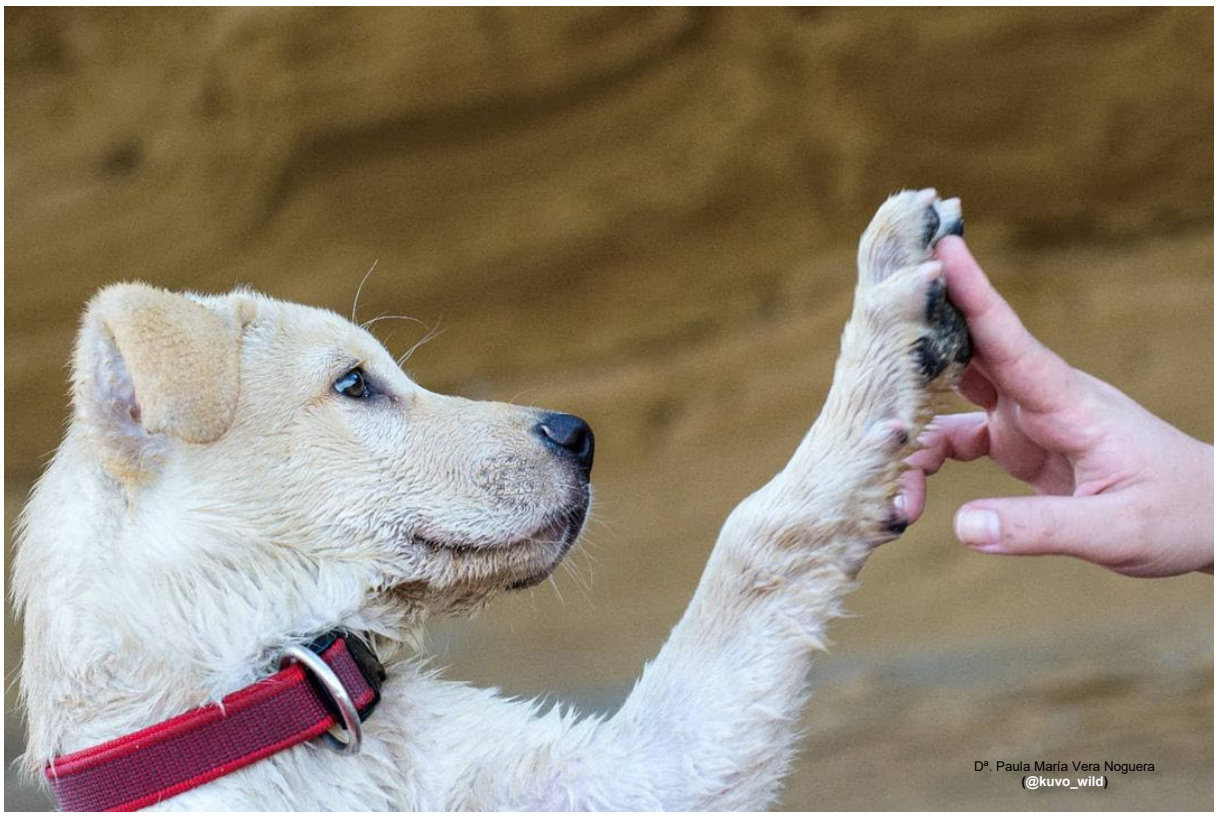
UNIVERSIDAD DE MURCIA

UM Veterinary School



Self-Evaluation Report
SER 2023

For EAEVE re-accreditation

February 12-16, 2024

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Acknowledgments

This Self-Evaluation Report results from the collaboration and efforts of all the Department members, including students, support staff and academic staff. It has been prepared in compliance with the ESEVT SOP Leipzig 2023. It was sent for comments and corrections to the members of the Veterinary Education Establishment and finally approved by the Faculty Board on 04 December 2023.

We warmly thank all the contributors for their willingness to provide factual data, and specific information. We are also grateful to the staff members who worked to organise the expert visit.

Hopefully, it will provide an accurate and useful basis for the evaluation work that will be carried out in February by the visiting expert team in Murcia.

Gaspar Ros, Faculty Dean

List of contributors

Redactors (alphabetical order of surnames)
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List of acronyms & abbreviations

