and weekends) are fully paid with the funds referred to in point 2).

2.1.2 Degree of autonomy of the Establishment on the financial process

The Departments operate independently with regards to the management of funds transferred by UniPD and third parties for their designated purposes. More specifically, these resources are intended to promote research and teaching, as well as to foster relations with the local territory. They are made available according to fixed criteria which take into account not only the number of staff and students, but also merit-based performances. Funds obtained from third-party services (commissioned research or services performed on behalf of outside bodies) or as a result of the participation in research projects awarded through competitive calls promoted by public and private bodies are related to both the quality of research activities performed by Departments and their ties with the territory.

Figures included in the table below are the sum of the annual expenditure of the two departments involved.

Area of expenditure	2018	2017	2016	Mean	%
Personnel	8,040,279.95	7,519,690.40	7,181,324.75	7,580,431.70	77.5%
Academic staff	5,288,526.74	5,130,242.78	5,076,205.25	5,164,991.59	52.9
Support staff for teaching	182,043.91	159,554.49	157,045.55	166,214.65	1.7
Technical staff	1,337,933.33	1,323,509.42	1,271,623.96	1,311,022.23	13.4
Support staff for research	1,012,920.16	750,377.40	547,960.72	770,419.43	7.9
Support staff for clinical activity	218,855.82	156,006.31	128,489.27	167,783.80	1.7
Operating and Maintenance Costs	2,049,192.10	1,722,875.70	1,771,517.52	1,847,861.77	19%
Expenditure relating to teaching	214,045.21	121,529.44	154,183.87	163,252.84	1.7

Expenditure relating to research	878,024.54	678,904.81	670,690.52	742,539.96	7.6
Expenditure relating to clinical activity	375,136.11	268,982.17	309,565.90	317,894.73	3.3
Expenditure relating to general use	382,808.01	335,933.37	392,258.24	370,333.21	3.8
Air conditioning, elevators, fire extinguisher, gardening	27,195.31	26,961.29	31,784.52	28,647.04	0.3
Buildings	100,962.95	165,119.13	101,020.78	122,367.22	1.3
Equipment	71,019.97	125,445.49	112,013.69	102,826.38	1.1
Equipment	318,006.34	333,682.56	365,556.79	339,081.37	3.5%
Equipment for teaching	11,950.58	8,568.38	12,479.92	10,999.63	0.1
Equipment for research	193,132.09	171,260.59	211,667.06	192,019.91	2.0
Equipment for clinical activity	60,556.85	39,547.95	67,398.17	55,834.32	0.6
General equipment	18,439.77	81,158.37	30,772.35	43,456.83	0.4
Library	33,927.05	33,147.27	43,239.29	36,771.20	0.4
Total expenditure	10,407,478.39	9,576,248.66	9,318,399.06	9,767,375.37	100%

Table 2.1.1. Annual expenditure during the last three financial years (in Euros).

As can be inferred from the table above, an ongoing increase of resources used within the DCVM can be observed. In particular, the increase in the expenditure relating to both academic and technical-administrative staff was mostly due to the improvement of UniPD's recruitment and advancement policies aimed at ameliorating teaching and research quality. Costs relating to research support staff have also increased as a result of higher revenues for research projects. This has allowed to recruit new

staff members, as illustrated in Table 2.1.2. At the same time, costs incurred for clinical activities have also increased, especially with regard to support staff involved in such activities. This is also a direct consequence of the University's investment policy aimed at expanding the VTH veterinary services to further increase the clinical caseload of animals to be used for *Tirocinio* purposes.

Revenue source	2018	2017	2016	Mean	%
Academic Staff	5,288,526.74	5,130,242.78	5,076,205.25	5,164,991.59	47.2
Support Staff	1,337,933.33	1,323,509.42	1,271,623.96	1,311,022.23	12
Researchers	321,837.39	217,695.60	106,785.34	215,439.44	2
Utilities	666,860.27	597,358.69	656,162.56	640,127.17	5.8
Maintenance costs	128,158.26	192,080.42	132,805.30	151,014.66	1.4
General equipment	190,707.08	162,848.46	192,761.44	182,105.66	1.6
Tuition fees	676,698.00	707,163.00	740,048.00	707,969.67	6.5
Clinical services	665,431.00	603,621.43	620,756.31	629,936.25	5.8
Other services	178,408.07	178,899.60	262,121.42	206,476.36	1.9
Research grants	1,865,902.03	2,128,113.02	1,060,252.39	1,684,755.81	15.4
Continuing and postgraduate education	114,133.25	9,599.00	10,100.00	44,610.75	0.4
Total revenues	11,434,595.42	11,251,131.42	10,129,621.97	10,938,449.60	100%

Table 2.1.2. Annual revenues during the last three financial years (in Euros).

The significant increase in funds allocated to research is a consequence of the improved links between Departments and the local community. This has led both to an increase of research-related revenues and to an improvement of research quality, which is reflected in the higher volumes of revenues resulting from competitive funds. The significant increase in revenues relating to continuing and postgraduate education recorded in 2018 was due to the reactivation of three specialization schools (see Chapter 10) in the area of veterinary medicine. No major changes were instead recorded in the case of funds used for PhD programmes/other revenues.



Financial year	Total expenditures	Total revenues	Balance
2016	9,318,399.06	10,129,621.97	811,222.91
2017	9,576,248.66	11,251,131.42	1,674,882.76
2018	10,407,478.39	11,434,595.42	1,027,117.02

Table 2.1.3. Annual balance between expenditures and revenues (in Euros)

2.1.3. Overheads to be paid to the official authority overseeing the establishment on revenues from services and research grants

Management fees due to UniPD may differ, depending on the type of activity:

- Research projects with public funding (5-7%)
- Diagnostic and clinical activities (12%)
- Research contracts (10%)
- Professional training courses (10-15%)

2.1.4 Annual tuition fee for national and international students

Tuition fees are set and revised every year by the University Board. The average cost per veterinary student in the academic year 2018-19 was € 2,710.00. It should be noted, however, that UniPD students may apply for fee reductions based on their financial situation and merit (for further information, visit <https://www.unipd.it/en/scholarships> and https://www.unipd.it/en/sites/en.unipd.it/files/BandoContribuzioneEsoneriENG_0.pdf).

Payments are generally made in three different installments, which are distributed as follows:

Installment	Deadline	Amount
1	Upon enrolment (new students)	€187
	30 th September (students enrolled in previous academic years)	€567
2	15 th February	Up to €1,267.50*
3	15 th May	Up to €1,267.50*

Table 2.1.4. Average amount of tuition fees to be paid yearly

2.1.5 Estimation of the utilities and other expenditures directly paid by the official authority and not included in the expenditure tables

All utilities are paid by the establishment and are therefore included in the expenditure tables above.

2.1.6 List of the on-going and planned major investments for developing, improving and/or refurbishing facilities and equipment, and origin of the funding

The following are the main investments (both ongoing and planned) for the development, improvement and/or refurbishment of facilities and equipment:

- Refurbishment of stables. The financing proposal was approved by Resolution of UniPD's Governing Board in June 2019 - € 500,000.
- Construction of a horse walker for equine clinics. The financing proposal was approved by Resolution of the DC of MAPS - € 60,000.
- Expansion of the veterinary hospital facilities (the project was included in the 2019-21 UniPD's building plan).
- Purchase of a 3D printer for the printing of organ models and anatomical parts to be used for teaching. The financing proposal was approved by Resolution of the DC of BCA - € 25,000.
- Implementation of an experiential learning classroom. The

financing proposal was approved by Resolution of the DC of BCA - € 70,000.

- Project to enhance the quality of *Tirocinio* activities. The financing proposal was approved by Resolution of UniPD's Governing Board in June 2019 - €30,000. The project includes the purchase of the following: veterinary exam tables, tools for large animal restraint, animal models and dummies, development of an electronic logbook for the registration of *Tirocinio* activities.

2.1.7 Prospected expenditures and revenues for the next 3 academic years

Although it is difficult to provide an estimation of the overall expenditures and revenues for the next three years, the following considerations can be made:

- Following UniPD's policy to recruit new human resources (especially academic staff), it is expected that resources invested in the DCVM will increase.
- A strong boost is expected to be given to MAPS' external communication over the next four years. This should further enhance both the department's research offer and VTH services, thus increasing the number of resources made available for clinical services.
- In 2018, BCA was selected as one the "Departments of excellence" of Italy, receiving substantial funding from MIUR. These resources will be used both to recruit new academic staff members and to develop new teaching and research initiatives.

- Finally, with regard to funds allocated by MIUR, they provide a solid economic basis for the implementation of activities provided for by the DCVM. In this respect, no major changes are expected in the years to come.

2.1.8 Description of how (procedures) and by who (description of the committee structure) expenditures, investments and revenues are decided, communicated to staff, students and stakeholders, implemented, assessed and revised

Any administrative, accounting and financial issue is dealt with in accordance with the University Regulations for Administration, Financing and Accounting through central administration spending centers. With regard to the DCVM specifically, the spending centers are both departments through their DCs. The DC is responsible for making decisions on expense management through the approval of a provisional budget. Both DCs meet on a monthly basis and decisions are communicated to UniPD, staff, students and stakeholders through publication on the Departments' website.

As concerns the VTH, a management committee (Chapter 1.1.5) has also been appointed to set up potential strategies for clinical development.

2.2 Comments

Due to the fact that only a limited number of students can enroll in the DCVM, the veterinary curriculum is one of UniPD's most expensive degree courses. In addition, the organization of *Tirocinio* activities has also proven to be particularly costly.

Although both tuition fees and the budget allocated have so far been adequate to cover the various costs and expenses, they would be insufficient to finance the construction of new buildings, which are of the utmost importance for the efficiency and proper functioning of the DCVM. In this respect, spaces used for clinical activities are somewhat limited, thwarting the efforts that are made to deliver high-quality clinical services.

Funds obtained from competitive projects, commissioned research and clinical activities are the reason why the annual budget available has increased.

2.3 Suggestion for improvement

- It would be desirable not only to further enhance the connections between the degree course and national and international academic and private veterinary practices (which would also result in more sponsorship opportunities), but also to provide new opportunities and incentives for start-up companies whose activities are linked to the DCVM.
- It would be desirable to further increase the range of services provided to the local community and neighboring





3.

CURRICULUM

Written by:
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3.1. Factual information

The DCVM falls within the Degree Course Class LM-42, as per Ministerial Decree no. 270/2004. The course, which is a single cycle degree course lasting 5 years, aims at providing students with both theoretical and practical knowledge. In order for students to graduate, they must acquire a total number of 300 ECTS (35 of which are *Tirocinio*-related ECTS) and pass the final examination (9 ECTS), which includes the writing and defending of a thesis (based either on a research project or a review paper). The DCVM gives access to third cycle degree courses (PhD, Specialisation Schools, etc.).

3.1.1. Description of the educational aims and strategy in order to propose a cohesive framework and to achieve the learning outcome

The main objective of the DCVM is to provide future veterinarians with sound knowledge and practical skills to face the challenges of the veterinary profession from day one. Upon completion of the programme, students will have developed the necessary competences to perform complex management and coordination activities in both the veterinary and public health sector, with particular regard to the application of innovative procedures in the diagnosis, prophylaxis, treatment and control of infectious and parasitic diseases aimed at maintaining or restoring the health, hygiene and quality of products of animal origin, as well as in the food production and processing industry. At the end of the programme, graduates in the DCVM will have acquired:

- The necessary theoretical knowledge deriving from basic science in view of its future applications within the professional setting;
- The necessary skills to critically detect and evaluate animal health conditions and diseases, as well as animal welfare both at the individual and herd level, including aquatic organisms; furthermore, they shall be able to determine suitable medical and surgical interventions to successfully treat disease conditions.
- Knowledge of epidemiology, diagnosis, prophylaxis, treatment and control of infectious and parasitic diseases;
- The necessary skills to assess the risks associated with zoonotic diseases, and interpret clinical and professional data in light of current scientific knowledge;
- The necessary skills to critically detect and evaluate the state of hygiene and quality of products of animal origin, which might jeopardise human health; furthermore, they shall have knowledge and skills to manage and monitor production chains of food products of animal origin, as well as their safety;
- The necessary knowledge of animal nutrition and feeding, and rearing techniques;
- The necessary skills to critically detect and evaluate the environmental impact of animal farming;
- The necessary skills to develop, implement and monitor veterinary public health plans;
- Sufficient oral and written knowledge of the English language.

3.1.2. Description of the legal constraints imposed on curriculum by national/regional legislations and the degree of autonomy that the Establishment has to change the curriculum

Over the last two decades the Italian university system has undergone a number of changes which have directly affected the overall organization of the veterinary medicine curriculum. In particular, the most relevant aspects were introduced by Ministerial Decrees nos. 509/1999 and 270/2004, including:

- The implementation of a two-tier system, distinguishing between Bachelor's and Master's Degrees, lasting three and two years, respectively. This notwithstanding, degree courses in the health area (including veterinary medicine) were not broken down into further levels, but rather grouped into single cycle degree courses lasting five or six years (Ministerial Decree no. 509);
- The introduction of the so-called *Credito Formativo Universitario* - CFU (University Learning Credits) to measure the volume of training and individual study/self-learning needed to achieve specific course-related learning objectives. With this regard, UniPD has also committed itself to using the European Credit Transfer System - ECTS (Ministerial Decree no. 509);
- The acquisition of a total number of 300 ECTS, with a mean workload of 60 ECTS/year (Ministerial Decree no. 509);

Other significant changes were introduced by Italian Law no. 240/2010, which laid down a number of criteria regarding the accreditation and periodical evaluation of Italian Universities. To this end, the Italian National Agency for the Evaluation of Universities and Research Institutes (ANVUR) was established and entrusted with the task of assessing both the quality of activities carried out by universities and research institutes and the efficiency of public funding programmes or incentive programmes for research and innovation activities.

The entire accreditation process, which is part of a quality assessment system to ensure continuous improvement (Chapter 11), consists of two phases:

1. The *initial accreditation*. At this stage of the accreditation process, a group of experts is appointed by ANVUR to assess a number of documents, including the SUA form and the Review Reports. An on-the-spot visit of the establishment may also be arranged. The accreditation status will only be granted upon verification of the requirements set forth in the relevant legislation (Legislative Decree no. 19/2012, Ministerial Decrees nos. 987/2016, 439/2013, and 45/2013);
2. The *periodical accreditation*. Once the accreditation status has been granted, a periodical accreditation aimed at verifying that the initial requirements are still satisfied is carried out. A group of experts appointed by ANVUR is responsible for the assessment of a number of documents, including the SUA forms and the Annual and Periodical Review Reports. Based on the group of experts' evaluation, the accreditation status may be reconfirmed or cancelled. The cancellation of the accreditation status will lead either to the closure of the establishment or the suppression of the degree course.

With regard to the degree of autonomy the establishment has to change the curriculum, this is still very limited due to the aforementioned constraints imposed by national legislations. However, the establishment may make a number of decisions concerning: the weight (in terms of ECTS points) to be given to specific subject areas, the type of activity to be carried out as part of a teaching unit (e.g. practical activities instead of lectures, etc.) and the workload distribution per ECTS (i.e. the amount of time per ECTS that shall be devoted to different learning activities, such as lectures, seminars, individual study, practical training, etc.).

3.1.3. Description of how curricular overlaps, redundancies, omissions and lack of consistency, transversality and/or integration of the curriculum are identified and corrected

The curriculum of the DCVM has been developed in such a way as to guarantee that no overlaps or redundancies take place. For this, coordination at different levels is of the utmost importance, involving both teaching staff and stakeholders. While the former are responsible for completing and submitting the syllabus, the latter have proved useful in ensuring the full consistency between the curriculum and the workforce needs in veterinary medicine. Further concerns and/or problems regarding the veterinary curriculum may be identified through other mechanisms, such as:

- The Teaching Committee

- The Group for Accreditation and Evaluation - GAV (Chapter 1 - 1.1.5.);
- The *Tirocinio* Committee (Chapter 1 - 1.1.5.);
- The Study Plan Committee (Chapter 1 - 1.1.5.);
- Student representatives, who are the spokespeople for students and are directly involved in the decision-making process with regard to study plan;
- Student satisfaction questionnaires, which are administered periodically and are a fundamental tool to gather information from students and identify areas for improvement;
- The JTC (Chapter 1 - 1.1.5.);
- Referent teacher of the year, who acts as liaison between the GAV and the teachers of one specific year themselves;
- Regular meetings with stakeholders.

All of the above mechanisms ensures that any existing problem is reported to the Director of the DCVM, who may either provide the body responsible for addressing the problem with feedback or raise the matter with the GAV or the DCC (depending on whether or not it requires further examination).

3.1.4. Description of the core clinical exercises/practicals/seminars prior to the start of the clinical rotations

Prior to starting each specific *Tirocinio*, students of the veterinary curriculum are expected to attend the following:

Year of study	Activities
1st year	Safety training course Students are expected to attend a safety training course to gain relevant information on safety issues prior to carrying out any activity in laboratories, livestock holdings, etc.
2nd year	Veterinary physiology and ethology Physiological and behavioural measurements; determination of body fluid compartments; determination of osmolarity and equivalence; RBC and WBC count; differential WBC count; properties of skeletal, smooth and cardiac muscles; virtual laboratory activities to understand nerves' action potential; special senses' sensitivity and acuity; the pupillary light reflex and simple spinal cord reflexes; feeding behaviour and gastrointestinal motility: basic animal training; classification of behavioural units and identification of normal/abnormal behaviours.
2nd- 4th year	Animal Production and breeding, Animal nutrition and Animal husbandry Correct approach, restraint and movement regarding farm animals; ethnology; participation in management and care activities of farm animals (cattle, sheep, goats, swine, equines, poultry, rabbits); preparation of animals for pre- and post-milking treatments; identification of the zoognostic regions; zoometric measurements; BCS assessment; recognition of feedstuff; qualitative assessment of fodder and concentrates, reading/interpretation of feed tags; sampling of feedstuff; formulation of feeding plans for farm and companion animals; management of animal welfare; reading/interpretation of the company's reports and documents; computerized management of livestock farms.
3rd year	Veterinary pharmacology and toxicology Laboratory activities: calculation of the main pharmacokinetic parameters from in vivo experimental data; use of blood samples for genotyping purposes (ABCB1, PgP); effects of organophosphorus insecticides on serum acetylcholinesterase activity. Virtual laboratory activities: reading and critical discussion of a scientific article concerning veterinary pharmacology or toxicology.
	Parasitology and parasitic diseases Identification of parasites and techniques for the diagnosis of parasitic diseases.
	Veterinary obstetrics and pathology of reproduction Visit to a dairy farm and discussion of reproductive issues; introduction to reproductive surgery; spaying and neutering of cats and dogs.
	Veterinary general anatomical pathology Necropsy examination of animal carcasses of different species and evaluation of various apparatuses (opening of the major cavities and the skull; removal and evaluation procedures of apparatuses and organs, collection, storage and submission of samples).
	Medical preparatory course The course provides small groups of students with the skills needed to perform a clinical examination and to adopt a logical approach to the evaluation and interpretation of the patient's clinical signs. Training in basic diagnostic laboratory testing is also provided.

3rd- 4th year	Hygiene and technology for food safety Field activities through study visits to food processing plants with the aim of verifying that both proper food technologies and hygiene and health controls are in place (HACCP).
	Food inspection and control Students are expected to acquire the relevant practical skills to perform, in accordance to existing legislation, ante- and post-mortem inspections of slaughtered animals, as well as to evaluate the freshness of fishery products and carry out an audit within the food industry.
4th year	Infectious diseases Laboratory activities; clinical problem solving; group seminars aimed at diagnosing and treating specific diseases; necropsy examination of commercial poultry species; post-mortem testing and differential diagnosis of the most common poultry diseases.
	Special pathology Discussion seminars on necropsy cases; practical training in histopathology and necropsy procedures.
	Diagnostic imaging Assessment of students' knowledge and skills in relation to the recognition and diagnosis of the most common diseases, as well as of the main radiographic and ultrasound features of animal pathology.
	Veterinary anaesthesiology and surgical techniques Pre- and post-surgical management of patients; principles of surgical asepsis; use of surgical instruments and techniques.

Table 3.1. List of the activities undertaken by students prior to starting their clinical rotations (*Tirocinio*)

3.1.5. Description of the core clinical rotations and emergency services and the direct involvement of undergraduate students in it.

The *Tirocinio* (see Annex 3.1) is designed in such a way as to guarantee that core clinical disciplines are covered, offering students the opportunity to apply their veterinary medical and professional knowledge and skills under the mentorship of experienced teaching staff members. At UniPD, the *Tirocinio* takes place from 2nd to 5th year and accounts for 34 ECTS, with clinical rotations and emergency services being scheduled throughout the 4th and 5th year. One additional ECTS is awarded upon completion of the safety training course, yielding a total of 35 ECTS. To acquire all *Tirocinio*-related credits, students shall attend the following:

- Ethology (1 ECTS)
- Small Animal Internal Medicine (2 ECTS)
- Small Animal Reproduction (2 ECTS)
- Small Animal Surgery and Anaesthesiology (2 ECTS)
- Emergency service - Nights and week-ends (8 ECTS)
- Ruminant Clinic (1 ECTS)
- Swine Clinic (1 ECTS)
- Equine Internal Medicine and Surgery (1 ECTS)
- Equine Reproduction (1 ECTS)
- Pathological Anatomy, including Necropsies (3 ECTS)
- Avian Pathology (1 ECTS)
- Veterinary Public Health, including Microbiology and Immunology, Parasitology and Parasitic diseases (2,5 ECTS)
- Animal Production, including Animal Nutrition (5 ECTS)
- Food Safety and Quality (3,5 ECTS)

Prior to starting clinical rotations, students are divided into groups of four members each. Small group sizes allow students to gain comprehensive information on the activities performed, besides receiving greater individual attention. With regard to timing, most of the activities take place between 8.30 a.m. and 1.30 p.m., although exceptions may be made. During clinical rotations, activities are performed under the supervision of at

least one teacher per group and include, among others, collection of individual medical records, completion of electronic clinical records, collection and preservation of biological samples (e.g. blood, faeces, urine, scabs and animal hair, cells, tissues, etc.).

In addition to the aforementioned, 5th year students are also directly involved in the VTH emergency care services. To this end, students are further divided into groups of 2 and supervised by VTH professionals. Working shifts usually consist of 12 hours (8.00 a.m. - 8 p.m., or 8 p.m. - 8 a.m. during night shifts), with one-hour break. For a more detailed description of activities performed at the VTH, see Annex 3.2. and 5.1.

3.1.6. Description of the teaching in slaughterhouses and in premises for the production, processing, distribution/sale or consumption of food of animal origin

As the Agripolis Campus is not equipped with a slaughterhouse to be used for training purposes, UniPD has entered into agreements with Local Health Authorities so to ensure that students receive adequate training in food hygiene and public health. As part of these agreements, students are expected to visit slaughter and food processing establishments to perform ante- and post-mortem inspections, as well as hygiene controls on food products of animal origin. All activities undertaken by students on the premises and facilities with which an agreement has been drawn up are supervised by Public Health veterinarians. Although group sizes and timing may vary according to availability of facilities, the average number of students per group is two.

3.1.7. Description of the selection procedures of the Electives by the students and the degree of freedom in their choice

After completing the first semester of 4th year, students of the DCVM are required to choose between three different streams,

namely **Companion Animals, Farm Animals and Public Health**. During the same period, a thorough presentation of the three streams is provided and uploaded on the website of the DCVM. In order to choose which stream they want to study, students must access their online account (Uniweb). With regard to the criteria governing the selection procedure, no limitation is envisaged as concerns the number of students allowed to attend one specific stream over another. Therefore, streams are offered independently of the number of students who have selected them.

In addition to the aforementioned streams, students are further expected to complete 8 ECTS as Electives. Such subjects may either be chosen from those offered within one of the streams they have not selected (as is common practice) or from the large and varied portfolio on offer at UniPD. In the latter case, electives must be approved by the Study Plan Committee, who verifies their adequacy in relation to the course objectives.

3.1.8. Description of the organisation, selection procedures and supervision of the EPT

In order for students to take part in the EPT, a number of different variables shall be considered. Firstly, it is necessary to verify whether the private or public entities (hereinafter referred to as "Entity"), at which the EPT shall be carried out, have already entered into agreements with UniPD. If not, students are required to:

1. Find an Entity to carry out the EPT. At this stage, it shall be noted that UniPD will only accept those Entities whose activities and safety standards are aligned with both the course objectives and the national legislation. With particular regard to the latter point, further monitoring is carried out by the internal supervisor for the EPT.
2. Ask the Entity to complete and submit the "Training and Orientation Agreement" (Annex 3.3.). This needs to be done online by accessing the following link: (<https://careers.unipd.it/it/#/pages/login>).
3. Complete and submit the "Training and Orientation Project" (Annex 3.4.). Students can do this online (<https://careers.unipd.it/it/#/pages/login>) by providing their contact details, along with information on a number of EPT-related aspects, e.g. length, premises, contents, etc. Only once the aforementioned steps have been correctly implemented may students commence their EPT. This training must abide by the information provided in the agreements stated above, and it must be done under the supervision of both an internal member of the academic staff and the Director of the DCVM. All activities undertaken by trainees shall be further monitored by the teacher responsible for the EPT.

3.1.9. Description of the procedures used to ascertain the achievement of each core practical/clinical activity by each student

The DCVM has been developed to guarantee that all students perform the core practical/clinical activities necessary for the achievement of the learning objectives. More specifically, the establishment verifies that students complete a number of mandatory activities, whose planning and management falls

within the area of competence of the School's secretariat. Any change or cancellation of the activities planned must be approved by the Director of the DCVM and notified to students with due notice.

In addition to the above, a logbook-based system (Annex 3.2.) was implemented to verify whether training activities were successfully completed. This document, which is divided into a number of learning areas, outlines the skills that students are expected to acquire during the *Tirocinio*. Upon completion of each activity, students must tick the appropriate box, which will be subsequently validated by the teacher responsible for the *Tirocinio* activity. The presence of the teacher's validation will be taken as proof that students have successfully completed and passed the activity. At the beginning of the a.y. 2019/20, the aforementioned paper document was replaced by a digital one (<https://logbookvet.maps.unipd.it>). In addition to addressing the increasing need for streamlining the *Tirocinio* tracking process by reducing staff time required to complete data entry of logbooks, the electronic logbook will also allow for a consistent recording methodology across the veterinary medicine curriculum, while providing a long-term storage of data.

3.1.10. Description of how and by who the core curriculum is decided, communicated to staff, students and stakeholders, implemented, assessed and revised

As explained in Chapters 1.1.5. and 3.1.3., the GAV was established to implement a teaching quality assurance system at the degree course level. In addition to collecting and examining the data used for the drafting of the degree course periodical review report, the GAV is responsible for analysing all comments put forward by both the JTC and the University Evaluation Unit. Furthermore, any feedback obtained either from the questionnaires proposed every year to undergraduate students and alumni and from representatives of the professional world who meet periodically with both the Director of the DCVM and members of the academic staff is highly valued. To this end, it should be noted that there are two representatives of the veterinary community among the members of the GAV, and that the involvement of stakeholders in the implementation, assessment and revision of the degree course is further guaranteed through a number of different initiatives, which have proven to be useful to monitor the adequacy and relevance of the degree course. Among these initiatives are, for example, meetings with external practitioners, who, besides contributing actively to the training of students performing *Tirocinio*, also take part in the workshops and events organised as part of the seminars entitled "Ai confini della Didattica" (*At the borders of teaching*), which are held twice or three times a year (usually during the second semester). Any monitoring and revision of the degree course is oriented towards implementing an effective quality management and assurance system based on self-assessment and evaluation tools. The GAV meets at least 3-4 times a year with the following purposes: a) producing the annual monitoring indicator report, b) producing a five-yearly review report (for further details on the last report approved by the DCC on 14th March 2018, see Annex 3.5.), c) analysing the results of the teaching and

Tirocinio evaluation questionnaires, d) examining the syllabi and assessing their adequacy against the feedback provided by student representatives, e) planning future meetings with stakeholders and f) organising the annual meeting for the improvement of teaching (<https://www.agrariamedicinaveterinaria.unipd.it/en/teaching-quality>).

From 2016, drawing on the outcomes of 1) the annual review report, 2) the numerous meetings with students, 3) the student's teaching and *Tirocinio* evaluation questionnaires, 4) the report drafted by the JTC of the SASVM, 5) the meetings with veterinary professionals and both 6) the 2010 EAEVE Visitation and the 2017 SOP, the GAV has been requested to: analyse the results concerning training, identify any critical issue, and put forward the revision proposal of the course regulation to the DCC.

In spite of the positive feedback and evaluations (see Annex 1.1.) that the DCVM has obtained over the last years, the GAV, on the basis of the training requirements necessary to obtain the approval and accreditation status by the *European Association of Establishments for Veterinary Education - EAEVE* (www.eaeve.org), has decided to pay particular attention to a number of different aspects that could be further enhanced, including the cultural and professional development of veterinarians. Additionally, there is a need for the educational objectives of the course to comply with the guidelines adopted by the *Office International des Epizooties* (OIE). Any critical issue that has so far emerged was reported in a number of different documents: the minutes of the meeting with stakeholders, the annual review reports, the reports drafted by the JTC, the outcomes acquired through student questionnaires and the outcomes acquired during the "Week for the improvement of teaching". Such critical issues mainly concerned: a) the distribution of teaching load, b) redundancies of some *Tirocinio* activities, c) problems (technical, cultural, educational, etc.) connected with the so-called "Y pathway" (the former curriculum had only a "clinical" and "food safety" pathway), d) overlapping between lectures and *Tirocinio*, e) lack of practical activities for some teaching units (and in particular for those within the clinical area) and f) lack of some subjects (bioethics, organization and management). On the basis of the BDTC's analysis, whose activity was constantly presented during the meetings of the DCC held in 2016, the new

teaching regulation (*Nuovo Ordinamento*) of the DCVM was approved in the DCC's meeting of 20th September 2016, with the new curriculum being implemented starting from the a.y. 2017/18. In order to ensure that the highest possible number of students could benefit from the improvements of the new regulation, it was decided that students enrolled in the first three years would automatically fall within the new system as of the a.y. 2017/18. In this way, all students (1st-5th year) will have switched to the new regulation by the a.y. 2019-20. This will allow for the 2020 EAEVE Visitation Team to verify the nature and features of the new teaching regulation.

The main changes concerned the following:

- Strengthening of teaching units.
- Reduction in the number of ECTS (from 45 to 35) allocated to *Tirocinio* activities, and the elimination of duplications of activities/activities which had been assessed negatively. This made it possible to reallocate resources to more productive practical activities, while optimising the practical and training organization of *Tirocinio*.
- Introduction of new subjects (bioethics, organization and management).
- Elimination of the "Y pathway".
- Introduction of three elective streams (Companion Animals, Farm Animals and Public Health). Students are expected to choose which stream they want to study prior to commencing the second semester of 4th year. The three streams, which are provided throughout the 4th and 5th year allowing students to earn 15 ECTS upon completion, mainly focus on practical activities, taking into account the needs expressed by the profession.

During the revision process, which was carried out throughout 2016, all BDTC's activity was presented and discussed in the DCC's meetings. Once the new curriculum was approved, it was presented to all parties involved (students, teachers, staff and stakeholders) on 1st December 2016, during the "Week for the Improvement of Teaching". The new regulation can be consulted by visiting either the website of the SASVM or the website of the degree course (<https://www.agrariamedicinaveterinaria.unipd.it/sites/agrariamedicinaveterinaria.unipd.it/files/Annex%203.5.pdf>),

Academic year	A	B	C	D	E	F	G	H
Year 1	256		657	92	20			1025
Year 2	490		930	50	60	20		1550
Year 3	430		795	10	30	60		1325
Year 4	540		910		70	55		1575
Year 5	165		350			135		650
Electives*								200
<i>Tirocinio</i>								875
Thesis								225

A: lectures; B: seminars; C: supervised self-learning; D: laboratory and desk based work; E: non-clinical animal work; F: clinical animal work; G: Tutorials and evaluation; H: total

* Veterinary students are required to complete 8 ECTS as *Electives*. These subjects may either be chosen from those offered within one of the streams the student has not selected (as is common practice) or from the large and varied portfolio on offer at UniPD. In the latter case, electives must be approved by the Study Plan Committee, which verifies their adequacy in relation to the course objectives.

Table 3.1.1. Curriculum hours in each academic year taken by each student

Subjects	A	B	C	D	E	F	G	H
Basic Subjects								610
Medical Physics	30		45					75
Chemistry (inorganic and organic sections)	72		153					225
Animal biology, zoology and cell biology	40		137	8				185
Feed plant biology and toxic plants	20		45	10				75
Biomedical statistics	10		30	10				50
Basic Sciences								2325
Anatomy, histology and embryology	120		300	60	20			500
Physiology	130		255		20	20		425
Biochemistry			51	24				75
General and molecular genetics	24		26					50
Pharmacology, pharmacy and pharmacotherapy	60		90					150
Pathology	60		90					150
Toxicology	35		55		10			100
Parasitology	70		145		35			250
Microbiology	30		60		10			100
Immunology	30		60		10			100
Epidemiology	30		45					75
Professional communication								*1
Professional ethics	10		15					25
Animal ethology	20		60	20				100
Animal welfare	30		60		10			100
Animal nutrition	55		70					125
Clinical Sciences								2030
Obstetrics, reproduction and reproductive disorders	80		150			20		250
Diagnostic pathology	80		200			70		350
Medicine and surgery, including anaesthesiology	140		240			20		400
Clinical practical training in all common domestic animals	135		245			80		460
Preventive medicine	75		125		10	15		225
Diagnostic imaging	30		60			10		100
State veterinary services and public health	20		35					55
Veterinary legislation, forensic medicine and certification	10		15					25
Therapy in all common domestic animal species			10			15		25
Propaedeutics of all common domestic animal species	40		90		20			150
Animal Production								550
Animal Production and breeding	70		120		10			200
Economics	20		45	10				75
Animal Husbandry	35		65		25			125
Herd health management	60		90					150
Food Safety and Quality								425
Inspection and control of food and feed	80		150			20		250
Food hygiene and food microbiology	20		30					50
Practical work in places for slaughtering and food processing plants								*2
Food technology including analytical chemistry	40		75	10				125
Professional knowledge								175
Professional ethics and behaviour	10		15					25
Veterinary legislation	10		15					25
Veterinary certification and report writing	20		30					50
Communication skills								*1
Practice management and business	20		30					50
Information literacy and data management	10		15					25
Electives								200
Tirocinio								875
Thesis								225

A: lectures; B: seminars; C: supervised self-learning; D: laboratory and desk based work, E: non-clinical animal work; F: clinical animal work; G: Others; H: total

*1 This subject is dealt with across all Tirocinio activities

*2 This subject is included within the Food Safety and Quality Tirocinio

Table 3.1.2. Curriculum hours in EU-listed subjects taken by each student.

Electives	A	B	C	D	E	F	G	H
Companion Animals								
Basic Sciences	30		30	15				75
Clinical Sciences	30		100	30	15	75		250
Animal Production	15		20		15			50
Food Safety and Quality								
Professional Knowledge	10	10	5					25
Farm Animals								
Basic Sciences	30		30		15			75
Clinical Sciences	45		100		45	60		250
Animal Production	15		20		15			50
Food Safety and Quality								
Professional Knowledge	10	10	5					25
Public Health								
Basic Sciences	30		30	15				75
Clinical Sciences	15		60		45	30		150
Animal Production								
Food Safety and Quality	15		60		75			150
Professional Knowledge	10	10	5					25

A: lectures; B: seminars; C: supervised self- learning; D: laboratory and desk based work, E: non-clinical animal work; F: clinical animal work; G: Tutorials and evaluation; H: total

Table 3.1.3. Curriculum hours taken as electives for each student

Subjects	Minimum duration (weeks)	Year of programme
Production animals (pre-clinical)		
Companion animals (pre-clinical)		
Production animals (clinical)		
Companion animals (clinical)**		
FSQ & VPH	3-5 weeks (100 h)	5
Others (specify)		

* In light of the definitions provided for by the SOP, the table above only takes into account those training activities where students are supervised by non-academic staff members. For all of the other subjects included in the table above, no data is provided because, although the activities take place externally, they are performed under the supervision of an academic staff member (with the exception of *Small animals - Clinical*, where activities take place extramurally and under the supervision of internal academic staff).

**This activity is entirely performed at the VTH.

Table 3.1.4. Curriculum days of External Practical Training (EPT) for each student*

Types	List of clinical rotations (disciplines/species)	Duration (days)	Year of programme
Intra-mural (VTH)	VTH emergency services - Night shifts and weekends	14 days (168h)	4-5
	Ruminants	1 day (5h)	5
	Equine reproduction	2 days (10h)	5
	Equine clinics	2 days (8h)	5
	Avian pathology	3 days (15h)	5
	Medical clinics	8 days (37h)	5
	Surgical clinics	8 days (37h)	5
	Obstetrics	8 days (27h)	5
	Pathological anatomy	15 days (60h)	4-5
	Infectious and parasitic diseases		
	Avian pathology	3 days (15h)	5
	Serological diagnostics	4 days (20h)	4
	Parasitology	4 days (20h)	4

Ambulatory clinics	Ruminants	3 days (15h)	5
	Equine reproduction	1 day (5h)	5
	Swine	3 days (15h)	5
	Equine clinics	3 days (12h)	5
	Avian pathology	1 day (5h)	5
	Obstetrics	2 days (20h)	5
F SQ & VPH	Food inspection	3 days (12h)	3
Other (specify)	Animal husbandry		
	Farm animal breeding and welfare	4 days (20h)	4
	Unconventional animal breeding and welfare	1 day (5h)	3
	Wild animal breeding and welfare	1 day (6h)	3
	Farm and companion animal nutrition	3 days (23h)	3-5
	Poultry and rabbit breeding	2 days (9h)	3
	Introductory course	4 days (20h)	2
	Animal management techniques		
	Physiology/Ethology	4 days (20h)	2

Table 3.1.5. Clinical rotations (Tirocinio) under academic staff supervision (excluding EPT)

Subjects	A	B	C	D	E	F	G	H
Study and research resources: the use of online databases and catalogues		2.5						2.5
Citation Management Software: Mendeley		1.5						1.5
English preparatory course	100			30			20	150
Soft skills*	15			10			5	30
iMoves Summer School**	40		5	5		140***	20	70

A: lectures; B: seminars; C: supervised self-learning; D: laboratory and desk based work, E: non-clinical animal work; F: clinical animal work; G: Tutorials and evaluation; H: total

* For further information on soft skills, visit <https://www.agrariamedicinaveterinaria.unipd.it/soft-skills>

** For further information on the iMoves Project, see <https://www.bca.unipd.it/imoves-2018-0> and Annex 3.6.

*** The total amount of hours may vary depending on whether clinical rotations take place in AUS or US.

Table 3.1.6. Optional courses proposed to students (not compulsory)

3.2. Comments

As all of the *Tirocinio* activities are carried out prior to graduation, the teaching load is quite relevant, with students being involved in teaching activities for at least eight hours a day (not counting the working shifts at the VTH). This requires significant efforts (both in terms of space and facilities) from a number of actors: the secretariat, teachers (it should be borne in mind that even the rescheduling of a class will cause inconveniences) and students. In spite of this, some overlapping between lectures and *Tirocinio* still occurs, although on a very low level (no more than 15% based on year of enrolment). Furthermore, it shall be noted that extracurricular activities (voluntary basis) organised in some disciplinary fields (e.g. internship at the VTH, as well as internships in ruminants or equine clinics) always overlap with curricular activities. The same may hold true for research activities conducted during the preparation of the thesis.

3.3. Suggestions for improvement

- As soon as the first student cohort under the new regulation has completed their degree (5th year students enrolled in the a.y. 2019-20 already fall within the new system), it will be necessary to analyse and monitor the data, and implement (if necessary)

possible adjustments - especially in terms of organisation and distribution of teaching load throughout the different years, with the aim of reducing the one foreseen for fourth-year students. Further analysis shall be carried out taking into consideration the outcomes and feedback from the 2020 EAEVE Visitation.

- Some considerations regarding the current organization and length of study should be made at the national level as it would be helpful to have a national veterinary curriculum with little (if any) changes among the 13 different Schools. Furthermore, increasing the duration of the degree course from five to six years is also an option which would meet with the favour of students who frequently complain about high teaching loads, crammed class schedules and too little time for studying.
- It may be useful to establish the minimum/maximum number of admissible students per stream.
- In 2012, the TECO Project was implemented at the national level for a selected number of bachelor's degrees with the aim of improving the quality of the educational process. Specific evaluation mechanisms to monitor student's skills and competences were introduced. In 2019, the Project was extended to include the DCVM (<https://www.anvur.it/gruppo-di-lavoro-ric/gruppo-di-lavoro-teco-d-medicina-veterinaria/>), with particular regard to teaching aspects (e.g. skill evaluation and standardization of the veterinary curriculum at the national level in the near future).





4.

FACILITIES AND EQUIPMENT

Written by:
C. Guglielmini, A. Perazzi, M. Patruno and M. E. Gelain

4.1.1. Description of the location and organization of the facilities used for the veterinary curriculum

Located within the Agripolis Campus, the SASVM lies in the municipality of Legnaro, at approximately 10 km South-East of the city centre of Padova. The School, which can easily be accessed by car and public transportation, hosts the following Departments: MAPS, BCA, DAFNAE and TESAF. Also, located on the north-west side of the Campus are the VTH and the ‘Lucio Toniolo’ Experimental Farm, which hosts a dairy farm (with both production and teaching animals) and is within walking distance of the SASVM.



Figure 4.1. Aerial view of the Agripolis Campus and the “Lucio Toniolo” Experimental Farm



Completed in the late 1990s, the **Agripolis Campus** (Annex 4.1.) consists of a number of buildings and facilities that are used for the teaching of veterinary medicine and agricultural studies, as well as classrooms, offices, cafeteria, library, etc. The most relevant facilities are included in the following table:

Building		Surface/ No. of floors	Facilities
Pentagono		8222m ² /4	Basement: equipment rooms, wood workshop, library (archives), refrigerators (BCA), storeroom. Ground floor: classrooms, microscopy room, offices, reception area. First floor: classrooms, chemical laboratory, biology laboratory. Second floor: library, computer rooms, offices.
Ca' Gialla		5891 m ² /3	Ground floor: classrooms, canteen, cafeteria. First floor: classrooms, study rooms, offices (BCA Department Directorate). Second floor: classrooms, offices (Department Directorates of SASVM and MAPS), Erasmus office, Student Orientation Office.
Stecca I		2100mq ²	Ground floor: MAPS dept. laboratories . First floor: laboratories and offices (BCA and MAPS).
Veterinary Complex	Veterinary Museum	1560 m ² /3	Ground floor: classroom, biology room, museum. First floor: offices (BCA), laboratories. Second floor: laboratories (BCA).
	Necropsy building	340 m ² /1	Dissection room**, changing room, refrigerated and freezing room, necropsy room, amphitheater-like seating area
	Clinical building (VTH – Small Animals)	1460 m ² /2	Ground floor: reception room, five examination rooms, three rooms for diagnostic imaging, one drug storage room, two laboratory rooms, clinical-pathology laboratory, surgical area with three surgical rooms; First floor: offices and meeting room (MAPS).
	Animal ward – 3 buildings (VTH – Small and Large Animals)	449* + 143 + 150 m ² /1	One large building for large animal hospitalization*, one 24h emergency service building for small animal examinations and hospitalization, one new equine ward facility
	New building***	2100 m ² /1	Ground floor: laboratories. First floor: offices and laboratories (BCA).
Extramural facilities			‘Lucio Toniolo’ Experimental Farm, abattoirs, private farms, slaughterhouses, fish markets, food processing industries, shelters and sanitary kennels

* Part of this building is undergoing renovation works to create an isolation facility for infected animals (dogs, cats, horses, bovines). This building should be completed by February 2020.

** This room is currently undergoing renovation works. / *** This building is still under construction. A call for tender has already been launched.

Table 4.1.1: description of the building used for the veterinary curriculum

4.1.2. Description of the premises for lecturing, group work and practical work

The SASVM uses a large number of classrooms of different sizes and capacity located in *Ca' Gialla*, *Veterinary Complex* and *Pentagono* (Table 4.1.2). These classrooms may either be shared with other degree courses or used specifically for the teaching of veterinary medicine (as is the case with classrooms located

within the Museum and the Necropsy building). Depending on whether they are used for lecturing or the carrying out of practical activities, classrooms can either be assigned at the beginning of the semester or booked via a web-based booking system (<http://www.gestionedidattica.unipd.it/Aule/index.php>).

Additional information regarding classroom management is available both online and on the monitors located within the establishment.

Premises	No.	Area (m ²)	Equipment
Lecturing			
Auditorium (Pentagono)	1	364	1 desktop computer with internet connection, 1 high-quality screen, a 23 m ² screen fully equipped with modern sound and lighting equipment, air-conditioning system, wireless (Eduroam and Agripolis) or cabled internet connection, recording system
Lecture halls (Pentagono, Cà Gialla, Veterinary complex)	12	1376	1 desktop computer with internet connection, 1 fixed screen, sound and lighting equipment, 1 blackboard, 1 whiteboard, air-conditioning system, wireless (Eduroam and Agripolis) or cabled internet connection
Clinical lecture hall (Veterinary Complex)	1	177	1 desktop computer with internet connection, 1 fixed screen, sound and lighting equipment, 1 blackboard, 1 whiteboard, air-conditioning system, wireless (Eduroam and Agripolis) or cabled internet connection, 1 farm animal stall for clinical examination
Computer rooms (Pentagono)	3	276	100 desktop computers with internet connection, 1 screen 1 whiteboard, air-conditioning system.
Practical work			
Microscope room (Pentagono)	1	107	40 microscopes, 1 multiheaded microscope, digital microimaging system (DMD)
Necropsy room (Veterinary Complex)	1	133	Necropsy tables, chemical flow hoods
Biotechnology room (Pentagono)	1	158	30 workstations, chemical and biohazard laminar flow hoods, spectrophotometer, centrifuge, basic biomolecular laboratory instruments (e.g. vortex mixer), electrophoretic devices, thermocyclers, incubators, precision balances
Biology room (Museum building)	1	40	15 workstations, chemical and biohazard laminar flow hoods, spectrophotometer, centrifuge, basic biomolecular laboratory instruments (e.g., vortex mixer, microwave, PCR thermal cyclers), water bath, analytical balances, incubator for microbiology, ph meter
Biology room (Stecca II)	1	160	30 workstations, chemical and biohazard laminar flow hoods, spectrophotometer, centrifuge, basic biomolecular laboratory instruments (e.g., vortex mixer, electrophoretic devices, PCR thermal cyclers, UV transilluminator), balances, incubator for microbiology, water bath

Table 4.1.2. Description of the premises used for teaching purposes

4.1.3. Description of the premises for housing:

- Healthy animals

Building	Premises	No.	No. of places
The 'Lucio Toniolo' Experimental Farm	Offices and laboratories	8	N/A
	Closed barn with pens for calves and heifers	17	21
	Stable (pens) for sheep and goats	11	66
	Beef fattening stalls (pens)	12	48
	Dairy cow stable (pens)	8	48
	Open paddock	4	4
	Horse stall (pens)	8	8
	Broodmare stables (pens)	6	6
New Horse Barn	Poultry unit	1	30
	Stallion stables (pens)	10	10

Table 4.1.3.1. Description of the premises used for healthy animals

- Hospitalised animals

Building	Premises	No.	No. of places
24-hr service building	Hospitalization and intensive care – dog ward	1	8
24-hr service building	Hospitalization and intensive care – cat ward	1	6
New Horse Barn	Stallion stables	1	10
Large Animal Ward	Horse hospitalization and broodmare stables	1	6
Large Animal Ward	Ruminant hospitalization	1	Under construction
Large Animal Ward	Laboratory animal section		Under construction

Table 4.1.3.2. Description of the premises used for hospitalized animals**- Isolated animals**

Building	Premises	No.	No. of places
Temporary: Emergency building	Dogs/cats	1	1
Permanent: Large Animal Ward (under renovation/ construction, see Table 4.1.1)	Bovines	1	1
	Equines	1	Under construction
	Dogs/cats	1	Under construction

Table 4.1.3.3. Description of the premises used for isolated animals**4.1.4. Description of the premises for:****-) Clinical activities**

The VTH offers a relevant number of clinical services for companion and large animals, including a mobile clinic service for large animals (*Ruminant Herd Service*) and a 24-hour Emergency Service for small animals and horses. The services, which are

supervised by the VTH Management Committee, are aimed at providing clients and referring veterinarians with both high quality veterinary care and specialized treatments. All services are meant to be purposely organized for teaching (Table 4.1.4.1), with groups of 2-4 students participating in the daily activities, which include attending patients and performing medical and surgical procedures during *Tirocinio* clinical rotations.

Building	Premises	Area (m ²)	Species	Purpose served/equipment
Reception area	1	54	Small animals and exotic pets	Registration of clients and assigning of cases to different services
Examination room	4	17 each	Small animals and exotic pets	Clinical rotations, companion animal clinics
Surgical patient – Preparation room	1	17	Small animals and exotic pets	Induction of anaesthesia, preparation of surgical patients, recovery and intensive care following surgery
Surgical patient – Preparation room	1	16	Large animals	Induction of anaesthesia and post-surgical recovery of large animals
Operating room (auxiliary premises)	2	22 overall		These premises include a changing and scrubbing area, as well as one room for the washing, autoclaving and sterilization of surgical instruments
Operating room	3	50 overall	Small animals and exotic pets	Anaesthesia and analgesia, surgical propaedeutics, surgery
Operating rooms	1	51.2	Large animals	Anaesthesia and analgesia, surgical propaedeutics, surgery
Diagnostic imaging room (computed tomography room)	1	17.3	Small animals and exotic pets	Computed Tomography scan equipment
Diagnostic imaging room (ultrasound room)	1	15	Small animals and exotic pets	2 Ultrasound units
Diagnostic imaging room (radiology room)	1	17	Small animals and exotic pets	1 Digital radiology unit
Diagnostic imaging room (magnetic resonance imaging room)	1	116	Small and large animals, exotic pets	1 Magnetic Resonance Imaging unit
Drug and parapharmaceutical storage room	2	10.5 overall		1 drug storage room and 1 parapharmaceutical storage room

Reproductive technology laboratory	1	21.4	Samples collected from small and large animals, as well as exotic pets	Biosafety cabinet to work in safe and sterile conditions (biohazard level 2), Tosoh AIA-360 analyzer (for hormone testing with troponin kit), Virbac speed reader (for hormone testing, CPSE level, C-reactive protein), Nikon E200 microscope with heated stage for artificial insemination, Minitube spectrophotometer (semen concentration), Olympus light microscope, Nikon stereo microscope with heated stage, Heraeus HeraCell CO2 incubator, Fratelli Galli oven (mod. 2100), Sassone C60 centrifuge.
Clinical laboratory service	1	73	Samples collected from small and large animals, and exotic pets	Hematological analyzer and hematology slide stainer / cytocentrifuge, clinical chemistry analysers, Elisa Reader, electrophoresis system, chemiluminescence, spectrophotometer, microscope, emogas analyzer, coagulometer, gas chromatography/mass spectrometer, centrifuge, micro-hematocrit centrifuge, refractometer.

Table 4.1.4.1. Description of the premises used for clinical activities

-) Diagnostic services (including necropsy)

Service	Equipment
Pathology service	Tissue processing system, paraffin block preparation, microtome, autostainer, centrifuge and cytocentrifuge, immunostainer, flow cytometer, cryostat, storage system for paraffin blocks and sections, microscope (single and multiheaded), digital scanner system.
Molecular diagnostic service	Chemical and biohazard laminar flow hoods, basic biomolecular laboratory instruments (e.g., vortex mixer), refrigerated centrifuges, sonicator, nanodrop spectrophotometer, electrophoretic devices, imaging systems, end point, gradient and real time PCR thermocyclers, DNA/RNA sequencing service (e.g. Illumina).
Clinical pathology service	See Table 4.1.4.1.
Microbiology and infectious diseases diagnostic service	Laminar flow cabinet, chemical fume hood, PCR cabinet, spectrophotometer for ELISA plates, optical microscope (bright field and ultraviolet light), stereo microscope, incubators, centrifuge and micro centrifuge, shaking water bath, autoclave, analytical and precision balances, magnetic stirrer, vortex, thermos-shaker incubator for vials and micro vials, single- and multi-channel variable volume mechanical micropipettes, real time thermal cyclers, PCR thermal cyclers, horizontal and vertical electrophoresis systems with power supply, Gel Documentation System, fluorimeter for DNA, RNA and protein quantification, UV transilluminator, refrigerators and ultra-low freezers.
Parasitology service	Laminar flow cabinet, chemical fume hood, PCR cabinet, Optical microscopes (bright field and ultraviolet light), optical microscope with digital camera and screen, stereo microscope, incubator, centrifuge and refrigerated micro centrifuge, magnetic stirrer, thermos-shaker incubator for vials and micro vials, Vortex shakers, analytical and precision balances, single variable volume mechanical micropipettes, real time thermal cyclers, PCR Thermal cyclers, horizontal electrophoresis systems with power supply, Gel Documentation System, UV transilluminator, refrigerators and ultra-low freezers.
Reproduction facility	Biosafety cabinet to work in safe and sterile conditions (biohazard level 2), Tosoh AIA-360 analyzer (for reproductive, cortisol and thyroid hormone testing, with troponin kit), Virbac speed reader (for steroid hormone testing, CPSE level, C-reactive protein), Nikon E200 microscope with heated stage for artificial insemination, Minitube spectrophotometer to determine semen concentration, Olympus light microscope, Nikon stereo microscope with heated stage, Heraeus HeraCell CO2 incubator, Fratelli Galli oven (mod. 2100), Sassone C60 centrifuge.
Diagnostic imaging facility	1 Computed tomography, 1 direct digital radiology, 2 ultrasonographic units, 1 magnetic resonance imaging scanner.
Clinical service	5 Anesthesiologic units, 2 video endoscopes, 1 rhinoscope, 1 arthroscope, 1 otoscope, 2 electrocardiographs, 1 electromyography unit, 1 surgical microscope.

Table 4.1.4.2 Description of the premises used for clinical activities and diagnostic services

-) FSQ & VPH

In order to ensure that students receive adequate training in food safety and quality and veterinary public health, the SASVM has entered into agreements with several slaughterhouses and food processing plants in the Veneto Region. Such agreements allow the involvement of students in a variety of activities, including:

- Ante- and post-mortem inspections of animals destined for slaughter;
- Control of food safety of specific food categories (e.g. red meat, dairy produce);

- Control of product labelling and packaging;
- Implementation of sampling procedures for bacteriological/ parasitological/chemical testing;
- Recognition and identification of fish species;
- Development and implementation of procedures for the withdrawal/recall of products.

For a more detailed description of activities and organizations involved, see Annex 4.2.

4.1.5. Description (number of rooms and places, ..) of the premises for:

-) Study and self-learning

In addition to the 'Pietro Arduino' Central Library, which is located on the second floor of the *Pentagono* building and occupies a total area of 1,254 m², there are several study and reading rooms (see Chapter 6).

Also available for study purposes is the Veterinary Museum (Fig. 4.3), which can be visited during its opening hours (<https://www.bca.unipd.it/museo-didattico>).



Figure 4.3: The osteological collection of the Veterinary Museum has some interesting specimens of marine mammals

-) Catering

The Ca' Gialla building hosts both the Campus cafeteria with a seating capacity of up to 700 people and a bar with an outdoor area equipped with tables and chairs. Several vending machines for coffees, drinks and snacks are available in each building of the campus.

-) Locker rooms

There are two locker rooms, one in the *Pentagono* building and one in the Necropsy building. Additional lockers (12) are located in the clinic for trainees' use.

-) Accommodation for on duty students

A twin-bedded room with bathroom is available for fifth-year students involved in traineeship activities (night shifts, weekends and public holiday) at the VTH. The following amenities are also

available: fridge, microwave and coffee machine.

-) Leisure

UniPD recognizes and encourages any social activity that contributes both to make learning more fruitful and to improve the quality of university life, supporting students' initiatives with regard to culture, sports and hobbies. At the university level, the University Sport Centre (<http://www.cuspadova.it/impianti>) represents one of the most interesting and complete set of sport opportunities available in Padova. In addition, discounts are offered to students who wish to sign up for a gym membership at one of the two gyms available in Legnaro.

Finally, in order to further improve student-teacher interaction and relationship, a student vs teacher football match is organized every year.

4.1.6. Description of the vehicles used for:

Purpose served	Type of vehicle
Student transportation (e.g. to extramural facilities)	The SASVM has entered into agreements with different transport companies to transport students during external visits/planned activities. As of today, there are three departmental vehicles available for student transportation.
Mobile clinic	Vehicle equipped with 1 mobile x-ray unit and 1 US unit (diagnostic services in extramural facilities)
Live animal transportation	Van (animal trailer)
Carcass transportation	Pick-up (cetacean transportation), lorry and panel van (Doblò)

Table 4.1.6. Description of the vehicles used for student transportation

4.1.7. Description of the equipment used for:

-) Teaching purposes

All classrooms are equipped with appropriate audio-visual

systems. Specific equipment, such as videoconferencing, video recording and streaming equipment may also be available upon request.

-) Clinical services

Service	Equipment
Diagnostic Imaging service	X-ray equipment for small animal and exotic pets (direct digital radiography); 1 X-ray mobile equipment for large animals; 1 computed tomography system; 2 ultrasound machines; 1 low-field MRI system (0.23 Tesla) for small and large animals; 1 fluoroscopy system for radiographic diagnosis and surgical support; 2 video-endoscopies; 1 arthroscope and 1 rinoscope
Anaesthesiology service	Anesthetic workstations with ventilator and anesthetic gas monitoring, standard patient monitoring
Clinical Pathology service	Cell counters, biochemical analyser

Cardiology service	2 Electrocardiographs, 1 ultrasound machine
Ophthalmology service	Surgical microscope, slit lamp, fundus camera, indirect and direct ophthalmoscope
Reproduction service	Intrauterine insemination endoscope for canines, Stortz

Table 4.1.7. Description of the equipment used for clinical services

4.1.8. Description of the strategy and programme for maintaining and upgrading the current facilities and equipment and/or acquiring new ones.

Any strategy or planning activity related to the maintenance of facilities shall be suggested by both Departments and, to some extent, by the SASVM. The final decision to trigger and economically support financial investments lies entirely with UniPD.

Any strategy or planning activity related to the maintenance and upgrade/purchase of equipment, including any financial support provided for them, shall be suggested by the two Departments and the VTH, through the use of either their own funds or the participation in specific tendering procedures promoted by UniPD and directed to the purchase of new equipment.

4.1.9. Description of how and by who changes in facilities, equipment and biosecurity procedures are decided, communicated to staff, students and stakeholders, implemented, assessed and revised

Any decision regarding facilities, equipment and biosecurity procedures is made jointly by both Departments. The implementation, assessment and revision of policies for health and safety management for people and animals, including waste management, is discussed and carried out in collaboration with safety management experts for clinical and laboratory activities, as well as university consultants (Department of Industrial Engineering). The SOPs describing the biosecurity procedures to be applied in laboratories and during clinical services are updated periodically and made available both online (<https://www.agrariamedicinaveterinaria.unipd.it/en/safety>) and in printed form in every laboratory and clinical room. Students are constantly informed and purposely trained to implement the procedures established by the SOPs. In order to verify whether SOPs are correctly implemented, periodical internal audits are carried out by independent staff members who are competent in the area. These audits also allow the identification of potential issues concerning the implementation or updating of the SOPs, which shall be discussed and resolved within the DCC.

4.2. Comments

The size of the VTH is definitely insufficient given the speed at which the small animal caseload has increased over the last decade. There are only 4 exam rooms and 3 surgery rooms. As most clinicians tend to see cases in the morning to allow students performing training activities to get hands-on experience, clinical activities are frequently delayed, with cases

sometimes seen in rooms used for other purposes (i.e. the ultrasonography room), not to mention that the number of surgeries/day cannot exceed a certain amount.

The size and capacity of classrooms used for the veterinary curriculum have proven sufficient and adequate. However, the increasing number of courses offered within the Agripolis Campus has recently become an issue when it comes to locating classrooms for exams, departmental meetings, etc.

The construction or renovation of buildings is a particularly difficult problem to solve as these works are entirely financed by the University, which has been displaying a reluctant attitude towards investing large sums of money for a degree course with so few students enrolled.

Financial resources available to purchase new, highly sophisticated equipment are scarce.

4.3. Suggestions for improvement

- In spite of financial constraints, some improvements in both facilities and equipment are underway. The “New building”, whose construction is about to start, will include two large classrooms (154 and 90 seats), which will be used for all courses (including the DCVM) and will improve the current capacity, thus leading to a more effective management of classrooms.
- New interactive teaching tools will soon be acquired thanks to a grant from the MIUR (Ecce Aqua Project, <https://www.bca.unipd.it/dipartimento-di-eccellenza-progetto-ecce-aqua>), including a) a virtual reality device to be used in pre-clinical and clinical courses to simulate different experiences, such as a virtual necropsy or surgery procedures; b) a 3D application to facilitate the visualization of anatomical specimens and organs.
- A project for the construction of a new building for the hospitalization of small animals (Emergency Service) has been included in the 2019-21 University Building Plan.





5.

ANIMAL RESOURCES AND TEACHING MATERIAL OF ANIMAL ORIGIN

Written by:
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5.1.1 Description of the global strategy of the Establishment about the use of animals and material of animal origin for the acquisition by each student of Day One Competences

The provision of practical training periods is just as important as theoretical teaching. In fact, in order to allow veterinary students to acquire the right combination of knowledge, skills and experience to enter the veterinary profession, hands-on learning sessions involving the use of animals and materials of animal origin must be guaranteed. To this end, the degree course shall ensure both an adequate number of animals and animal material and that animal health and welfare rules are met. In particular, in addition to complying with national and community legislation, the establishment recognizes and values the principles of the 3Rs, *Replacement, Reduction and Refinement*. On the basis of such principles, UniPD is working towards a) optimizing the number of animals used for scientific and teaching purposes to obtain the same (or more) research information, b) improving animal welfare while reducing any potential pain or distress and c) replacing or avoiding altogether the use of animals by means such as new models and tools, latest technologies, etc. With regard to the latter, although a number of measures have already been taken, the extremely high costs related to the purchase of alternative teaching resources (dummies, simulators, virtual laboratories, etc.) have slowed down the replacement process. However, efforts to meet this objective will continue in the medium and long term.

5.1.2. Description of the specific strategy of the Establishment in order to ensure that each students receives the relevant core clinical training before graduation, e.g. numbers of patients examined/treated by each student, balance between species, balance between clinical disciplines, balance between first opinion and referral cases, balance between acute and chronic cases, balance between consultations (one-day clinic) and hospitalizations, balance between individual medicine and population medicine

On the basis of the requirements necessary for the acquisition of **Day One Competences**, the veterinary curriculum at UniPD has been designed in such a way as to guarantee that fourth- and fifth-year students receive the relevant core clinical training before graduation. In particular, the establishment must ensure both that an adequate number of clinical cases are seen and that cases are evenly distributed among students.

To this end, it shall be noted that most of the clinical training is provided through the carrying out of *Tirocinio* activities and that materials used for this purpose is mainly provided by VTH, the “Lucio Toniolo” Experimental Farm, the Mobile Clinic and external veterinary clinics and practitioners.

In particular, students are involved in the following five key areas:

- **Small Animals:** Groups of four students each take part in small animal-related *Tirocinio* activities in the fields of internal

medicine, reproduction and surgery for a period of two consecutive weeks per field of study (six weeks in total). Additional clinical training is provided during the two-week night-time and weekend emergency service *Tirocinio*. The majority of cases seen by students are provided through the VTH.

- **Ruminants:** Groups of four students each take part in ruminant-related *Tirocinio* activities for one week. These activities are mainly carried out at the “Lucio Toniolo” Experimental Farm, the Mobile Clinic and through external *Tirocinio* activities under the supervision of contracted external practitioners.
- **Equine:** Groups of four students each take part in equine-related *Tirocinio* activities. As the equine caseload has only recently reached adequate numbers, collaborations with external practitioners have been established over the years. The equine *Tirocinio* is divided into equine clinic and reproduction (one week) and internal medicine and surgery (one week).
- **Swine:** Groups of four students each take part in swine-related *Tirocinio* activities for one week. These activities are carried out at external facilities as the movement/transfer of animals involved is particularly difficult due to economic and biosafety reasons.
- **Poultry:** Groups of eight students each take part in chicken-related *Tirocinio* activities for three days. These activities are mainly carried out at the “Lucio Toniolo” Experimental Farm and through field activities under the supervision of external practitioners.

For a more detailed description of activities performed and student involvement, see Annexes 5.1 and 5.2.

In addition to the training provided within the aforementioned areas, fourth- and fifth-year students may register for a 12-month voluntary internship at the VTH (small animals and equine) and the *Ruminant Herd Service*.

Every year, approximately 30 students register as voluntary interns for the small animal section, approximately 15 students register as voluntary interns for the equine section, and approximately 30 students (this figure also includes third-year students) register as voluntary interns for the ruminant service.

With regard to the balance between species specifically, it shall be noted that this largely depends on the distribution of certain species in the local area compared with others, as well as economic factors. Overall, student exposure to different species can be regarded as adequate for the veterinary curriculum.

Other balances were produced on the basis of the following parameters:

- Clinical disciplines: internal medicine (including dermatology and diagnostic imaging) 50%, surgery (including anaesthesia and neurology) 30% and reproduction 20%;
- First opinion cases (70%) vs. referral cases (30%);
- Acute cases (40%) vs. chronic cases (60%);
- Consultation (80%) vs. hospitalisation (20%).

It shall be noted that the above are retrospective estimates. At the moment of entering the VTH, patients are classified based on treatment needed as i) consultation, ii) emergency or iii) surgery cases. The veterinarian who visits the patient for the first time is responsible for collecting information from either the animal's owner or the referring veterinarian.

5.1.3. Description of the organisation and management of the teaching farm(s) and the involvement of students in its running

From the organisational and managerial point of view, the farm's steering board is composed of the Rector (or their delegate), the General Director of UniPD, the four Directors of the SASVM's departments, the Director and the administrative secretariat of the Experimental Farm and one representative of the Department of DAFNAE with technical/managerial expertise in animal husbandry. In addition to supporting student's practical training, the farm's Teaching Animal Facilities (TAF) hosts a dairy herd, as well as poultry, sheep and equine units (Annex 1.6.). The TAF's staff are composed of the farm manager, full-time technicians and part-time workers.

According to the Italian regulation on safety at work, students can be involved in the routinely running and functioning of the TAF provided that they are supervised by staff members. Students are involved in activities such as cow milking and feeding, calf care, hoof trimming and general health inspections.

5.1.4. Description of the organisation and management of the VTH and ambulatory clinics

The VTH is open Monday-Friday from 8.30 a.m. to 6 p.m. for routine appointments, including consultations, check-ups, spaying/neutering, vaccinations and examination of emergency cases. A round-the-clock critical care service is also provided in case of emergency outside of the usual opening hours.

In order to ensure that all patients are dealt with in the most efficient way possible, the hospital has been organised in operative units and laboratories (Annex 1.5.), each with specific tasks and responsibilities. Besides making the whole patient management process easier, this internal structure also allows patients to be treated promptly and in accordance with their needs. With regard to this latter aspect, three main scenarios can be identified:

1. Clients who have already arranged an appointment with the hospital: the animal is referred to the relevant operative unit;
2. Clients who have not arranged an appointment with the hospital: the animal is handled by the triage service and referred to the relevant operative unit;
3. Clients whose animal needs emergency care: the animal is immediately seen upon arrival by the on-duty veterinarian responsible for providing emergency and critical care services.

With regard to the hospital's management, a distinction between its administrative/financial management and the management of health activities shall be made. In fact, whereas the former falls within the competence of MAPS, which is further supported by a management committee with advisory status, the latter is responsibility of the VTH Director. In addition, each operative unit has its own unit director, who is responsible for a) solving minor issues arising within the unit, b) solving broader issues with other unit directors and c) evaluating the scale and impact of a problem and whether or not it needs to be reported to the VTH Director. It is responsibility of the latter to promote further dialogue (if needed) with the unit directors.

In any case, to ensure that all relevant VTH-related decisions are

taken objectively, impartially and in the spirit of co-decision, these shall be ratified within the Departmental Council (MAPS). Finally, as concerns the organisation and management of the mobile clinic, this has been furnished with the necessary equipment for the clinical care of ruminants and equines. In order to ensure the effective running of the mobile clinic, an updated online calendar is kept and made available both to the staff of the VTH and the students, whose participation is limited to groups composed of up to three members. In addition to covering any routine activity, the mobile unit also provides 24/7 emergency care.

5.1.5. Description of how the cadavers and material of animal origin for training in anatomy and pathology are obtained, stored and destroyed

In order to obtain the necessary cadavers and materials of animal origin as to ensure that all students receive adequate anatomical and pathological training, the Establishment has entered agreements with a number of different suppliers, such as farms, kennels and slaughterhouses, as well as private practitioners. Animals which were euthanized or died spontaneously within the VTH may also be used for teaching purposes upon owner's consent.

Regardless of the origin, however, all parties involved in the submission of carcasses, offal or viscera must sign either a necropsy submission form for teaching purposes or a necropsy request form. Whereas in the former case carcasses and animal materials are used for a range of teaching purposes, including practical training and tests, in the latter case they are submitted for diagnostic necropsy examinations (i.e. when the examination is carried out specifically to determine the cause of disease and/or death) and results collated into a final written report. In order to avoid any risk of contamination or injury, existing provisions must necessarily be abided by (https://www.agrariamedicinaveterinaria.unipd.it/sites/agrariamedicinaveterinaria.unipd.it/files/Manuale%20disposizioni%20sicurezza%20tirocini_11-02-2019.pdf).

Finally, with regard to storage, carcasses and viscera are either frozen or kept in refrigerated units. The disposal of cadavers and animal material is carried out by contract companies, according to community and national legislation (Council Regulation (EC) No. 1069/2009).

5.1.6. Description of the group size for the different types of clinical training (both intra-murally and extra-murally)

In order to take part in clinical training in small animals, ruminants, equine and swine, students are divided into groups of 2-4 students each depending on the type of activity considered.

- Small animals, ruminants, swine, equine and poultry: 4 students/group;
- Small animals (emergency service): 2 students;
- Voluntary clinical training: 2-3 students/day throughout the academic year. Such students are referred to as "Interns" (Chapter 5.1.2). The number of students involved may vary according to student activities calendar (lessons, exams, etc.).

5.1.7. Description of the hands-on involvement of students in clinical procedures in the different species, i.e. clinical examination, diagnostic tests, blood sampling, treatment, nursing and

critical care, anesthesia, routine surgery, euthanasia, necropsy, report writing, client communication, biosecurity procedures, (both intra-mural and extra-mural)

Year	Involvement of students
4th year	Five students per session are involved in cytological and histopathological rotations, including slide preparation, evaluation and discussion. All activities are carried out under the supervision of a trained veterinary pathologist.
5th year	Four students are on duty for two consecutive weeks in the necropsy room. Constantly supported by the necropsy room technicians and under the supervision of a trained veterinary pathologist, students routinely perform diagnostic necropsies, in addition to being involved in post-mortem analyses. Furthermore, students are also involved in report writing, sample processing (i.e. trimming, fixation and disposal) and microscope slide examination.
5th year	Three groups of four students each take part in one of the following areas (two weeks/discipline) at the VTH: internal medicine, surgery and reproduction. Students collect history and perform general clinical examinations alone with the client; afterwards, they follow up the case and perform, under the supervision of a staff member, specific examinations and tests, such as ultrasound examination, blood sampling, vaginal smear, etc.; communicate with the animal's owner to relate results of clinical procedure and diagnostic tests, explain clinical conditions and possible treatments; keep track of the animal's documentation (patient's record) and subsequent diagnostic findings and request additional tests; prepare, under the supervision of a staff member, drug prescriptions; contact (if possible) the client for follow-up procedures and rechecks. With regard to surgery, students are expected to carry out preoperative preparation procedures, participate actively in surgery and be responsible for postoperative care and follow-up. Dress code, scrubbing, asepsis criteria, handling of instruments and tissues, use of scalpel and surgical procedures to be applied are thoroughly addressed prior to entering the surgical theater. Active participation as the main surgeon in at least one or more spay/neuter surgery is a strict requirement for all students.

Table 5.1.7. Description of students' involvement in clinical procedures

Clinical rounds are held whenever possible, with students being asked to provide their opinion on differential diagnosis, diagnosis, test results, treatment plans and prognostic factors. In case of doubts or necessity to obtain further information, students may ask questions at any time.

Students involved in the VTH's Emergency Service (night shifts and weekends) are given the possibility to care (under the supervision of a staff member) for hospitalized animals. Activities such as clinical examination, placement of intravenous and urinary catheters, as well as the preparation and administration of drugs are also part of the student's clinical training. Finally, students are also involved in procedures which may arise during emergency treatments, such as cardiopulmonary resuscitation (if possible).

5.1.8. Description of the procedures used to allow students to spend extended periods in discussion, thinking and reading to deepen their understanding of the case and its management

For each clinical case a discussion with students shall occur before they meet with the client to collect the patient's history and carry out the clinical examination, so that they can focus on the specific presenting complaint/s of that case. Once they are finished, further questioning between students and the clinician takes place on issues concerning the case treated (during this stage, no client is present). Cases treated throughout the morning are further addressed and revised at the end of the session.

Briefing and debriefing sessions are also run for every surgery. Besides encouraging students to speak up before anything starts, such short gatherings are very helpful both to review tasks and activities and to verify whether procedures were

understood correctly, giving students an opportunity for reflection and debate.

Cases are also discussed during the night shift in the 24-hr service, as soon as there is a break in between cases or else at the end of the shift between 7:00 and 8.00 a.m.

5.1.9. Description of the patient record system and how it is used to efficiently support the teaching, research, and service programs of the Establishment

The patient record system currently in use at the VTH is EasyVet™. Besides providing a central platform to keep track of patients visited, the software combines a number of different functions, which make the work of the hospital's clinicians easier and more productive. In particular, it supports veterinary professionals in the following areas: management and issuance of veterinary certificates, billing, collection of data for statistical purposes, sending of reminders and notifications for vaccinations and follow-up appointments, management of pharmaceutical warehouse, etc. Furthermore, EasyVet™ plays a very important role in supporting teaching and research too. In fact, not only does the software provide teachers with clinical cases to be used in class, but it also allows students to access data and information that may be used for research purposes.

In addition to the aforementioned, two more programmes are used to keep track of cases treated, namely SIMBAVET and a large animal-specific portal (https://147.162.124.55/index.php?option=com_content&view=article&id=1&Itemid=125).

Whereas the former allows for the collection of pathological and sampling data and can also be accessed by both staff and clients for consultation purposes (outcome of laboratory/necropsy examinations, etc.), the latter is used to keep track of the number of clinical cases that can be counted at external facilities.

5.1.10. Description of the procedures developed to ensure the welfare of animals used for educational and research activities

UniPD is fully committed to ensure animal health and welfare. For this, in addition to implementing the existing Community and national legislation on the protection of animals, all relevant decisions on animal welfare are discussed and endorsed by the Animal Welfare committee (Organismo Preposto al Benessere degli Animali – OPBA, <https://www.unipd.it/opba>), the animal-welfare body responsible for overseeing the correct application of Legislative Decree No. 26/2014 and promoting the health and welfare of animals used for scientific and educational purposes. In particular, the OPBA shall:

- Provide the staff responsible for handling animals with guiding principles on the application of the so-called 3Rs;
- Foster the ongoing professional training of staff handling animals;
- Provide reasoned opinions on research projects involving the use of animals for scientific purposes;
- Provide advice on animals to be rehomed.

In addition to the above, all animals present on the premises of the “Lucio Toniolo” Experimental Farm are kept following strict Community and national health requirements.



5.1.11. Description of how and by who the number and variety of animals and material of animal origin for preclinical and clinical training, and the clinical services provided by the Establishment are decided, communicated to staff, students and stakeholders, implemented, assessed and revised

The number and variety of animals and animal material to be used for pre-clinical and clinical training shall take into account the learning objectives as defined in the various syllabi. That is, any choice regarding the type of specimen or animal material to be used in class lies with the teacher or instructor concerned and is mostly based on the topic covered during the lesson. However, the main body responsible for any decision relating to the use of animals, offal and any other material of animal origin is the DCC. In this respect, both the logbook and the outcomes of student assessment questionnaires have proven to be useful tools for gathering information on whether or not the number and variety of animals and animal material used for the carrying out of specific activities is sufficient.

5.2. Comments

It would be desirable to further implement the information recorded by EasyVet™ by adding specific fields to keep track of first opinion and referral cases, as well as other fields which are considered to be important for the learning process. As a result of the VTH's lack of space, an appropriate room for the pharmacy is missing. As a matter of fact, the existing storage area does not fully allow students to appreciate how a pharmacy should be organised, managed and function within a VTH.

5.3. Suggestions for improvement

The VTH's reception area should be organized in such a way as to have separate waiting areas for dogs and cats. It would be desirable to introduce some VTH activities related to companion animals already in the 1st-2nd year of study. Similarly, the introduction of behavioural examinations within the ethology course would also be useful.

Species	2018/19	2017/18	2016/17	Mean
Cattle	2* + 30^	2* + 30^	2* + 30^	2* + 30^
Small ruminants	24^	30^	24^	26^
Pigs	36*	35*	36*	≈36*
Companion animals	60 dogs* 15 cats*	60 dogs* 12 cats*	60 dogs* 8 cats	60 dogs* ≈ 12 cats*
Equine	2* + 50^	2* + 40^	2* + 40^	2* + ≈ 43^
Poultry & rabbits	30*	30*	30*	30*
Exotic pets	4*	5*	4*	≈ 4*
Others (specify)*	Dolphins* 2 Whales^ 2 Turtles* 2 Fish* 30	Dolphins* 1 Whales^ 1 Turtles* 5 Fish* 30	Dolphins* 2 Whales^ 0 Turtles* 5 Fish* 30	Dolphins* ≈ 2 Whales^ 1 Turtles* 4 Fish* 30

* whole bodies - ^ body parts

Table 5.1.1. Cadavers and material of animal origin used in practical anatomical training

Species	2018/19	2017/18	2016/17	Mean
Cattle	Dairy cows*: 45	Dairy cows*: 40	Dairy cows*: 35	Dairy cows*: 40
Small ruminants	80§§ 17*	80§§ 14*	80§§ 15*	80§§ 16*
Pigs	450§§	450§§	450§§	450§§
Companion animals	200** 35***	200** 35***	200** 35***	200** 35***
Equine	22§§ Horses: 4* Donkeys: 14§	50§§ Horses: 3* Donkeys: 14§	0 Horses: 3* Donkeys: 14§	24§§ Horses: ≈4* Donkeys: 14§
Poultry & rabbits	Poultry: 900° Rabbits: 1000§§	Poultry: 900° Rabbits: 700§§	Poultry: 900° Rabbits: 700§§	Poultry: 900° Rabbits: 800§§
Exotic pets	0	0	0	0
Others (specify)	0	0	0	0

* 'Lucio Toniolo' Experimental Farm; ** Merlara dog shelter; *** Selvazzano dog and cat shelter; § Città degli Asini (Centre for donkey-assisted therapy); §§ private companies; ° Duca degli Abruzzi High School farm

Table 5.1.2. Healthy live animals used for pre-clinical training (animal handling, physiology, animal production, propaedeutic, ...)

Species	2018/19	2017/18	2016/17	Mean
Cattle	67	73	60	67
Small ruminants	8	8	4	6.6
Pigs	0	0	0	0
Companion animals	3490	3057	2851	3133
Equine	142	95	83	107
Poultry & rabbits ***	42	43	54	46.3
Exotic pets	23	19	41	27.6
Others (wild animals)	19	15	23	19

* Numbers included in the table refer to single patients registered in the three academic years taken into account. If the single clinical case is to be considered, the data would register a 15% increase as the same animal may return for different clinical conditions.

** Each patient has to be officially recorded in the electronic patient record system of the Establishment and has to be individually examined/treated by at least 1 student under the supervision of at least 1 member of staff. Each live animal affected by one specific clinical episode is counted as 1 single patient, even if it has been examined/treated by several departments/units/clinics.

*** This digit includes chickens present on the premises of the 'Lucio Toniolo' Experimental Farm that are used for clinical examinations.

Table 5.1.3. Number* of patients seen intra-murally (in the VTH)**

Species	2018/19	2017/18	2016/17	Mean
Cattle	690	660	620	657
Small ruminants	0	0	0	0
Pigs	480	430	390	433
Companion animals	127	125	123	125
Equine	362	361	357	360
Poultry & rabbits	20,000	20,000	20,000	20,000
Exotic pets	0	0	0	0
Others (specify)	0	0	0	0

** Each patient has to be officially recorded and has to be individually examined/treated by at least 1 student under the supervision of at least 1 member of staff. Each live animal affected by one specific clinical episode is counted as 1 single patient.

Table 5.1.4. Number of patients seen extra-murally (in the ambulatory clinics)**

Species	2018/19	2017/18	2016/17	Mean
Cattle	97	97	98	97
Small ruminants	100	100	100	100
Pigs	100	100	100	100
Companion animals *	77	79	85	80

Equine **	67	74	77	73
Poultry & rabbits	100	100	100	100
Exotic pets	100	100	100	100
Others (wild animals)	100	100	100	100

* These cases were recorded in the database of the Canile Sanitario di Rovigo (dog shelter).

** These cases were recorded in the database of veterinarians involved in the activities.

Table 5.1.5. Percentage (%) of first opinion patients used for clinical training (both in VTH and ambulatory clinics, i.e. tables 5.1.3 & 5.1.4)

Species	2018/19	2017	2016/17	Mean
Cattle	28	30	27	28.33
Small ruminants	10	10	10	10
Pigs	297	82	482	287
Companion animals	220	315	287	274
Equine	25	30	25	26.67
Poultry & rabbits	Total: 509	100	100	100
Rabbits: 1	100	100	100	100
Poultry & rabbits	Total: 509 Rabbits: 1 Poultry: 508	Total: 496 Rabbits: 3 Poultry: 493	Total: 971 Rabbits: 6 Poultry: 965	658.67
Exotic pets	19	18	6	14.33
Others (specify)	Total: 81 Wild marine mammals: 18 Zoo mammals: 9 Sea turtles: 54	Total: 70 Wild marine mammals: 18 Zoo mammals: 17 Sea turtles: 35	Total: 130 Wild marine mammals: 19 Zoo mammals: 12 Sea turtles: 99	93.67

Table 5.1.6. Cadavers used in necropsy

Species	2018/19	2017/18	2016/17	Mean	Group size
Cattle	141	141	141	141	4-5 students/visit
Small ruminants	8	8	8	8	15 students/visit
Pigs	52	52	52	52	5 students/visit
Poultry	37	44	42	49	4-5 students/visit
Rabbits	13	13	13	13	5 students/visit
Others (zoo animals)	8	13	0	7	5 students/visit during 2017/18; 10 (6 to 11 occasionally) students/visit during 2018/19
Others (wild fauna - deers)	3	6	6	5	10 (9 to 11 occasionally) students/visit during 2016/17, 2017/18; 20 students/visit during 2018/19
Others (equine)	13	13	0	9	5 students/visit

Table 5.1.7. Number of visits in herds/flocks/units for training in Animal Production and Herd Health Management

Species	2018/19	2017/18	2016/17	Mean
Ruminant's slaughterhouses	150	280	300	243.3
Pig's slaughterhouses	75	140	150	121.7
Poultry slaughterhouses	75	140	150	121.7
Related premises **	245	438	468	383.7
Fish and fish products ***	75	146	156	125.7

** Premises for the production, processing, distribution or consumption of food of animal origin. More specifically, the following facilities are taken into account: cutting plants, dairy plants, meat plants, pasta plants, eggs and packing centres, egg product plants, honey extraction laboratories, processing of animal by-products, etc.

*** One or more activities are taken into account: breeding, slaughtering, boating, fish market, inspections on fishing boats, live bivalve molluscs depuration centre, production laboratory, fish product processing laboratory.

Table 5.1.8. Number of visits in slaughterhouses and related premises for training in FSQ





6.

LEARNING RESOURCES

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6.1 Factual information

The 'Pietro Arduino' Central library of the Agripolis Campus is part of the University Library System (ULS), which includes all library resources and services of UniPD. The mission of the ULS is to preserve, update and promote the use of the University bibliographic and documentary collections, to guarantee the widest possible e-access to scientific information through the University Digital Library, and to support research and teaching activities.

Furthermore, the library is supported by the University Library Centre "ULC" (*Centro d' Ateneo per le Biblioteche - CAB*), which coordinates, manages and fosters the development of library services for the benefit of scientific research and teaching, while using the latest technologies, in accordance with international standards. Among the services offered by the library are:

- On-line Public Access Catalogue (OPAC)
- On-line University databases
- Electronic journals available on-line
- Access to non-paper-based documents (multimedia, hyper-textual, etc.) directly from the OPAC
- Interlibrary lending and document delivery services.

These services are thoroughly explained in the so-called 'Carta dei Servizi' (Service Charter - <http://biblioteca-digitale.cab.unipd.it/carta-dei-servizi>) and are guaranteed through a variety of specialized tools that allow users to search and locate documents. The unified access point to the resources and services of the digital library is provided by the AIRE (Integrated Access to Electronic Resources) portal of the ULS.

6.1.1. Description of the main library of the Establishment:

The 'Pietro Arduino' Central Library was opened in July 1996 as a result of the merger between the now former Faculty of Agricultural Sciences and various department libraries. The library, in addition to providing an excellent range of collections, resources, and flexible study spaces, has a wide and increasing range of online collections. In recent years, a great deal of attention has been given to improving library services in the support of learning, teaching, and research, as well as to ensure that the overall student experience is of the highest quality. Therefore, a number of policies have already been implemented, such as the Service Charter, which ensures that all services offered comply with specific standards, most importantly accessibility, timeliness, transparency and effectiveness (for further information, please visit <http://bibliotecadigitale.cab.unipd.it/carta-dei-servizi>).

-) staff (FTE) and qualifications

The library is currently manned by a head librarian and five full-time staff members. An IT technician is also available whenever necessary. In addition to providing a full range of customer services, each staff member has specific tasks with regard to library management. For further information, please visit <http://bibliotecagripolis.cab.unipd.it/chi-siamo/contenuti-chi-siamo/staff>.

-) opening hours and days

The Library is open Monday through Friday, from 8.20 a.m. to 6.00 p.m. It is closed during Christmas and Easter, and for two weeks in August. For further information concerning accessibility and opening hours, please visit <http://bibliotecadigitale.cab.unipd.it/carta-dei-servizi/accessibilita-alla-biblioteca>.

-) annual budget

The library's annual budget allocated by ULS is about €170,000, most of which (95%) is invested in electronic resources, hard books, and journals. Modalities on how the budget shall be spent are decided by the Technical-Scientific Committee (TSC), while the head librarian is responsible for managing the resources in accordance with the decisions made by the TSC.

-) facilities: location in the campus, global space, number of rooms, number of seats

The "Pietro Arduino" Central Library is located on the second floor of the 'Pentagono' building and occupies a total area of 1,254 m². It is composed of a main space (688 m²), which is accessible to the public, and 3 storerooms (2 for scientific journals and 1 for thesis). The main space includes two adjacent and connected rooms: whereas the first room is equipped with a reception desk, computers, and an area dedicated to the consultation of scientific journals, the second one is equipped with open book shelves (1,290 meters, 80% of which are currently occupied). Three storage rooms (total surface 700 m²) for old periodicals are located on the semi-basement floor of the 'Pentagono' building.

-) equipment: number of computers, number of electrical connections for portable PC

The library's main space includes two adjacent and connected rooms: the first room is equipped with 12 computers reserved to the public (access is limited to databases only) and 2 computers dedicated to catalogue consultation, with a seating capacity of 58 (36 of which are equipped with sockets). Two "All-in-one" printers are also available, allowing web printing via the *Myprint* system. Furthermore, power supply and wireless internet connection (EDUROAM) are available throughout the Agripolis Campus.

Finally, in the same building (*Pentagono*) there are also three computer classrooms (classrooms nos. 20, 22 and 25) dedicated exclusively to educational use. Classroom no. 20 was completely renovated in June 2013, and is equipped with 22 computers for students, 1 computer for teachers, and a video projector. Classrooms nos. 22 and 25 have 54 and 24 workstations, respectively.

-) available software for bibliographical search

As of today, the main software in use for bibliographic research are Mendeley, Zotero and EndNote Basic (open source); additional tools are specifically made available to veterinary students upon request, such as PubMed and eSkeletons (for a detailed description of the software and tools available, visit <http://metaricerca.cab.unipd.it:8332/V/?func=find-db-1>).

-) number of veterinary books and periodicals

The library contains approximately 41,000 books and 2,300 hard copy journals (35 of which are made available as part of ongoing subscriptions). Books are classified using the Dewey Decimal

Classification System, which has been recently simplified by reducing the number of indexes and shortening the more complex ones. Exam preparation textbooks recommended by teachers are available in more than one copy. All teachers and students are entitled to borrow books from the University's libraries. For more information concerning borrowing and loan policies, visit <http://bibliotecadigitale.cab.unipd.it/carta-dei-servizi/tabelle/servizio-di-prestito-locale>. In 2017 and 2018 the number of books loaned from the Library was 2,818 and 2,362, respectively.

-) number of veterinary e-books and e-periodicals

Since 2015, the Library has been acquiring (on a yearly basis) a number of textbooks in electronic format, now totaling 246 titles, and 47 databases. However, because there is a paucity of Italian textbooks in the electronic format, the number of those used for the veterinary curriculum is 30. In addition, students have access to the following UniPD's digital repositories:

- Padua@Thesis, which is the institutional digital repository for full-text degree theses. The upload of theses is subject to prior consent from the student.
- Padua@Research, which is the institutional digital repository for research papers and doctoral dissertations. The archive contains electronic documents obtained from scientific research activities of teachers, researchers and contributors and allows for self-archiving.

-) number of other (e)books and (e)periodicals

In addition to the abovementioned, students of the DCVM may also gain access to 61,662 e-journals, 160,850 e-books and 254 databases available at UniPD.

6.1.2. Description of the subsidiary libraries

Students of the DCVM can access any library and service of UniPD. For further information, visit <http://bibliote-cadigitale.cab.unipd.it/biblioteche/elenco-delle-biblioteche>.

6.1.3. Description of the IT facilities and of the e-learning platform

As already mentioned above, an adequate number of IT facilities, such as computer rooms and Wi-Fi, are made available to students. The e-learning platform currently in use at UniPD is Moodle, which, in addition to supporting traditional classroom teaching, is used for providing study materials and information on courses and classes, conveying communications, assigning tasks, exercises and tests, etc. As of today, there are several Moodle courses active. In order for student and teachers to be able to gain access to the platform, both a single sign-on and the user's e-mail are required. Although Moodle offers a quite flexible and intuitive environment, the IT staff will be available to address any issue concerning its use and management.

In addition to the aforementioned platform, a number of different software and tools are used in the teaching of Veterinary Medicine. For a more detailed description, please see Annex 6.1.

6.1.4. Description of the available electronic information and e-learning courses, and their role in supporting student learning and teaching in the core curriculum

Over the last years, great emphasis has been placed on the development of an e-learning environment where users can engage and interact to learn new skills and broaden their knowledge. In this respect, the implementation of Moodle has proven to be an effective tool in two ways: firstly, it improves the student's learning experience, encouraging autonomous learning; secondly, it enhances teaching with online supplementary activities, combining traditional face-to-face learning with the latest learning technologies.

As of today, many units have their own online learning space (for a list of teachings using Moodle, see <https://elearning.unipd.it/scuolaamv/course/index.php?categoryid=415>), which is organized in modules and customized based on the user's needs (i.e. assignments, questionnaires, lessons, etc.)

6.1.5. Description of the accessibility for staff and students to electronic learning resources both on and off campus

Thanks to the presence of 120 access points distributed throughout the various buildings, wireless internet connection (EDUROAM) is available throughout the Agripolis Campus. In order to set up the EDUROAM Network on their smartphones or laptops, students and teachers can rely on the support provided by IT technicians. Remote access to Internet resources (including electronic library resources and learning materials) is also provided to students and staff via Auth-Proxy, that is, the proxy server of UniPD. This service can only be accessed by teachers, technicians and students upon activation of their *@unipd.it* account.

6.1.6. Description of how the procedures for access to and use of learning resources are taught to students.

The Library offers specific user training sessions focused on the use of electronic resources and services, as well as bibliographic database consultation. Courses are held monthly from October to June and are attended by 100-200 on-campus registered students every year. Similar courses are also available for PhD students.

6.1.7. Description of how and by who the learning resources provided by the Establishment are decided, communicated to staff, students and stakeholders, implemented, assessed and revised

The library is administered by a Library Committee, which is composed of the coordinator of the scientific areas (Agricultural Sciences and Veterinary Medicine), the head librarian, two

representatives from the SASVM's Departments and two PhD students. The Committee, besides supervising the activities run by the library and drafting the budget and balance sheet, is also responsible for the coordination and final verification of cultural and scientific choices with regard to the purchasing and services of the library. Books recommended by teachers are purchased taking into account the limits indicated in the annual balance sheet. Subscription to new scientific journals or databases are suggested by members of the academic staff and approved by the Library Committee - provided that at least a five-year coverage of the expenses is guaranteed.

New purchases are communicated to staff and students through the representatives of the Library Committee during the meetings of the DC. In addition, a regularly updated online search engine has also been made available to users, allowing to obtain information concerning any new purchase (books, magazines, databases, etc.) made by the libraries (https://catalogo.unipd.it/F/?func=file&file_name=nuovi_acquisti).

In addition to the above, the ULC administers a student satisfaction questionnaire with regard to library services, collecting about 8.000 answers every year. Over previous years, out of the various libraries present, the 'Pietro Arduino' Library was ranked as follows:

- 7.98 - ranked 19th out of 27 (2016)
- 8.13 - ranked 15th out of 26 (2017)
- 8.04 - ranked 19th out of 25 (2018)
- 8.21 - ranked 18th out of 24 (2019)

6.2. Comments

The library's opening hours (over 48 h per week) seem adequate, also due to the increasing availability of books and magazines in electronic format which can be accessed remotely via the proxy server. Although limited, the number of available workstations/computers seems to satisfy the users' needs: no waiting lines are generally reported (students normally bring their own device). In view of UniPD's progressive increase in the number of

electronic documentation and learning resources, the offering of courses on how to access and use such new resources will become increasingly important. In this respect, however, it should be mentioned that the current scheduling of courses offered by the Library is satisfactory, as is the response of students (with an average of 100-200 students per year).

As of today, it is not possible to provide precise information on the number of books and magazines of veterinary interest specifically, as a number of books and volumes are used in areas other than veterinary medicine (e.g. agronomy, etc.) and vice versa. This notwithstanding, the total number of paper books and periodicals (41,000 books and 2,300 hard copy journals - 35 of which are made available as part of ongoing subscriptions), together with the increasing number of electronic resources (5,000 e-books and 2,800 e-journals), is significant. Further services are made available to undergraduate students, researchers, teachers and technical staff through both the Interlibrary Loan Service and the Document Delivery Service. Finally, another very useful resource for learning is Moodle, where teachers can upload a wide array of digital content in support of traditional classroom teaching.

6.3. Suggestions for improvement

In spite of the fact that resources available for the acquisition of new bibliographic resources are sufficient, the outcomes of student questionnaires have highlighted the necessity of purchasing new software and e-books. For this, efforts in this direction need to be pursued.

In addition to the above, teachers must encourage students to use journals and scientific papers to remain up-to-date and foster their critical thinking.

The library's website is only partially available in English. The issue has already been raised with the University's central administration services. Indeed, having a well-managed English version of the website is not only important for foreign students and visitors but also to attract international students.





7.

STUDENT ADMISSION, PROGRESSION AND WELFARE

Written by:
A. Frangipane and A. Trocino

7.1 Factual information

7.1.1 Description of how the educational programme proposed by the Establishment is advertised to prospective students

A three-day orientation session (more commonly referred to as Open Days) is held every year in February on the Agripolis Campus. On this occasion, fourth- and fifth-year high school students are provided with useful information on a number of issues, such as admission procedures, teaching programmes, further orientation initiatives, tutoring services, etc. During the orientation days, which are also advertised every summer on the website of UniPD (<http://www.unipd.it/scegli-con-noi>), specific info points are distributed throughout the campus providing training materials to students, in addition to allowing them to meet tutors, teachers and experts.

Other orientation initiatives include both pre-orientation visits in high schools, as well as educational internships (<https://www.unipd.it/iniziativa-orientamento>) which allow students to discover more about the Veterinary Medicine curriculum. A smartphone application (<https://itunes.apple.com/it/app/orientamento-unipd/id1090860369?mt=8>) is also available, enabling students to receive information concerning future orientation programs, notifications and newsletters.

7.1.2. Description of the admission procedures for standard students:

-) Selection criteria

Access to the Veterinary Medicine curriculum is regulated by a *numerus clausus* system, according to which the number of students admitted every year is established by a MIUR Decree (see section 7.1.8). In order to be admitted, students are required to successfully pass a national admission test, which is drawn up and distributed by MIUR to all Italian DCVMs. The test takes place on the same day (usually at the beginning of September) and applies equally to both EU (Italian and non-Italian citizens) and non-EU candidates. Applicants must pre-register via the UniPD website (<https://www.unipd.it/en/how-apply>), and provide a list, in order of preference, of the universities at which they would like to study Veterinary Medicine.

In the years taken into account for the purposes of this document, the average number of pre-registered candidates (both EU and non-EU citizens) was 823. The list of candidates eligible for enrolment at UniPD is published by MIUR and CINECA.

Non-EU students living abroad make an exception to the selection process and are ranked separately based on test results.

-) Policy for disabled and ill students

Rules governing the admission criteria for candidates with disabilities and learning difficulties are set out in the admission guidelines that are made available every year via the following link: <http://www.unipd.it/avvisi-ammissione-lauree-triennali-ciclo-unico>.

-) Composition and training of the selection committee

The selection process is managed exclusively at the MIUR level.

-) Appeal process

The terms for appealing against the selection procedures are regulated by Italian legislation. Unsuccessful applicants may lodge an appeal with the Administrative Court of the Veneto Region within 60 days of the date on which the national ranking is published. Once an appeal has been lodged, documents are evaluated by the competent Administrative Court of the Lazio Region. If the appeal is rejected, students may further appeal to the Italian Council of State (second appeal).

-) Advertisement of the criteria and transparency of the procedures

All information concerning criteria and procedures for admission, announcements, number of places available and subject areas addressed in the admission test is available on the websites of UniPD (<http://www.unipd.it/avvisi-ammissione-lauree-triennali-ciclo-unico>) and MIUR (<http://www.universitaly.it/>).

7.1.3. Description of the admission procedures for full fee students

Not applicable.

7.1.4. Description of how the Establishment adapts the number of admitted students to the available educational resources (facilities and equipment, staff, healthy and diseased animals, material of animal origin) and the biosecurity and welfare requirements

As already mentioned, the total number of students admitted every year is established by a MIUR Decree, and mainly reflects the concept of sustainability in terms of both human and instrumental resources (for a more detailed description of facilities and staff, see Chapter IV and IX, respectively).

With regard to biosecurity and welfare requirements specifically, in order to guarantee safe access to laboratories and make students aware of the risks that are linked to particular environments, first-year students are required to attend a safety training course divided into 3 parts with final tests: General part (4 hours), Part A-Chemical, and Part B-Biological. Security training certification obtained by students prior to enrolment are not accepted.

In order to carry out practical activities, first-year students are also required to follow and pass the related test on the zootechnical risk, and to undergo a medical examination at the Preventive Medicine Service of UniPD. The safety training and the zootechnical risk courses, as well as the related tests, are available (also in English) on the Moodle platform (<https://elearning.unipd.it/scuolaamv/course/>). All regulations concerning biosecurity and welfare requirements are reported in the Standard Operating Procedure (SOP) manual (<https://maps.unipd.it/dipartimento/sicurezza>).

7.1.5 Description of:

-) The progression criteria and procedures for all students

Students enrolled in the veterinary medicine curriculum shall

attend at least 50% of lectures and 80% of practical activities. In order to verify that the relevant skills and competences have been acquired, a test is administered to students at the end of every course. According to the teaching regulation of the DCVM (see Annex 2 in <https://en.didattica.unipd.it/off/2019/CU/AV/MV0991>), in some specific cases students are also expected to complete propaedeutic courses before being able to sit an examination. Information concerning exam timetables and venues is available at the following link: <https://www.agrariamedicinaveterinaria.unipd.it/calendario-esami>.

Enrollment in the following academic years will automatically take place upon payment of fees until the fifth year. After that, if students do not graduate by the 5th year's last graduation session (April of the following year), they will qualify as students enrolled outside of the prescribed time and will have to pay extra fees.

With regard to graduation procedures specifically, students will only be able to submit the graduation application forms upon completion of all subjects included within their study plan.

An exception to the aforementioned procedure applies to those students who have not met the necessary number of correct answers (50+1) in Biology, Chemistry and Physics/Mathematics in their admission test. In this case, based on their test results and ranking, students would still be admitted to study veterinary medicine; however, in order to sit first-year examinations, they would be requested to meet *Additional Learning Requirements*, commonly referred to as OFA (<https://www.agrariamedicinaveterinaria.unipd.it/info/obblighi-formativi-aggiuntivi-ofa-0>). For this purpose, further training material is made available via the Moodle platform. The passing of the OFA, in addition to certifying that the student has acquired the relevant knowledge to continue studying veterinary medicine, is a necessary prerequisite to sit first-year examinations in the very subjects for which the OFA were to be satisfied. If students do not pass the OFA test prior to time limits, they will be registered as first-year students ("repeating students") again.

-) The Remediation and support for students who do not perform adequately

Students who do not perform adequately receive additional study materials and support from the Tutoring service, which, in addition to providing students with advice on how to improve their performance, is also useful to better understand students' needs and to receive their feedback (<http://www.agrariamedicinaveterinaria.unipd.it/info/scuola/contatti/tutorato>). Furthermore, whenever necessary, students may meet with their teachers and/or the Director of the Degree Course Council during their office hours or by appointment.

-) The rate and main causes of attrition

The average attrition rate for the period 2014/18 was 18.1% (compared with the national average of 22.3%). In spite of the fact that this value has been decreasing over previous years, it shall be noticed that this figure is significantly affected by the number of students transferring to either other degree courses (e.g. Medicine and Surgery) or universities. Indeed, the available dropout data does not distinguish between students who have withdrawn from the course because it fails to meet their expectations and the aforementioned transfers. In any case, it should be emphasized that the dropout percentage is offset by incoming transfers, that is, students proceeding from other degree courses or universities. This notwithstanding, dropouts attributable to transfers to other degree courses or universities

cannot be addressed adequately at the local level under the existing national legislation.

-) The exclusion and appeal procedures

Exclusion criteria and appeal procedures are thoroughly addressed in the Student Progression Policy (https://www.unipd.it/sites/unipd.it/files/2017/REG_studenti_2016_0.pdf).

According to this document, students who do not acquire at least 60 ECTS within five academic years from the registration/enrolment date will be excluded from the degree course. In case of students with a certified disability level of $\geq 66\%$, the minimum number of ECTS to be acquired over five academic years is 30. The competence for imposing any disciplinary measures lies with the Rector and the Academic Senate, based on their area of competence, with the support of a specific committee appointed every year by the Rector.

7.1.6 Description of the services available for students (i.e. registration, teaching administration, mentoring and tutoring, careers advice, listening and counselling, assistance in case of illness, impairment and disability, clubs and organisations, ...)

Students Services at UniPD aim to provide students with the support and guidance they need in a variety of areas, including student registration and fees, student progression, study support, career counseling, Erasmus programmes, etc. (for a more detailed description of services available, see <https://www.agrariamedicina-veterinaria.unipd.it/en/students>). In addition to the aforementioned services, which are directly located on campus and are coordinated by the SASVM, additional student services are available via the central administration in different areas (Table 7.1.6.).

7.1.7. Prospected number of new students admitted by the Establishment for the next 3 academic years

On the basis of the trend recorded in the last three academic years, no relevant changes are expected with regard to the number of admitted students established by MIUR.

7.1.8. Description of how (procedures) and by who (description of the committee structure) the admission procedures, the admission criteria, the number of admitted students and the services to students are decided, communicated to staff, students and stakeholders, implemented, assessed and revised

As reported in section 7.1.2, due to the large number of students applying every year to study veterinary medicine, both admission procedures and criteria and the number of admitted students are established by a MIUR Decree. It should be noted, however, that

the total number of students admitted take into consideration several parameters, including the professional needs at the national level, the proposals put forward by the DCC to MIUR and the suggestions formulated by MAPS and UniPD, in consultation with stakeholders (represented by the President of the FNOVI, the National Federation of Italian Veterinarians). In any case, based on national planning, the DCVM organizes all teaching activities and services in such a way as to ensure that students are provided with the best opportunities to achieve professional growth. If the number of students admitted per year increases, a re-planning of activities and services offered will also be needed in accordance with the specific QA procedure described in Chapter 11.

7.2 Comments

The DCVM has seen a steadily increase in the number of students pre-enrolled and attending the admission test over the last academic years. The DCVM is among the first Italian veterinary curricula closing the cohort of enrolments within the academic year. These performances are due to the fact that the DCVM has been for years at the top of the national rankings (CENSIS and VQR - see Introduction). Most indicators concerning teaching assessment, educational path and career regularity (Italian Ministerial Decree 987/2016, Annex E) show a very satisfactory performance of the DCVM at UniPD, which in many cases is higher than the national average.

The efficiency of existing enrolment procedures (see section 7.1.2) is currently hampered by the following factors:

- there is a high degree of heterogeneity in students' cultural background and knowledge of scientific subjects, based on the type of studies they have undertaken (scientific, classical, technical, etc.). As the current rules governing the national selection system are fully independent from the DCVM, it is not possible to plan appropriate strategies to reduce this source of variability;
- the selection process does not include the possibility to assess students' motivation and their practical abilities.

As mentioned above, there are no surveys inquiring the state of exhaustion or attrition of students, but in the past no appeal proceeding was undertaken by any students for such reasons. According to the 2017 *AlmaLaurea* report (<https://www.alma laurea.it/en/info/chisiamo>), which took into account the data collected from 57 questionnaires, 92,8% of interviewees claimed to be very satisfied (or "more yes than no") with the DCVM, compared to 83.2% of the national average.

7.3 Suggestion for improvement

In spite of the many challenges facing the veterinary profession, the number of students applying for registration in veterinary curricula across the country has increased considerably over the past decade. Such an increase has further exacerbated the consequences resulting from unsuitable enrolment procedures, which select a population of students with good scores in disciplines such as mathematics, physics or logics, while attaching less importance to aspects such as farm culture or the candidate's attitude towards animals of all species. The Italian government is currently considering the opportunity to overcome the barriers imposed by Law no. 264 of 2 August 1999, which introduced the *numerus clausus* system for students applying to study medical courses at university, including the veterinary curriculum. This issue has been the subject of a number of legislative proposals that the Italian Chamber of Deputies has been evaluating, also through a series of hearings that involved medical professionals (e.g. FNOVI). The FNOVI, however, remains firmly opposed to any repealing of or amendments to the aforementioned law, in agreement with the National Association of Physicians and Dentists (FNOMCeO). The abrogation of the *numerus clausus* system would indeed imply a significant increase in the number of teaching staff members, structures and financial resources. In spite of this, although both FNOVI and FNOMCeO agree on unsuitable enrolment procedures, no relevant proposals or suggestions have been put forward to this date.

Type of students	2018-19	2017-18	2016-17	Mean
Standard students	68+10*	60+10*	60+10*	70
Full fee students	-	-	-	-
Total	78	70	70	72.6

* This figure refers to the number of places for non-EU students. According to the indications provided by MIUR, as of 2017-18 places reserved for non-EU students which remain vacant can be assigned to Italian students.

Table 7.1.1. Number of new veterinary students admitted by the Establishment

Year of programme	2018-19	2017-18	2016-17	Mean
First year	79	60	61	66.6
Second year	56	58	61	58.3
Third year	60	64	63	62.3
Fourth year	64	62	82	69.3
Fifth year	63	79	68	70
Students enrolled outside the prescribed time	87	68	57	70.6
Total	409	391	409	403

Table 7.1.2. Number of veterinary undergraduate students registered at the Establishment

Type of students	2018-19	2017-18	2016-17	Mean
Standard students	60	54	57	57
Full fee students	-	-	-	-
Total	60	54	57	57

Table 7.1.3. Number of veterinary students graduating annually

Type of students	% of the students who graduated in		
	2018-19	2017-18	2016-17
+ 0**	43.33	55.56	65.45
+ 1 year	31.67	31.48	25.45
+ 2 years	13.33	1.85	5.45
+ 3 years or more	11.67	11.11	3.64

** The total duration of the studies matches the minimum number of years of the programme (e.g. 5 or 6 years)

Table 7.1.4. Average duration of veterinary studies

Programmes	2018-19	2017-18	2016-17	Mean
Interns	9	4	3	5.3
Residents	4	6	3	4.3
PhD students	28	24	23	25
Specialization Schools	96	96	/*	96
Master Courses	2	1	5	2.7
Post-doctoral Fellowship	15	21	22	19.3
Course Catalogue	2	4	5	3.7

* There were no specialization schools active throughout the a.y. 2016-17

Table 7.1.5. Number of graduate students in veterinary medicine registered at the Establishment



Service	Aims	Contacts details
Student health	To provide support and advice to students in relation to any health issues.	https://www.unipd.it/en/discovering-padova/healthcare-and-primary-services
Disability and dyslexia	To provide support to students with a disability so that they can take full advantage of the university experience, according to both Legislative Decree 33/2013, Art. 32, and the Service Charter.	http://www.unipd.it/en/students-special-needs
Student inclusion	To provide support to students so they can feel part of an inclusive learning community where opportunities are open to all and where diversity is supported and valued. Both departments have appointed a Head of Inclusion and Disability, who collaborates with the Rector's delegate to promote inclusion policies.	https://www.unipd.it/en/inclusion-leisure-sport-and-volunteering
Gender equality and inclusion	To provide advice and assistance, while protecting students' rights (including sexual or moral harassment) and guaranteeing impartiality, correctness and timeliness of administrative action.	https://www.unipd.it/pari-opportunita-rivolgersi
Psychological counselling (S.A.P.)	To provide support to students in relation to any personal, emotional or mental health problems they might experience during their academic life. This service is offered in agreement with ESU.	http://www.unipd.it/servizi/supporto-studio/servizi-aiuto-psicologico http://www.esupd.gov.it/en/Pagine/Servizi/Consulenza-Psicologica-e-Psichiatrica.aspx International students can book an appointment via the following e-mail: psychological.assistance@unipd.it
Student accommodation	To provide support to students who are looking for a place where to stay during their university studies. This service is offered in agreement with ESU.	http://www.unipd.it/en/services/housing-and-canteen-facilities http://www.esupd.gov.it/en/Pagine/Home.aspx
International Office	To plan, manage and promote international relations with universities, consulates/embassies, networks etc., while setting up and coordinating international mobility programmes targeted at students.	https://www.unipd.it/en/international-office
Student Representative – SASVM	To attend School Councils and related activities, while working together with other degree course representatives.	https://www.agrariamedicinaveterinaria.unipd.it/en/students-representatives
Student representative roles within UniPD's bodies	To encourage student to play an active role in decision-making processes within the following bodies: DCC, DC, GAV, BA, AS, ISC.	https://www.unipd.it/en/university/governance
University sport centre (C.U.S.)	To provide students with information in relation to any sport and physical activity opportunities at UniPD.	https://www.unipd.it/en/discovering-padova/sport-and-leisure http://www.cuspadova.it/
Public transportation	To provide students with information in relation to public transportation services available in the area.	https://www.agrariamedicinaveterinaria.unipd.it/en/public-transport

Table 7.1.6. Student support services available at UniPD



8.

STUDENT ASSESSMENT

Written by:
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8.1. Factual information

8.1.1. Description of the global student's assessment strategy of the establishment

Student assessment plays a crucial role within the global teaching activity. The Teaching Regulation is approved by the DCC and establishes the organization and delivery of courses, according to specific guidelines established by UniPD (RD n°1623/2008).

Among his tasks, the Director of the DCVM is also responsible for proposing, modifying and approving the examination schedule, which is established yearly and published on the School's website at the beginning of each academic year. The examination schedule shall comply with the university examination regulations, according to which the following will be guaranteed:

- At least four exam sessions per year shall take place (two of which will be within the same lecturing period that the class is taken);
- Any overlapping with other examinations planned for the same year of study should be avoided;
- A two-week window between one session and the subsequent one shall be allowed.

All exams must be held during the exam time session, which is established by the university and provides that no teachings are offered during that time. If one exam needs rescheduling, the teacher responsible for it shall notify the changes to students at least two weeks before the date of examination. The participation of students in the scheduling of exams is also guaranteed through their representatives.

With regard to student assessment, a number of different methodologies are used, ranging from final and interim examinations to oral and written examinations (multiple choice questions, open questions, brief or extended reports), including practical and computer-assisted tests. In some cases, a combination of the aforementioned methods may be used. The examination method is decided by the single teacher or group of teachers (in case of integrated courses), according to the terms established by both UniPD and the SASVM. The form of assessment to be used should not only be reported in the syllabus and approved by the DCC, but also communicated to students at the beginning of the academic year. In this respect, the DCC has also defined the minimum criteria to ensure that a homogeneous and coherent assessment of students takes place. The development of new student assessment systems is also underway.

Finally, the body responsible for ensuring and certifying (both theoretically and practically speaking) that learning objectives are achieved is the Teaching Committee.

8.1.2. Description of the specific methodologies for assessing:

-) theoretical knowledge

The acquisition of knowledge transmitted through lectures is usually evaluated through either oral or written examinations.

This latter type of assessment, which may vary according to the topic that is dealt with, includes: (i) true or false and multiple-choice questions, as well as short answers; (ii) open-ended answers with limited writing space; (iii) 1-2 page essays, based either on multiple choice tests or open-ended questions.

Teachers may also provide for one or more interim tests to evaluate the acquisition of the different topics covered during classes.

According to UniPD Regulation, in the case of integrated courses or when there is one main teacher in charge of the course, the examination will also be considered integrated. However, it shall be noted that if different topics are covered within the same course, the Teaching Committee may offer students the possibility to take one exam in two or more partial examinations. As of today, evaluation criteria have not yet been codified in a specific scheme/grid. Teachers carry out their evaluation based on the following parameters: knowledge based on key words, attitude towards integrating the information previously obtained from different subjects, adequate oral and written communication skills, logical flow in the description of the required content.

-) pre-clinical practical skills

Pre-clinical practical skills are evaluated through different methods. If the course involves hands-on activities, the practical skills acquired may be evaluated separately through specific examinations (e.g. manual skills, ability to diagnose a pathology, etc.). Pre-clinical practical skills are monitored and evaluated through written reports, supervised work and oral presentations. Practical exams are mainly carried out in the laboratory or through the observation of healthy animals, organs, cadavers, according to the subject matter concerned. A positive evaluation of practical skills taught during the course is required to pass the exam.

As of today, evaluation criteria have not yet been codified in a specific scheme/grid. Teachers carry out their evaluation based on the following parameters: attitude towards practical handling and examination of specific organs/materials, observation skills, application of sampling techniques, knowledge based on key words, attitude towards integrating the information previously obtained from different subjects, adequate communication skills (oral or written), logical flow in the description of the required content.

-) clinical practical skills

Practical tests are part of the global assessment system to verify that students have acquired the so-called "Day One Competences" identified by ESEVT, which are the basic skills that graduates of the veterinary curriculum must possess. Such tests, which in most cases are mandatory, are subject to the passing of a theoretical examination. The acquisition of clinical competences is monitored on a daily basis during clinical rotations and evaluated by teaching staff and veterinarians, who record the successful accomplishment of the aforementioned competencies in the student's logbook.

As of today, evaluation criteria have not yet been codified in a specific scheme/grid. Teachers carry out their evaluation based on the following parameters: attitude towards practical handling and ability to examine different professional/practical settings (e.g. farms, clinics, etc.), observation skills, application of sampling techniques, knowledge based on key words, attitude towards integrating the information previously obtained from

different subjects, adequate oral and written communication (including with animal owners, carers and farmers), logical flow in the description of the required content. For the final assessment of students, teachers also take into account the evaluations provided by external professionals during *Tirocinio*. The codification of specific criteria for assessing theoretical knowledge, preclinical and clinical practical skills has already been discussed for some specific courses and is one of the future improvement targets.

8.1.3. Description on the assessment methodology to ensure that every graduate has achieved the minimum level of competence, as prescribed in the ESEVT day one competences

The veterinary curriculum has been designed in such a way as to ensure that all graduates have acquired the knowledge and skills provided for by the ESEVT Day One Competences. To cope with the specific competences established for clinical sciences, each clinical teaching unit has specified which preclinical competences students should master. Each preclinical teaching unit has further listed which core competences students should develop in the first two years of their education. The dynamics concerning competency-driven learning are firstly discussed within the GAV and afterwards within the DCC. The coordinators of the animal health and clinical scientific areas are responsible for monitoring the syllabus, in addition to evaluating the methodologies in place to achieve such objectives.

During their careers, students are taught and trained not only to learn such skills, but also to develop an approach that aims at solving diagnostic problems both at the individual and herd level, besides performing basic analysis and sampling. To achieve this goal, the DCC has developed and implemented a logbook-based system, which allows for teachers to certify that students have acquired the relevant hands-on activities by completing and signing the specific section for the activity covered.

After their degree, each student is evaluated by the State Examination Committee, which is responsible for assessing the general knowledge and capacity to apply the Day One Competences. The examination procedure consists of a practical test involving four main areas of veterinary medicine: internal medicine, surgery and reproduction, food hygiene (including pathological anatomy), animal husbandry and nutrition (including herd health management).

As of today, the DCC has not yet planned a final examination. However, the evaluation of *Tirocinio* activities is specifically oriented towards verifying the acquisition of the Day One Competences.

8.1.4. Description of the process for:

-) ensuring the advertising and transparency of the assessment criteria/procedures

The learning objectives taken into account shall be stated for each subject that makes up the syllabus, which is regularly updated and published on the School's website (<https://didattica.unipd.it/off/2018/CU/AV/MV0991#lezioni>). The syllabus also

includes specific information concerning the assessment methods and grading criteria. The learning objectives of the course, together with information regarding exam format, are presented to students at the beginning of the course.

As regards the communication of test results, a distinction between oral and written examination should be made. Whereas in the former case, the grade is awarded upon completion, in the latter teachers are strongly encouraged to submit their evaluation within a short period of time. Although there is no specific deadline in this respect, the issue of how to improve the grading system is currently being discussed.

-) awarding grades, including explicit requirements for barrier assessments

A number-based grading system ranging from 0 to 30, with 18 being the minimum passing grade, is currently in use throughout Italian academia. For students whose performance is above 30, the *lode* (cum laude) distinction may also be awarded.

-) providing the students with a post-assessment feedback and a guidance for requested improvement

Post-assessment feedback has a significant impact on learning and provides a great opportunity to highlight the strengths and weaknesses of a given piece of work, understand how a mark or grade was derived and guide students on what steps to take to improve.

Students who wish to receive feedback may do so by either e-mailing their teacher or seeing them during their office hours (<https://www.unipd.it/rubrica>). Further meetings outside of office hours may also be arranged when needed.

-) appealing

Students who feel they have been disadvantaged in their academic standing, either by an unfair substantive academic judgement of their work, or by a factor not involving substantive academic judgement, may appeal the outcome of the assessment to the director of the degree course. Should the problem not be resolved at this level, the director of the degree course may rely on the opinion of external experts, who could either be asked to re-mark the test or be present throughout a subsequent examination.

For a more detailed description of students' rights and responsibilities, together with information concerning appealing procedures, visit: https://www.unipd.it/sites/unipd.it/files/2017/REG_studenti_2016_0.pdf.

8.1.5. Description of how and by who the student's assessment strategy is decided, communicated to staff, students and stakeholders, implemented, assessed and revised

To ensure a continuous improvement of student assessment, both the DCC and the GAV play a very important role. Whereas the former defines its development strategy taking into consideration the learning outcomes, the latter is responsible for identifying and addressing any gap in learning objectives and procedures, while enhancing quality assurance processes.

Teachers must provide students with any information concerning the evaluation system in place to assess oral, written and

practical tests during their first lecture. In addition to being included in the syllabus, this information is also uploaded on the Moodle Platform. In case the test format changes, students should be promptly informed of the new test typology.

In order to assess whether the strategy implemented is successful, students are asked to evaluate the course they attended via a web-based University platform. The data collected is submitted to the GAV, which evaluates the results, communicates with teachers and addresses any matter arising from low passing rates, low teaching performances or difficulties in contacting or discussing problems with teachers. Furthermore, the continuous monitoring of examination outcomes enables the identification of exams which may a) slow down the student's career or b) be considered too "easy". Whereas the a) scenario will result in students making too many attempts before passing the exam and/or low marks (indicating that the exam was too difficult or that students did not have enough time to prepare), the b) scenario will result in students being more likely to pass the exam at their first attempt and with high marks (indicating that the test adopted was too simple or that students cheated during the exam). From this point of view, there are several on-line monitoring systems to check the teacher's evaluation performances. One of these is the *Uniwhere* app, a very useful tool to monitor students' performances and grades and whose implementation may bring a number of advantages.

8.2. Comments

As of today, the State Board Examination to obtain the national veterinary qualification is the only phase during which the student's level of competences and skills are assessed by external committee members (an exception can be made for the assessment of *Tirocinio* activities, where external professionals are asked to provide their own evaluations). Besides being part of the committee and judge students' knowledge and skills, non-academic veterinarians with expertise in different fields of the veterinary profession (private practice, public health, research) are asked to give their personal opinion on the quality of the veterinary curriculum. The GAV verifies the presence of any issue within the teaching system on a yearly basis.

8.3. Suggestions for improvement

The following activities could be implemented in the short term to improve the quality of student assessment:

- Score variations among student cohort could be checked and recorded. This would help monitoring the quality both of the teaching programmes and the examination system.
- As communication skills are not yet taught in a specific course, care should be taken in assigning a separate score for such skills in all professionalizing integrated courses taught during the last two years. For multiple examinations within the same integrated course, teachers could share the same scoring system with the aim of evaluating students' communications skills and terminology, their ability to summarize, and their practical and technical skills.
- A scheme/grid containing evaluation criteria is currently being developed for theoretical, pre-clinical and clinical practical examinations. This has already been implemented within some

courses, such as "Farm Animals" (IV year), where a number of teachers have developed a grid of evaluation (based on a thirty-point scale) taking into account the following: i) knowledge based on key words (6 pts), ii) attitude towards integrating information coming from different subjects (6 pts), iii) adequate communication skills (oral or written) (6 pts), iv) specific skills to communicate with stakeholders (6 pts), v) logical flow in the description of the required content (6 pts).

- Because there is no specific deadline with regard to the communication of test results, it would be desirable to define a window time (maximum seven days) within which marks and grades should be released.
- It would be desirable to decrease the number of partial examinations to encourage students to both consider the test as a whole and reduce the predictability of examinations.
- Change agents (a figure who has only just been introduced within the degree course with the aim of providing support and stimulating teachers to adopt innovative teaching techniques) should encourage teachers to always question their assessment strategies. Furthermore, they should provide suggestions and information on how to improve such strategies. Change agents are also committed to organize courses to enhance teaching quality.
- Organize seminars on assessment methodologies.
- Provide students with the possibility of receiving feedback on their examinations once marks are released (e.g. allow students to access assessed written examinations to become aware of what they could further improve, etc.).
- Create an online questionnaire on the overall examination experience to administer to students or encourage teachers to write an email at the end of the semester asking students who have already passed their exam to provide their opinion on the quality of the exam itself.
- Ask teachers who have chosen oral examination as an assessment method to keep track of questions asked (and the mark awarded based on students' answer).





9.

ACADEMIC AND SUPPORT STAFF

Written by:
A. Dalle Zotte and M. Dacasto

9.1. Factual information

Until 2010, the Italian University system provided for the following academic staff level:

- Full Professor
- Associate Professor
- Assistant Professor²

Pursuant to Italian Law no. 240/2010, the role of Assistant Professors was replaced with two fixed-term Assistant Professor positions, namely Junior (Jr.) and Senior (Sr.) Assistant professors (each position providing for a three-year contract). Old system or Tenured Assistant Professors are still present in the Italian Academia, although their roles are being replaced by Jr. and Sr. Assistant Professors as they retire or move up to the Associate level.

Italian academic staff members are organized according to academic recruitment fields and scientific disciplinary sectors. With regard to veterinary medicine (VM) specifically, five academic recruitment fields (07/H1-5) have been identified, comprising ten VM academic disciplines (Annex 9.1.).

To move to a new position, Assistant (both pre- and post-Law n° 240/2010) and Associate Professors should first gain the National Scientific Qualification (NSQ). Each candidate applies through the MIUR online platform and credentials are evaluated by committees of professors of specific academic disciplines. Passing criteria are essentially represented by the candidate's number of publications related to the specific academic discipline, the overall number of citations, and the H-index, whose magnitude depends on the specific academic discipline. Additional criteria are the research and teaching value of the candidate (e.g. competitive projects, responsibility and/or experience in teaching), and the involvement in scientific and institutional collegiate bodies.

The abovementioned law also suppressed Faculties. As a result, academic staff management is now dealt with at the departmental level. For a more detailed description of the academic staff involved in the DCVM, see Table 9.1.1.

Finally, according to Italian Law no. 230/2005, the total amount of time that full-time academic staff, including Jr. and Sr. Assistant Professors, shall devote to teaching-related activities is 350 hours a year. These activities include lectures, practicals, exams, thesis tutorship and participation in collegiate bodies and related activities.

9.1.1. Description of the global strategy in order to ensure that all requested competences for the veterinary programme are covered and that staff are properly qualified and prepared for their roles

Overall, the required skills for the DCVM can be inferred from the Italian University website (<https://www.universitaly.it/index.php>), which also contains additional information on the DCVM as a whole. Such skills have been transposed into UniPD's educational offer (<https://en.didattica.unipd.it/off/2019/CU/AV/MV0991>), which is approved on a yearly basis. Pursuant to European guidelines and Italian requirements established by MIUR, the

educational offer was revised in the academic year 2015/2016. All the curriculum subjects are identified by the same academic recruitment fields mentioned for the academic staff (Annex 9.1.). Every year, courses are assigned to teaching staff members based on academic disciplines and/or the Professor's teaching/research background. Each professor must approve the learning contents and any other information making up the course syllabus, for which they take full responsibility.

Since 2013, UniPD has undertaken initiatives to strengthen the accreditation process of its courses, including the DCVM (see Chapter 11). As of today, the evaluation of both the DCVM and teaching staff is carried out in different ways and at different times during the academic year:

- Once reviewed by each professor, the educational offer (including syllabi) is firstly approved by the course coordinator and then by both the DCC and the DC.
- Every semester, students are administered open online questionnaires, which allow to gather information on the level of satisfaction, organization and teaching skills of the teachers involved in the DCVM.
- The GAV, which meets to make a critical review of the course, taking into consideration both students' opinions and external stakeholders' suggestions.
- A crucial event is the "Week for the Improvement of Teaching", which is usually held in mid-November. During this meeting, teachers, support staff, students and stakeholders discuss, critically review the course and propose solutions whenever a problem arises. A review report is subsequently drafted and sent to the Rector.
- As soon as the JTC and the University Evaluation Unit have read the aforementioned review report, they provide the course coordinator with a final report which may include recommendations (if any) to improve the quality of the DCVM.

The recognition of teaching staff qualifications is also guaranteed by the aforementioned recruitment/promotion procedures (in particular the possession of the NSQ and the belonging to a specific academic discipline).

Most of permanent teaching staff are full time, which ensures that they have adequate time to assist students and implement their knowledge and skills. Moreover, a high percentage of teaching staff are doctors of veterinary medicine (Table 9.1.2.). The number of academic staff holding the European Board of Veterinary Specialization (EBVS) diplomate status increased significantly (15) since the 2010 EAEVE evaluation visit, although the number of diplomates in core clinical disciplines should be further enhanced. Moreover, a number of residency programmes have also been activated.

Overall, these initiatives allow to carefully monitor whether the qualifications of teaching staff are appropriate and, within a broader context, to assess both the skills provided for by the DCVM and teaching contents and quality.

Mandatory biosecurity training for support and teaching staff is provided through the UNIFOR web platform of UniPD (<https://www.unipd.it/unifor>), as set out in the "Safety provisions for practicals, traineeship and thesis projects" (see Chapter 7.1.4.).

With respect to the training of teachers, UniPD is committed to improving and modernizing Teachers' teaching skills and to further enhance e-learning. A specific programme (Teaching For

² In the Italian system, Assistant Professors refer to the so-called "Ricercatori".

Learning, T4L – Teaching4Learning@unipd; <https://elearning.unipd.it/t4l>), which was initially coordinated by the Vice Rector for Teaching, was launched in 2017 and is now active to provide teaching staff with new methodologies to foster student participation in the learning process and encouraging collaborative support in teaching practises (Learning Community). Teachers may enrol in the proposed T4L courses voluntarily.

Departmental projects on innovative teaching (including those from MAPS and BCA) were presented to UniPD and funded over the last few years. In addition to T4L and change agents, UniPD further improves the quality of teaching through other specific courses (e.g., KALTURA and Modular Object-Oriented Dynamic Learning Environment, Moodle, etc. – <https://elearning.unipd.it/dlm/>), while the library of Agripolis (see Chapter 6) provides academic staff members with a number of courses on how to use the various bibliographic tools available (see Chapter 6.1.6.).

Continuing education programmes offered by UniPD allow academic staff to further develop their skills and competences through different exchange programmes, including the Erasmus+ Staff Mobility for Training Programme (<https://www.unipd.it/erasmus-staff>), the Staff Mobility for Teaching Assignment, the Mobility Programme for EU and extra-EU countries (<https://www.unipd.it/staff-mobility-teaching>), and the Visiting Scientist Programme (<https://www.unipd.it/visiting-scientist>).

Finally, for teachers who teach their courses in English, different projects aimed at further strengthening their skills and competences in the English language have also been implemented (e.g. the Leap Project – <http://cla.unipd.it/attivita/docenti/leap/>, ABA English)

9.1.2. Description of the formal programme for the selection, recruitment and training to teach and assess students (including continuing education) of the academic staff

Following the coming into force of Italian Law no. 240/2010, the overall reorganization of universities has substantially changed the entire process for the selection and recruitment of academic staff. As a result, a greater margin of autonomy is now given to Departments, the bodies to which academic and support staff belong.

Overall, the selection and recruitment of permanent academic and support staff falls within the competence of UniPD Rectorate. Every three years, UniPD makes funding resources available to Departments for the recruitment, selection and promotion of academic and support staff, including the replacement of retired staff (75% of the budget is allocated to this end). This budget cannot be used for Jr. Assistant Professor positions, for which a budget of 150.000 €/head is allocated. Each Department is expected to develop its investment plan. Occasionally, UniPD may receive/allocate further funding for recruitment and selection campaigns (e.g. MIUR grants for outstanding scientists; calls for interdepartmental academic staff positions, etc.).

For the selection of permanent academic staff, competitive national/local examinations for each veterinary academic recruitment field and a specific academic discipline are called. Candidates must have gained their NSQ (except for Jr. and Sr. Assistant Professors). Members of UniPD academic staff are assigned every year an amount of teaching hours to be taught.

With regard to other teaching staff, local competitive selection procedures, managed by Departments, are released every year to fill vacant teaching positions in specific subject areas (primarily clinical sciences and clinical rotations). Both procedures are based on criteria including teaching capabilities and experience, research record, service activities and *curriculum vitae*.

9.1.3. Description of the formal programme for the selection, recruitment and training to perform their specific duties (including continuing education) of the support staff

The selection and recruitment of support staff falls within the competence of the Rectorate and takes into account the economic resources allocated in the three-year planning document. The selection procedure is based on a profile describing the required specific/general skills. The competitive selection procedure is based on the same criteria mentioned above (see Chapter 9.1.2.), excluding teaching capabilities. Support staff contracts of the DCVM are listed in Table 9.1.3.

Additionally, temporary staff members may also be recruited by using part of the economic resources allocated every academic year to Departments for teaching improvement purposes. These prospective staff members (mostly post-graduate students, PhD or post-docs researchers) may assist academic and support staff during practicals/hands on activities (Table 9.1.4.). Once again, in order for the abovementioned staff members to be contracted, competitive calls related to specific subjects and academic disciplines are published. An Exam Board appointed by the SASVM will determine the candidate's suitability for the position. With regard to continuing education offered to support staff members, the Area of Human Resources of UniPD has implemented a number of courses over the past decade (<https://www.unipd.it/unifor>; <https://elearning.unipd.it/formazione/>). As of today, a policy paper encompassing four distinct lines of action (including mapping and involvement of support staff in training activities, improvement of e-learning training for support staff) has been published for the years 2019-2021. Furthermore, international mobility programmes, such as the Erasmus+ Staff Mobility for Training (<https://www.unipd.it/erasmus-staff>) and the Staff Training Week (<https://www.unipd.it/servizi/esperienze-internazionali/lavoro-allestero/staff-training-week>) are also available. Finally, the Departments involved in the DCVM also allocate (on a yearly basis) funds to support staff training and continuing education. In addition to the resources made available by UniPD, such funds may be used for training activities specifically targeted for the DCVM.

9.1.4. Description of the formal programme for the appraisal, development, promotion criteria and procedures, supporting and mentoring of both academic and support staff

As mentioned above, promotion to Associate and Full Professor positions requires the obtainment of the NSQ.

Research and teaching activities of academic staff are evaluated

every three years by both the related Department and UniPD. Until the coming into force of Italian Law no. 240/2010, changes in the salary of academic staff were only linked to years of service. Following the economic crisis, this process was suspended in 2011. Two one-off economic incentives were given in 2013 and 2018, according to academic and scientific merit. Since 2019, changes in academic staff salary require a full evaluation of research, teaching, academic and service activities.

The research merit of academic staff of UniPD and affiliated Departments is indirectly evaluated by ANVUR. Currently, a VQR is carried out every five years, according to specific guidelines provided by MIUR. The main criterion taken into account is the number of articles published in ranked peer-reviewed journals (Italian Presidential Decree no. 76/2010). It provides an up-to-date overview of the state-of-the-art of research in the various academic disciplines in the view of promoting an improvement of research quality and allocating the fund for the Ordinary Financing Budget (*Fondo di Finanziamento Ordinario* - FFO) through a merit-based system. According to Italian Law no. 98/2013, the bonus quota may reach up to 30% of the FFO over the next few years. Two VQR assessments have taken place so far, covering the periods 2004-2010 and 2011-2014. Low research productivity and/or the presence of unproductive units penalises the related Department in terms of funding to be used for recruitment and promotion purposes.

The evaluation of teaching activities also indirectly depends on ANVUR. According to the Standards and Guidelines for Quality Assurance in the European Higher Education Area, ANVUR has developed and implemented a Higher Education Quality Assurance System (Italian Law no. 240/2010 and Legislative Decree no. 19/2012), based on specific assessment criteria, methodologies and procedures. The system, commonly referred to as the AVA System, has been operative since 2013 and sets the standards for the self-assessment of programmes and institutions, as well as for the external assessment of quality assurance systems. This latter form of assessment is based on peer review and is carried out by ANVUR experts through on-site visits and document analysis. In 2018, UniPD was evaluated by ANVUR (see Chapter 1), obtaining the highest score (A) a large University (>40,000 students) has ever achieved. Although UniPD was evaluated as a whole, the DCVM was not among the assessed courses. In each University, the University Evaluation Committee and the University Quality Department (*Presidio di qualità* – PQA) are also responsible for the quality assurance of teaching (for further details, see Chapter 11). Beneath these organisms is the JTC (see Chapter 9.1.1), whose activity is managed by the SASVM, and the GAV. These collegiate bodies file an annual report, which is eventually sent to ANVUR.

As of the a.y. 2012/2013, UniPD has implemented further initiatives to evaluate the teaching activities of each training programme, including the DCVM programme. The performance of support staff, which takes into account research, teaching, and staff's involvement in departmental services and collegiate bodies, is evaluated every year by both the Directors of the Departments and UniPD. The process consists of the following: a) preliminary identification of criteria for performance assessment, b) ex-post evaluation of objectives achieved (including self-evaluation of support staff members), c) overall verdict.

9.1.5. Description of the formal rules governing outside work, including consultation and private practice, by staff working at the Establishment

Full-time Professors and support staff cannot undertake outside work (except for carrying out teaching activities and/or provide advice) without prior approval of the Director of Department and/or the Rector. However, some exceptions in this regard exist (e.g., reviewer, consultant work, etc.). On the contrary, part-time academic staff (250 hours of teaching instead of 350 per year and a lower salary), as well as non-permanent academic and support staff, may undertake outside work.

9.1.6. Description of the formal programme of the Establishment for the assessment of teachers by students and its outcome

Every academic year teachers provide students with course satisfaction questionnaires when roughly 75% of lectures and/or practicals has been delivered. A list of 3-5 itemized questions is made available by UniPD. However, teachers may decide to further implement the questionnaire with other items too. Since 2011, students are required to fill in an online questionnaire before the end of each semester and the beginning of the exam period. The questionnaire, which follows ANVUR's guidelines, is useful to gather students' opinion on the course units of the DCVM. Both teachers and the degree course coordinator receive the consumptive report, and a summary of results (overall satisfaction, organization, and teaching capabilities) is subsequently published on the website of UniPD (<https://www.unipd.it/opinione-studenti-sulle-attivita-didattiche>).

Another indirect initiative for the assessment of teachers by students is represented by the "Week for the Improvement of Teaching".

9.1.7. Prospected number of FTE academic and support staff of the Veterinary programme for the next 3 academic years

The total number of students admitted every year to the DCVM is approved by MIUR. Therefore, the student-to-academic staff and student-to-academic/support staff ratios (for practicals and hands-on activities) are predetermined and, to a certain degree, not subject to variations. However, there are some differences with regard to practicals/hands on activities, which are essentially the result of capacity constraints and difficulties arising from specific training activities. Taking into consideration the current recruitment and replacement initiatives of the Rectorate, it is expected that the number of FTE academic and support staff will not be significantly increased in the next three academic years. A possible solution could be that of recruiting a higher number of non-permanent academic and support staff, although this would require the allocation of additional financial resources.

9.1.8. Description of how and by who the strategy for allocating, recruiting, promoting, supporting and assessing academic and support staff is decided, communicated to staff, students and stakeholders, implemented, assessed and revised

The MIUR is fundamental for the functioning of the university system. Every year, UniPD receives funding (FFO) to cover institutional costs. Additional funding is made available according to performance criteria, e.g. quality of teaching, VQR and internationalization. As already mentioned above, the Departments involved in the DCVM decide how to allocate the economic resources they receive over the three-year planning. The Budget Committee of each Department develops a strategic plan for the maintenance of the course in

terms of academic staff, credits (hours) and type of teaching activity (lectures, practicals and hands on activities). A factor to be considered is the overall number of hours each teacher must deliver over one year. It should be noted that many teachers do not provide teaching exclusively within the DCVM. For this, the overall educational offer for the subsequent academic year (Bachelor and Master of Science programmes) is approved every December by both the DCC and the DC. In springtime, all permanent academic staff members are told the number of hours they need to teach within the DCVM. Vacant hours will be assigned following specific competitions. Whenever an academic staff member retires, 75% of the related budget is recovered, and the Department to which the budget is assigned launches a public competition to replace the retiree, either through a Jr. or Sr. position or an Associate or Full Professor position (depending on the budget available).

Type of contract	2018/19	2017/18	2016/17	Mean
Permanent				
	66.5	67.5	69.5	67.8
Temporary:				
Interns	8	4	3	5.0
Residents	0.4	0.6	0.3	0.4
Practitioners	15.5	14.5	11.0	13.7
Others	1	0	0	0.3
Total	91.4	86.6	83.8	87.3

**All staff included in this table must have received training to teach and to assess undergraduate students. Practitioners involved in EPT are not included in this table.

Table 9.1.1. Academic staff **of the veterinary programme (FTE)

Type of contract	2018/19	2017/18	2016/17	Mean
Permanent	47.6	51.4	54.3	51.1
Temporary	24.0	20.9	15.9	20.2
Total	71.6	72.3	70.2	71.3

Table 9.1.2. Percentage of veterinarians in academic staff

Type of contract	2018/19	2017/18	2016/17	Mean
Permanent	34.7	35.1	36.4	35.4
Temporary	3.3	2.4	2.1	2.6
Total	38	37.5	38.5	38

Table 9.1.3. Support staff of the veterinary programme (FTE)

Type of contract	2018/19	2017/18	2016/17	Mean
Permanent	0	0	0	0
Temporary	43	45	45	44.3
Total	43	45	45	44.3

Table 9.1.4. Research staff of the Establishment (FTE)

9.2. Comments

Over the last decade, a remarkable progress in the quality of academic and support staff involved in the teaching of veterinary medicine and its assessment has been made at UniPD.

- The NSQ has certainly improved the scientific quality of recruited academic staff at the national level.
- An increase in the number of EBVS Diplomates and Residency Training Programmes has been recorded within the DCVM.
- Remarkably, several initiatives aiming at improving the individual quality of teaching (e.g. T4L) have been proposed by UniPD and Departments involved in the DCVM.
- An increasing number of academic staff members have participated in the aforementioned initiatives, especially young teachers.
- Academic staff members have further improved the internationalization process through a number of initiatives, such as the organization of summer schools in English, the promotion of mobility among support and academic staff, and the involvement of visiting professors. As is the case with academic staff, support staff can also attend courses aimed at both improving the quality of teaching and spending a period of time at a national/foreign institution to further improve their knowledge in veterinary sciences. UniPD is increasingly focusing on the quality of teaching (which is also a very important criterion for the allocation of funding by MIUR). Assessment of teaching quality is based on several initiatives, which involve students, academic and support staff, as well as UniPD (e.g. online questionnaires, GAV meetings, the “Week for the Improvement of Teaching”, JTC and the University Evaluation Unit).
- The ratios referring to practical and hands on teaching activities might be improved in perspective through a reduction in the number of students per group. Nevertheless, this would result in involving a higher number of academic/support staff in comparison with other teaching activities.

9.3. Suggestions for improvement

It would be desirable to further enhance the quality assessment system in place. The following improvements might be taken into consideration:

- The evaluation system adopted by the DCVM should be standardised. With regard to academic staff assessment, further measures could be implemented, such as the election of both the teacher of the year (one per year) and teacher of the degree course (one per year).
- Increase the number of academic and support staff taking part in initiatives organised at the local and UniPD level to further improve teaching quality (e.g. T4L). Such initiatives could also benefit from the presence of the so-called change agents.
- Increase the number of EBVS diplomates (thus completing the range of core disciplines) and residents, who may provide an added value for the activities provided within the DCVM.
- Increase the number of European and non-European exchange programmes offered to students, academic and support staff (e.g. Erasmus+). This would allow to further improve internationalization, which has now become a very important parameter for MIUR.





10.

RESEARCH PROGRAMMES, CONTINUING AND POSTGRADUATE EDUCATION

Written by:
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10.1 Factual information

10.1.1 Description of how the research activities of the Establishment and the implication of most academic staff in it contribute to research-based undergraduate veterinary education

Both Departments, BCA and MAPS, offer a strong research-oriented working and teaching environment. Research activities are regularly planned within the Three-year Research Plan and monitored by specific committees with the aim of achieving scientific excellence. In the last national round of evaluation BCA and MAPS were both top-ranked in Veterinary Sciences. Several research projects funded through local, national and international grants are currently ongoing in both Departments (Table 10.1.5). In general, students can benefit from a highly active research environment throughout their studies. This is particularly true when they start writing their dissertation, which is when they first have the opportunity to work in a research group.

10.1.2. Description of how the postgraduate clinical trainings of the Establishment contribute to undergraduate veterinary education and how potential conflicts in relation to case management between post- and undergraduate students are avoided

As of today, 15 members of the academic staff hold a Diploma from one European Veterinary College. Four Residency Training Programmes are currently active in the fields of Animal Reproduction, Bovine Health Management, Pathology and Pharmacology-Toxicology. Residents routinely help their supervisors and other staff members in teaching undergraduate students, while tutoring them as they work on their dissertation. Residents and undergraduate students frequently collaborate proficuously with one another, with the latter often being offered to work on part of a PhD program to fulfill their dissertation requirements. In addition to Residents, a small number (± 2 /year) of postgraduates obtain short term (± 6 months) clinical training grants through which they can collaborate with clinicians either involved in daily tasks at the VTH (small animals or equine) or working for the *Ruminant Herd Service*. Such young graduates contribute to the handling of clinical cases thus providing another way to strengthen undergraduates' clinical training. Both undergraduate and postgraduate students often share clinical cases and/or herd-related problems, which represent a great opportunity for them to help each other in improving their knowledge and practical skills.

10.1.3. Description of how undergraduate students:

-) are made aware of the importance of evidence based-medicine, scientific research and lifelong learning

As a result of the faculty members' high scientific qualifications, scientific evidence is being used in most courses.

In spite of this, however, there is no systematic planning and monitoring on how evidence-based medicine and scientific research are included in specific course programmes. This problem, which has already been identified by the GAV (Annex 3.5.), is currently being tackled. Scientists from other institutions are often invited to give seminars on their scientific activity. Student participation in these seminars is promoted by the teacher who has invited the speaker. Furthermore, students have the opportunity to participate voluntarily in a variety of scientific events that are held on a regular basis on the Agripolis Campus (Annex 10.1).

The concept of Lifelong Learning is continuously reminded to veterinary students, in particular from the 3rd year onwards, which is when they start getting involved in professional issues. The need to develop consensus for specific treatments as well as the presence of controversial issues for the diagnosis/treatment of certain diseases are topics on which *Tirocinio* tutors as well as clinical teachers frequently stimulate discussion. This allows students to become aware of the continuing need to update their knowledge. Undergraduate students are also encouraged to participate in continuing education events that are organised by the University and other external (public and private) scientific organisations.

-) are initiated to bibliographic search, scientific methods and research techniques, and writing of scientific papers

Undergraduate students are provided with a theoretical-practical optional course on the resources and services available at the ULS of UniPD, focussing particularly on the use of databases (Scopus, Pub-Med, ISI) to conduct bibliographic researches and on the *Mendeley* software. The course, which lasts approximately four hours and is offered four times per semester, usually involves 10-12 students from all the degree courses offered at Agripolis. It is indeed during this phase that undergraduate students are required both to carry out experimental works and to acquire hands-on experience on how to collect and select relevant references, present a scientific research work in an appropriate form, and critically discuss the results obtained. All these activities are carried out under the supervision of a faculty member who is highly qualified in scientific research. Dissertations are sometimes written in English and one or more scientific paper/s is/are frequently published in peer-reviewed scientific journals.

-) are offered to participate to research programmes on a non-compulsory basis

The final dissertation (9 ECTS) represents a chance for students to actively participate in the different phases of a research



project. Students choose the topic of their dissertation on the basis of their own interests and attitudes, and according to the ongoing projects available when they start thinking of their dissertation. Students have also the opportunity to complete their dissertation in non-academic research institutions (e.g. IZSve, private hospitals, foreign academic institutions, etc.), under the supervision of an academic staff member.

10.1.4. Description of how the continuing education programmes provided by the Establishment are matched to the needs of the profession and the community

Among the GAV members are two representatives of stakeholders, who provide important information on professional training needs and organize regular meetings involving other stakeholders. The “Regional Technical Table of the Veterinary Profession”, which was established in May 2017, involves representatives of the veterinary profession of the Veneto region and addresses both the veterinary profession’s training needs and the Community needs. The participation of the Director of MAPS in the Technical Table’s meetings allows all staff members of the DCVM to remain informed of significant issues and changes within the profession.

10.1.5. Prospected number of students registered at postgraduate programmes for the next 3 academic years

The number of students enrolled in postgraduate programmes is expected to further increase in the years to come. The current number of students enrolled in the upcoming PhD cycle is 16 (12 enrolled in Veterinary Sciences and 4 in Animal and Food Science), which already represents a step forward compared to previous years. Similarly, the number of students

who are about to start Specialization Schools has also slightly increased.

10.1.6. Description of how and by who research, continuing and postgraduate education programmes organized by the Establishment are decided, communicated to staff, students and stakeholders, implemented, assessed and revised

Research programmes are supported by international (mainly EU), national and local grants. Application of research teams to public calls for research proposals is highly encouraged by the Departments. Research grants distributed by the University are allocated within the Departments according to the criteria established by their Councils, which take into account the quality of projects and the equal involvement of researchers. Besides being promoted by the DCs, institutional postgraduate programmes (PhD courses, Residencies, Professional Master Courses, Specialization Courses) must comply with both the standards for quality assessment established by the different institutions (MIUR, ANVUR, UNIPD, EBVS) and other general rules (see links:

<https://www.anvur.it/attivita/corsi-di-formazione-superiore/accreditamento-dottorati-di-ricerca/>;

<https://www.unipd.it/dottorato>;

<http://www.dottorato.veterinaria.unipd.it/>;

<https://www.unipd.it/dottorato/animal-food-science>;

<https://www.unipd.it/scuole-specializzazione-area-veterinaria>;

<https://www.unipd.it/valutazione-master>;

<https://www.unipd.it/formazione-continua>).

Other types of continuing education activities (courses on offer, meetings, seminars) may be organized by the Departments, often in cooperation with external institutions or experts upon request by stakeholders (veterinary public services, professionals, private companies).

	2018/19	2017/18	2016/17
Interns*			
Companion animals	1	2	2
Equine	1	1	
Total	2	3	2
Residents (EBVS disciplines):			
ECBHM	1	1	1
ECAR	2	2	2
ECVPT	2	2	1
ECVP		2	2
Total	5	7	6

*Interns are not assigned to a specific area as they are involved in the various services provided at the VTH

Table 10.1.1. Number of students registered at postgraduate clinical training

PhD Programmes	2018/19	2017/18	2016/17
Veterinary sciences	26	22	21
Animal and food science*	5	4	3

* Only PhD students whose supervisor belongs to BCA or MAPS are considered

Table 10.1.2. Number of students registered at postgraduate research training

Postgraduate Programmes	2018/19	2017/18	2016/17
Specialization School			
Animal health and production	34	35	0
Food inspection	36	36	0
Breeding, hygiene and pathology of aquatic species and by-product inspection	25	25	0
Summer School			
Meat production, safety and health	20	0	0
Sustainability of meat production	0	19	0
Second-level Short Specialization Degrees (Professional Master Courses)			
Food safety and quality	2 (15)*	1 (14)*	5 (26)*

*The number in brackets refers to the total number of students (including veterinary and non-veterinary students) attending the course

Table 10.1.3. Number of students registered at other postgraduate programmes (including any external/distance learning courses)

Continuing Education Courses	2018/2019	2017/2018	2016/2017
Animal welfare and ethics	2 (10)*	4 (16)*	5 (11)*
Wildlife first aid			
Nutrition and feeding of dairy cow: from basic principles to field application	0	10 (27)	0
Seafood quality	30	0	0

*The number in brackets refers to the total number of students (including veterinary and non-veterinary students) attending the course

Table 10.1.4. Number of attendees to continuing education courses provided by the Establishment

Scientific topics	Grant/year (€)	Duration (Years)
Genomic management tools to optimize cattle resilience and efficiency	78,830	5
Prediction of the histological grading of meningiomas	46,700	3
Increasing productivity, resource efficiency and product quality in cattle production	42,300	3
Evaluation of the effectiveness of a vaccine against viral diseases of pigs	41,000	1
Improvement of milk quality	30,000	2
Ecotoxicological analysis of the impact of MOSE in the Venice lagoon	559,150	3
Advancing European Aquaculture by Genome Functional Annotation	369,294	4
Consumer driven Production: Integrating Innovative Approaches for Competitive and Sustainable Performance across the Mediterranean Aquaculture Value Chain	210,025	5
Innovative genetic and management strategies in the heavy pig farming for the production of DOP Veneto ham	190,724	5
Applied phenomics and genomics in pigs for the identification and use of new phenotypes in breeding plans	169,000	3

*The table above includes MAPS and BCA's top five research programmes based on funds allocated

Table 10.1.5. List of the major funded research programmes in the Establishment which were on-going during the last full academic year prior the Visitation *

10.2. Comments

There is a positive trend with regard to student's involvement in research opportunities and educational and training programmes. This is also confirmed by the number of students enrolled in PhD programmes per academic year (Veterinary Sciences: 9, 7, 10 and 12 from the a.y. 2016/17 to 2019/20; Animal and Food Science: 1, 2, 2, 4 from the a.y. 2016/17 to 2019/20 – these figure only take into account PhD students whose supervisor belongs either to BCA or MAPS).

Although students and recent graduates seem to have acquired sufficient awareness of the importance of scientific research and lifelong education, further efforts to monitor the effectiveness of such initiatives should be made.

10.3. Suggestions for improvement

The strong link between research activities carried out by staff, research progress in general and the content of courses should be better highlighted.

The large number of seminars, presentations, conferences and continuing education activities organized by both Departments and other institutions at the Agripolis Campus should be better promoted among undergraduate and postgraduate students, as this would lead to an increase in the number of attendees.

Quality assessment should be extended to postgraduate programmes and continuing education activities with a veterinary focus that are organised at the Agripolis Campus.



11.

OUTCOME ASSESSMENT AND QUALITY ASSURANCE

Written by:
A. Mazzi

11.1. Factual information

Since the 2010 EAEVE visitation, the DCVM has undergone important changes (see Introduction) that have further enhanced the tools and procedures the degree course uses for QA. From 2013, a number of initiatives developed by both MIUR and UniPD to comply with the standards established by ENQA (European Association for Quality Assurance in Higher Education) have led to the introduction of structured quality management systems at the degree course level, thus involving the DCVM too (Figure 11.1.).

The following QA initiatives are organised at the national level:

- ANVUR oversees the national public quality evaluation system of universities and research institutions for training, research and third mission activities. In June 2019, ANVUR received the accreditation status from ENQA. For a list of the tasks and initiatives promoted by ANVUR, see <https://www.anvur.it/en/homepage/>.
- The Self-assessment, Periodic Evaluation and Accreditation (AVA) system, which was implemented in 2013, aims at improving the quality of teaching and research activities in universities through the implementation of a verified QA model, and in a clear and transparent manner. For further information on AVA, see <https://www.anvur.it/en/activities/ava/>.
- On-site visits by the Committee of Evaluation Experts (CEV) are organized by ANVUR and provide for a third party audit with the aim of verifying that all the quality requirements established by MIUR for the periodical accreditation of Italian universities are met. The on-site visit by CEV at the premises of UniPD was carried out in November 2018 and its final report will be published on the following webpage <https://www.anvur.it/attivita/ava/accreditamentoperiodicorapporti-anvur-di-accreditamento-periodico/>. In any case, the opinion expressed by CEV was very positive, with UniPD obtaining the best result (A) at the national level.

The following QA initiatives are organised at the University level:

- The University Evaluation Unit (*Nucleo di Valutazione*, NdV) is responsible for verifying and assessing the quality and effectiveness of teaching programmes, research activities, buildings and the overall organization, with the aim of promoting talent and enhancing performances. Further information on the composition and activities of the NdV is available at <https://www.unipd.it/nucleo>.
- The University Quality Department (PQA) is responsible for promoting a culture of quality, providing advice on QA-related issues to the University governing bodies, monitoring QA procedures and supporting their implementation. Further information on the composition and activities of the PQA is available at <https://www.unipd.it/presidio-qualita-ateneo>.
- The CPQD is responsible for promoting, coordinating and monitoring any activity aimed at evaluating and improving teaching at the University level, while supporting QA and teaching innovation initiatives. Further information on the composition and activities of the Committee is available at <https://www.unipd.it/commissione-presidio-qualita-didattica>.

The following QA initiatives are organised at the SASVM level:

- The JTC is responsible for carrying out monitoring activities with regard to teaching programmes and quality, and service activities implemented by teachers for students. The

Committee also provides opinions on the activation/suppression of degree courses. Further information on the composition and activities of the Committee is available at <https://www.agrariamedicinaveterinaria.unipd.it/en/governing-bodies>.



Figure 11.1 QA initiatives at MIUR, UniPD and SASVM levels

According to the provisions agreed at both the national and university level, the DCVM has adopted new systematic and recognised QA tools for analysing, planning, assessing and monitoring the educational path (Figure 11.2):

- The GAV is responsible for assessing any critical issue reported by the DCVM in relation to teaching, student services and employment opportunities, as well as for putting forward the most appropriate corrective actions to the DCC. It is composed of both students and teachers, and a representation of stakeholders.
- The SUA form is the management-supporting tool for the re-planning of the DCVM. It also takes into account local educational needs, while ensuring the provision of teaching programmes and the achievement of the expected learning outcomes. For a more detailed description of the SUA form, see Annex 1.1.
- The ANVUR monitoring, self-assessment and periodical evaluation indicators allow the DCVM to monitor through time the course performance in terms of student progression, teaching quality, internationalisation and other aspects. They further allow the DCVM to compare itself with other nationwide courses falling within the same class.
- The annual and periodical review reports allow for an in-depth analysis (both in terms of effectiveness and appropriateness) of the educational path, by means of standard documents defined by ANVUR. For the last review report please see Annex 3.5.

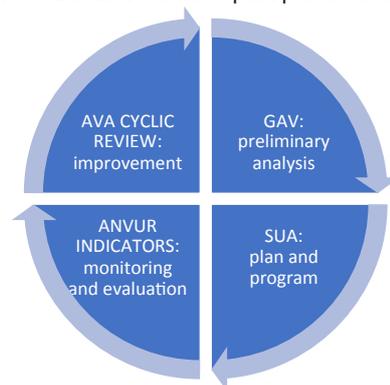


Figure 11.2: New QA tools adopted by the DCVM to comply with ministerial and university requirements

11.1.1. Description of the global strategy of the Establishment for outcome assessment and Quality Assurance (QA), in order to demonstrate that the Establishment

-) has a culture of QA and continued enhancement of quality

Besides undertaking the task of implementing a QA culture, the Director of the DCVM, together with the DCCs, has been making efforts to achieve the following objectives:

- Maintain the DCVM's national leadership position with regard to student progression indicators (graduation time, graduation mark, etc.).
- Carefully plan teaching activities, while monitoring the processes and outcomes through specifically appointed Committees.
- Ensure a continuous dialogue with the community and stakeholders, both during the planning and verification phases.
- Invest on teaching staff training through innovative teaching projects.
- Systematically present and discuss with all interested parties (students, teachers, staff, stakeholders) the work and outcomes of the QA process.

Any task undertaken by the DCVM is strongly supported by both MAPS and BCA within their strategic development policies (see Chapter 1).

-) operates *ad hoc*, cyclical, sustainable and transparent outcome assessment, QA and quality enhancement mechanisms

In order to ensure an effective management of the educational path, the DCVM has implemented a quality management process which can be defined as an "extended PDCA", with QA tools being included within a systematic process that ensures the feasibility of actions in a long-term strategic vision. The quality management process includes the following activities (Figure 11.3):

1. **Analyse:** The meetings with the GAV and the JTC, along with the suggestions put forward by the NdV, the PQA and the CPQD, allow the DCVM to analyse the effectiveness, appropriateness and feasibility of the educational path. The analysis takes into account the reference context, which includes: local needs, the expectations of the labour market, ministerial regulatory requirements, UniPD strategies, and the organizational needs of the SASVM.
2. **Plan:** The DCC defines the mission, policy and improvement targets of the DCVM, in addition to being responsible for drafting the SUA form and publishing its outcomes, upon approval during the DCC meetings of MAPS. All teaching staff members shall complete the syllabus for their teaching.
3. **Prepare:** The DCVM and the GAV, with the support of the SASVM, are responsible for the organisation of teaching activities, the management of space, the planning of *Tirocinio* activities, the management of supporting documents, and the provision of information to students.
4. **Do:** The DCVM appoints specific Committees to oversee the management of specific activities, among which are the training of external teaching staff, the planning, organisation

- and management of *Tirocinio* activities, the definition and implementation of SOPs on security issues, the digitalised logbook, the preparation of training activities ("Week for the improvement of teaching", "At the borders of teaching", etc.).
5. **Check:** The monitoring and verification are systematic and involve the use of numerous tools, such as: the DCC, the GAV, the meetings between the Director of the DCVM and student representatives, the meetings between the Director of the DCVM and the contact persons for traineeship, student evaluation questionnaires on teaching, the internal audits by the EAEVE Accreditation Team.
 6. **Improve:** The information and data collected through control activities allow the DCC to detect any opportunity for intervention to further enhance the teaching offer and the organisation of the DCVM.

Any activity making up the ongoing improvement process is managed by the DCVM at different stages and by different actors appointed according to their skills, and taking into account ministerial and university provisions. The Director of the DCVM, together with the GAV and the EAEVE Accreditation Team, shall ensure that the different activities are coordinated and suitable for achieving the common objective of pursuing a continuous improvement of the educational path, while optimising the available resources. For this purpose, the support of both MAPS and BCA, along with the collaboration of the SASVM, UniPD and the local community, is of the utmost importance.

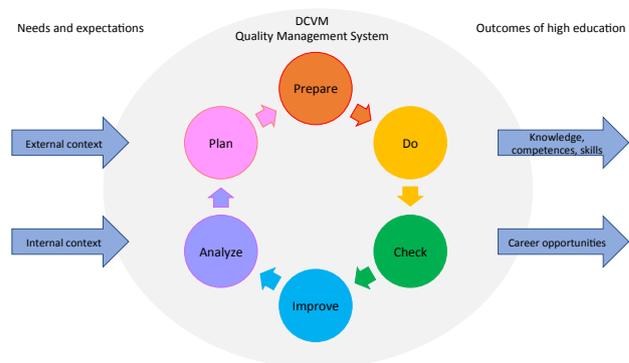


Figure 11.3: Quality management process of DCVM

-) collect, analyse, and use relevant information from internal and external sources for the effective management of their programmes and activities

The DCVM collects and analyse in a systematic way all the information and data related to the internal and external frame of reference.

- The meetings with the GAV allow for dialogue and discussion with stakeholders and local representatives to assess the adequacy of the educational path against current and emerging labour market needs.
- Practical *Tirocinio* activities rely on the support of many local professionals, who can provide their feedback on an ever-changing profession's needs.
- The meetings with the JTC of the SASVM ensure that problems and critical issues concerning organizational aspects and student satisfaction are dealt with.
- The analysis of data by means of ANVUR comparative indicators and the data from *AlmaLaurea* surveys allows to

monitor the effectiveness and feasibility of the educational path, also through the national comparison of performances.

- The exchange of views between teachers during the DCC meetings, and the fact that decisions are made collectively, allows to reach a shared vision of activity planning and organisation.
- Discussions with the directors of other UniPD's degree courses allow to share and compare information and opinions.

-) informs regularly staff, students, and stakeholders and involves them in the QA processes

With regard to the phases of the quality management process (Figure 11.3), the DCVM meets regularly with staff, students, and stakeholders to carry out the following:

1. **Analyse:** The quarterly meetings of the GAV and the *Tirocinio* Committee involve both stakeholders and student representatives.
2. **Plan:** Student representatives and teachers meet during the DCC meetings (5-6 meetings per year) and annually to approve the SUA form; all teachers are expected to complete the syllabus for their teaching.
3. **Prepare:** The JTC, student representatives and teachers serving as contact-points for traineeship activities meet on different occasions throughout the academic year to organise teaching and *Tirocinio* activities.
4. **Do:** All teachers are called upon to correctly implement teaching activities; technical staff shall support the proper implementation of SOPs during practicals and *Tirocinio* activities.
5. **Check:** All teachers and technical/administrative staff members shall cooperate towards self-monitoring; students shall participate in the evaluation of teaching activities, while the Director of the DCVM, the GAV and the DCC must ensure the verification and timely resolution of any situation that fails to comply with existing regulations.
6. **Improve:** The DCVM involves teaching staff members, student representatives and stakeholders in the analysis of ANVUR indicators and review reports.

-) closes the loop of the QA Plan-Do-Check-Act (PDCA) cycle

In May 2018, the DCC established the EAEVE Accreditation Team with the aim of promoting a quality culture at all levels of the DCVM, in addition to implementing the necessary actions to ensure continuous improvement. The team has further integrated the DCVM quality management process with the steps illustrated in Figure 11.4, thus ensuring the completion of the PDCA cycle:

- The criteria for the carrying out of educational activities were defined based on the requirements and needs (contents, conditions, methodologies, tools, organisation) put forward;
- These criteria were incorporated into procedures serving as guidelines for the performance of such activities;
- All criteria and procedures have been communicated to actors involved, who are to implement them;
- The implementation of established procedures has required monitoring and verification activities;
- The verification and analysis of implemented procedures have allowed to identify potential improvements, which were addressed by the relevant governing bodies.

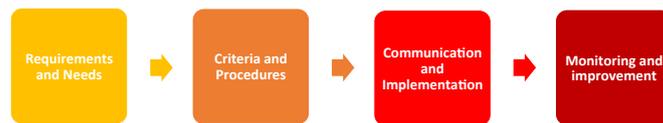


Figure 11.4: Completion of the PDCA cycle

-) is compliant with ESG standards

For the quality management process illustrated in Figure 11.4, the following items were not only chosen as benchmarks but also agreed upon:

- a) The European Quality Assurance in Higher Education (ENQA);
- b) The principles and processes of the Evaluation and Standard Operating Procedures of the EAEVE;
- c) The QA requirements provided for by MIUR with respect to single-cycle degree courses and the veterinary medicine degree course;
- d) The teaching quality requirements provided for by the University;
- e) The organisational and operational requirements that the premises used for teaching purposes (VTH, laboratories, barn, etc.) must have;
- f) The comments and suggestions put forward by students, graduates, professionals, representatives of the labour market and local representatives.

11.1.2. Description of the form by which the strategy, policy and procedures are made formal and are publicly available

All documents of public interest concerning the QA strategy, policy and procedures established by the DCVM are approved within the DCC, Departments and at the University level, and made available both in Italian and English (<https://www.agrariamedicinaveterinaria.unipd.it/en/regulations>).

Further documents addressed to teaching and technical-administrative staff members, as well as to students, can be accessed using a Single Sign On (SSO) via the following link: <https://elearning.unipd.it/scuolaamv/login/index.php>.

11.1.3 Description of the regular publication of up to date, impartial and objective information, both quantitative and qualitative, about the educational programmes and awards the Establishment is offering.

Any communication and information concerning the DCVM are systematically updated by the SASVM through the University portal. All the minutes of the committees' meetings are made available by the SASVM through the following webpage <https://elearning.unipd.it/scuolaamv/course/view.php?id=1345>. The syllabi of all courses, as well as the results of student's opinions, are updated regularly and made available on UniPD's website. Further information concerning post-graduate programmes is available through the following website: <https://www.unipd.it/>

[scuole-specializzazione-area-veterinaria.](#)

From a qualitative point of view, data from the *AlmaLaurea* surveys (average duration of studies, employment rate, etc.) is also available on UniPD's website.

11.1.4. Description of the QA processes not yet described in the other 10 Standards

Not applicable.

11.1.5. Description of how and by who the QA strategy of the Establishment is decided, communicated to staff, students and stakeholders, implemented, assessed and revised

As described in the quality management process illustrated in Figure 11.3, in the "extended PDCA" cycle:

- Policies, objectives and organization are crucial for the preparation of improvement plans;
- Internal communication at all levels is essential for the implementation of plans;
- Monitoring is the basis for verification and review processes, paving the way for systematic improvement.

The EAEVE Accreditation Team has taken a leading role in the quality management process and ensures that planning, communication, verification and revision are carried out by the DCVM in a planned and continuous way.

From May 2018, the EAEVE Accreditation Team has been holding meetings on a monthly basis, involving teachers, technical-administrative staff and students. The most important outcomes were the creation of a widespread quality management culture and the development of skills within the DCVM with respect to assessment, planning, implementation, verification and improvement processes.

11.2. Comments

- The quality management process has only recently been introduced in the DCVM and the University, which is the reason why certain inefficiencies occurred; this process will have to be further enhanced in the years to come, making it more functional to the DCVM's needs.
- The implementation of QA actions, along with the drafting of minutes, has put a further burden on the activities related to the degree course management. These are currently dealt with by the Director of the DCVM and the EAEVE Accreditation Team.
- The dialogue with the local community and the cooperation with professionals are among the strengths of the QA process, as they allow for the periodical assessment and re-planning of the educational path on the basis of the needs expressed by the labour market.

11.3. Suggestions for improvement

- It would be desirable to further integrate the quality management process into UniPD's administrative procedures by avoiding redundant operations and making best use of resources.
- It would be desirable to develop a computerised system to support both document management and the management of data concerning QA and quality management processes.





12.

ESEVT INDICATORS

12.1 Factual information

Raw data from the last 3 full academic years		2018-19	2017-18	2016-17	Mean
1	n° of FTE academic staff involved in veterinary training	91,4	86,6	83,8	87,27
2	n° of undergraduate students	409	391	409	403,00
3	n° of FTE veterinarians involved in veterinary training	71,6	72,3	70,2	71,37
4	n° of students graduating annually	60	54	57	57
5	n° of FTE support staff involved in veterinary training	38	37,5	38,5	38
6	n° of hours of practical (non-clinical) training	723	704	787	738
7	n° of hours of clinical training	720	667	677	688
8	n° of hours of FSQ & VPH training	417	562	472	483,666
9	n° of hours of extra-mural practical training in FSQ & VPH	125	175	175	158,333
10	n° of companion animal patients seen intra-murally	3490	3057	2851	3132,666
11	n° of ruminant and pig patients seen intra-murally	75	81	64	73,333
12	n° of equine patients seen intra-murally	142	95	83	106,666
13	n° of rabbit, rodent, bird and exotic patients seen intra-murally	84	77	118	93,0
14	n° of companion animal patients seen extra-murally	127	125	123	125,0
15	n° of individual ruminants and pig patients seen extra-murally	1170	1090	1010	1090,0
16	n° of equine patients seen extra-murally	362	361	357	360,0
17	n° of visits to ruminant and pig herds	201	201	201	201,0
18	n° of visits of poultry and farmed rabbit units	50	57	55	54,0
19	n° of companion animal necropsies	220	315	287	274,0
20	n° of ruminant and pig necropsies	335	122	519	325,3
21	n° of equine necropsies	25	30	25	26,7
22	n° of rabbit, rodent, bird and exotic pet necropsies	609	584	1107	766,7
23	n° of FTE specialised veterinarians involved in veterinary training	18,5	19	18	18,5
24	n° of PhD graduating annually	31	26	24	27,0

Calculated indicators from raw data		Establishment values ¹	Median values ²	Minimal values	Balance ³
I1	n° of FTE academic staff involved in veterinary training / n° of undergraduate students	0,217	0,16	0,13	0,091
I2	n° of FTE veterinarians involved in veterinary training / n° of students graduating annually	1,252	0,87	0,59	0,662
I3	n° of FTE support staff involved in veterinary training / n° of students graduating annually	0,667	0,94	0,57	0,100
I4	n° of hours of practical (non-clinical) training	738,000	905,67	595,00	143,000
I5	n° of hours of clinical training	688,000	932,92	670,00	18,000
I6	n° of hours of FSQ & VPH training	483,667	287,00	174,40	309,267
I7	n° of hours of extra-mural practical training in FSQ & VPH	158,333	68,00	28,80	129,533
I8	n° of companion animal patients seen intra-murally / n° of students graduating annually	54,959	70,48	42,01	12,950
I9	n° of ruminant and pig patients seen intra-murally / n° of students graduating annually	1,287	2,69	0,46	0,823
I10	n° of equine patients seen intra-murally / n° of students graduating annually	1,871	5,05	1,30	0,573
I11	n° of rabbit, rodent, bird and exotic seen intra-murally / n° of students graduating annually	1,632	3,35	1,55	0,087
I12	n° of companion animal patients seen extra-murally / n° of students graduating annually	2,193	6,80	0,22	1,970
I13	n° of individual ruminants and pig patients seen extra-murally / n° of students graduating annually	19,123	15,95	6,29	12,828
I14	n° of equine patients seen extra-murally / n° of students graduating annually	6,316	2,11	0,60	5,721
I15	n° of visits to ruminant and pig herds / n° of students graduating annually	3,526	1,33	0,55	2,979
I16	n° of visits of poultry and farmed rabbit units / n° of students graduating annually	0,947	0,12	0,04	0,903

I17	n° of companion animal necropsies / n° of students graduating annually	4,807	2,07	1,40	3,407
I18	n° of ruminant and pig necropsies / n° of students graduating annually	5,708	2,32	0,97	4,737
I19	n° of equine necropsies / n° of students graduating annually	0,468	0,30	0,09	0,375
I20	n° of rabbit, rodent, bird and exotic pet necropsies / n° of students graduating annually	13,450	2,05	0,69	12,758
I21*	n° of FTE specialised veterinarians involved in veterinary training / n° of students graduating annually	0,325	0,20	0,06	0,261
I22*	n° of PhD graduating annually / n° of students graduating annually	0,474	0,15	0,09	0,386

¹ Median values defined by data from Establishments with Approval status in April 2016

² Recommended minimal values calculated as the 20th percentile of data from Establishments with Approval status in April 2016

³ A negative balance indicates that the Indicator is below the recommended minimal value

* Indicators used only for statistical purpose

12.2. Comments

With the new course regulation being fully implemented throughout the three years concerned for the present purpose, a progressive change in the distribution of hours devoted to pre-clinical, clinical, FSQ and VPH training activities has taken place.

The number of academic staff has slightly increased, partly due to the involvement of external veterinary professionals in *Tirocinio* activities.

Drawing a comparison with the 2010 EAEVE Visitation, the number of European Diplomates has also increased, highlighting the Departmental commitment to attract highly skilled professionals. This notwithstanding, the number of diplomates in core clinical disciplines should be further enhanced.

Thanks to the re-opening of the teaching barn, a considerable number of producing animals (with particular regard to bovines) was also recorded, thus allowing the involvement of students in the various relevant disciplines; furthermore, the livestock sector in the local area is particularly conducive to the participation of students in extramural educational activities, also partly thanks to the support of external veterinary professionals.

With regard to the clinical caseload, although the implementation works of the VTH have not yet begun activities have increased gradually, with a strong and continuous increase in the number of companion animals seen intramurally.

The necropsy caseload is significant thanks to the good ties with the territory, especially in development areas which are specific of the area (e.g. marine mammals).

Due to a major national crisis in the equine sector, the degree course has had to develop and implement initiatives aimed at improving the intramural equine caseload throughout the three years concerned for the for the present purpose, thus achieving the minimum values established by EAEVE. Nonetheless, there remains a need to carry out further evaluations directed towards developing a more-defined project in this regard.

12.3. Suggestions for improvement

Although all ESEVT indicators are satisfactory, efforts to maintain and further increase the threshold values provided for by EAEVE should be made in the near and medium term.

Glossary	
AC	Bachelor's Degree Programme in Animal Care
ANVUR	Italian National Agency for the Evaluation of Universities and Research Institutes
AS	Academic Senate
AVA	Self-assessment, Periodic Evaluation and Accreditation system
BA	Board of Administration
BAL	Master's Degree Programme in Biotechnologies for Food Science (Corso in Biotechnologie per l'alimentazione)
BCA	Department of Comparative Biomedicine and Food Science (Dipartimento di Biomedicina Comparata e Alimentazione)
BDTC	Bi-departmental Teaching Committee
BoA	Board of Administration
CENSIS	Centre for Social Studies and Policies (Centro Studi Investimenti Sociali)
CEV	Committee of Evaluation Experts
CPQD	Committee for the Supervision of Teaching Quality
CPQR	Committee for the Quality of Research
DAFNAE	Department of Agronomy, Food, Natural resources, Animals and Environment
DC	Departmental Council
DCC	Degree Course Council
DCVM	Degree Course in Veterinary Medicine
DVM	Doctor of Veterinary Medicine
ECAR	European College of Animal Reproduction
ECAWB	European College of Animal Welfare and Behavioural Medicine
ECBHM	European College of Bovine Health Management
ECSRHM	European College of Small Ruminant Health Management
ECVAA	European College of Veterinary Anaesthesia and Analgesia
ECVCN	European College of Veterinary and Comparative Nutrition
ECVCP	European College of Veterinary Clinical Pathology
ECVIM-CA	European College of Veterinary Internal Medicine - Companion Animals
ECVN	European College of Veterinary Neurology
ECVP	European College of Veterinary Pathologists
ECVPS	European College of Poultry Veterinary Science
ECVPT	European College of Veterinary Pharmacology and Toxicology
ENQA	European Association for Quality Assurance in Higher Education
EPT	External Practical Training
ESEVT	European System of Evaluation of Veterinary Training
FNOMCeO	National Association of Physicians and Dentists
FNOVI	National Federation of Italian Veterinarians (Federazione Nazionale Ordini Veterinari Italiani)
GAV	Group for Accreditation and Evaluation
INFN	National Institute of Nuclear Physics (Istituto Nazionale di Fisica Nucleare)
ISC	International Student Council
IZSve	Istituto Zooprofilattico Sperimentale delle Venezie
JTC	Student-Staff Joint Teaching Committee
MAPS	Department of Animal Medicine, Production and Health (Dipartimento di Medicina Animale, Produzioni e Salute)
MIUR	Ministry of Education, University and Research (Ministero dell'Istruzione, Università e Ricerca)
NDS	Necropsy Diagnostic Service
NdV	University Evaluation Unit
OQA	Outcome & Quality Assessment
OVUD	Veterinary Teaching Hospital (Ospedale Veterinario Universitario Didattico)
PDCA	Plan-Do-Check-Act
PQA	University Quality Department
QA	Quality Assurance
SASVM	School of Agriculture Sciences and Veterinary Medicine
SBA	University Library System
SH	Slaughterhouse
SHFP	Safety and Hygiene of Food Products
SIA	Bachelor's Degree Programme in Safety and Hygiene of Food Products (Corso in Sicurezza e Igiene degli Alimenti)
TESAF	Department of Land, Environment, Agriculture and Forestry
ULS	University Library System
UniPD	University of Padova
VQR	Evaluation of Quality Research

AlmaLaurea is a Interuniversity Consortium established in 1994 and currently counts 75 Universities as members (with the process of membership currently in the decision stage for 3 other ones) and represents about 90% of Italian graduates. The Consortium is supported and funded by the Universities that are part of it, by funds from the Ministry of University and Research (MIUR), by the companies and the bodies that use the services offered.

Academic Ranking of World Universities (ARWU), also known as Shanghai Ranking, is one of the annual publications of world university rankings.

The **Italian National Agency for the Evaluation of Universities and Research Institutes (ANVUR)** oversees the national quality evaluation system for universities and research bodies. It is responsible for the quality assessment of the activities carried out by universities and research institutes, recipients of public funding. It is also entrusted with steering the Independent Evaluation Units' activities, and with assessing the effectiveness and efficiency of public funding programmes or incentive programmes for research and innovation activities.

AVA (Autovalutazione, Valutazione periodica, Accreditamento – Self-assessment, Periodic Evaluation, Accreditation) sets standards for the self-assessment by programmes and institutions, concerning their internal procedures and the outcomes of their activities, and for the external assessment of the quality assurance systems (of institutions and programmes) by ANVUR, based on-site visits and document analysis.

The **SUA** (Scheda Unica Annuale – Single Annual Report) form sets out the educational goals in Knowledge and Understanding and the Ability to apply knowledge and understanding; it therefore approaches the construct of competence, without superimposing itself on it

Cineca is a not-for-profit Consortium, made up of 67 Italian universities*, 9 Italian Research Institutions, 1 Polyclinic and the Italian Ministry of Education. Today it is the largest Italian computing centre, one of the most important worldwide. It develops advanced Information Technology applications and services, acting like a trait-d'union between the academic world, the sphere of pure research and the world of industry and Public Administration.

Censis was founded as a social study and research institute in 1964, becoming a legally recognised Foundation in 1973 through Presidential Decree. It enjoys the support and participation of several large public and private institutions. It is located in Rome (Italy). During the past 40 years Censis has carried out studies, provided consultancy, developed models and submitted proposals in the area of socio-economic processes and policies. It has gained the reputation of being one of the most prestigious national research institutes in social sciences and economics

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