- 3Rs: replacement, reduction, and refinement of animals used in research, teaching, testing, and exhibition
- AHS: Animal Health Services
- ADYV: Diversity and Volunteering Service
- ANECA: National Agency for Evaluation, Quality and Accreditation
- APT: Abattoir Practical Training
- AVEPA: Spanish Association of Small Animal Veterinarians
- BTRM: Biology & Technology of the Reproduction in Mammals
- BOE: Spanish Official Bulletin
- BORM: Murcia Region Official Bulletin
- CAIVDC: Veterinary Degree Curriculum
- CCT: Core Clinical Training
- CLOVE: American College of Veterinary Ophthalmologists
- COIE: Centre of Orientation and Information of Employment
- COLVEMUR: College of Veterinary Professionals of Murcia
- CRAU: Credits Recognized for University Activities
- CT: Computed Tomography
- D1C: Day One Competences
- DAO: Dean's Administrative Office
- DO: Dean's Office
- DT: Dean's Team
- DVD: Digital Video Disc
- EBVS: European Board of Veterinary Specialisation
- ECTS: European Credit Transfer and Accumulation System
- EHEA: European Higher Education Area
- ELISA: Enzyme-linked immunosorbent assay
- EPT: Elective Practical Training
- ESEVT: European System of Evaluation of Veterinary Training
- FB: Faculty Board
- FBC: Faculty Board Committees
- FPU: Food Pilot Unit
- FDP: Final Degree Project
- FPP: Food Pilot-Plant/Food Industry
- FTE: Full Time Equivalent
- FTPP: Food Technology Pilot Plant
- FVETUM: Veterinary Faculty of the University of Murcia
- GDP: Gross Domestic Product
- HACCP: Hazard Analysis and Critical Control Point
- IT: Information Technologies
- MFB: Main Faculty Building
- MRI: Magnetic Resonance Imaging
- NTFS: Nutrition, Technology & Food Safety
- OMP: Official Master Programmes
- OPT: Optional Practical Training
- ORPS: Occupational Risk Prevention Service
- OVS: Official Veterinarian Services
- PPE: Personal Protective Equipment
- QA: Quality Assurance
- QAC: Quality Assurance Committee
- QAIS: Quality Assessment Internal System
- RUCT: Registry of Universities, Establishments and Titles
- SAM: Small Animal Medicine
- SANDACH (in Spanish): Animal By-Products not Destined for Human Consumption and Products Derived from Them
- SGP: Student Guidance Plan
- SC: Specific Competences
- SER: Self Evaluation Report
- SLRP: Service for Labour Risk Prevention
- SOP: Standard Operational Protocol
- TG: Teaching Guides
- TPDC: Training and Professional Development Centre
- UM: University of Murcia
- VAM: Veterinary Anatomy Museum
- VC: Virtual Campus (*Aula Virtual*)
- VCF: Veterinary Clinic Foundation
- VRI: Vice-Rector for Infrastructure
- VTF: Veterinary Teaching Farm
- VTH: Veterinary Teaching Hospital
- WGB: Working Group Booth
- WLM: Wildlife Management

Introduction

1915 2023

Brief history of the VEE and of its previous ESEVT Visitations.

The University of Murcia (UM) was founded in 1915 as the 10th public university in Spain. Sixty-seven years later, in 1982, the **F**aculty of **VET**erinary of the **U**niversity of **M**urcia (FVETUM) was created. One of the hallmarks of the FVETUM has been the search for excellence, with the aim of achieving and maintaining the highest standards of quality. To this end, the FVETUM has followed national quality assessment procedures (Quality Accreditation -AUDIT-, Institutional Accreditation by ANECA) and has been accredited on several occasions (**Figure 1**). It was also one of the first veterinary schools to join the European Association of Establishments for Veterinary Education (EAEVE).

FVETUM has been visited 3 times in 1996, 2006 and 2017. During the first visit, a team of EAEVE experts identified major deficiencies and made suggestions for improvement. In 1998, during the follow-up visit, FVETUM was successfully evaluated and received EAEVE accredited status. This status was renewed in 2007 and accreditation was obtained in 2017. In all cases, the shortcomings identified by the visiting expert groups have been addressed, resulting in the implementation of several changes concerning, among other things, the organisation, the study programme, the facilities, and the management. It is important to mention that the current evaluation period includes the academic years affected by the pandemic - total closure, virtual education, non-face-to-face education, and numerous other restrictions have negatively affected some indicators. Nevertheless, and despite this, FVETUM is prepared for re-accreditation in 2024.

Figure 1. Timeline of FVETUM accreditation and re-accreditation stages

Main features of the University.

The University of Murcia has 5 campuses -Murcia Downtown, Espinardo, El Palmar, San Javier and Lorca-, which include 22 faculties (2 of them partner centres) and 79 Departments. The highest academic authority and representative of the University is the Rector, Prof. *José Luján Alcaraz,* who is assisted in various aspects by the team of Vice-Rectors. The final regulatory authority are the Education Council of the Autonomous Community of Murcia and the Ministry of Education and Vocational Training of the Kingdom of Spain.

The FVETUM is located on the Espinardo Campus, the largest of the five UM Campuses, and has 3 main infrastructures: Main Faculty Building (MFB) (with 3 Units), the Veterinary Teaching Hospital (VTH) and the Veterinary Teaching Farm (VTF). The FVETUM and the Veterinary Teaching Hospital (VTH) are strategically located and easily accessible. The clinical support is highly appreciated by the public and veterinary professionals, which allows a constant and adequate caseload, necessary for the practical and clinical training of students. It is based on a fluid relationship with the Official College of Veterinary Professionals of Murcia (COLVEMUR) and with private professional associations and public bodies. A representative of the FVETUM (the Dean) sits on the Board of Directors of COLVEMUR.

The qualification of the FVETUM staff, both in terms of quality of teaching and innovation in education and research, is remarkable in terms of obtaining funding from research projects. The presence of highly motivated students with a good academic background is one of the main strengths of our institution. In total, FVETUM currently has almost 570 undergraduate students, 90 master's students and about 40 doctoral students, as well as more than 140 staff members. The good relationship between students, academic and support staff creates a friendly environment for learning and teaching.

Brief summary of the main developments since the last Visitation.

Due to financial constraints, there is no plan to build or renovate new facilities and only minor investments can be made. The actions taken in this sense are related to opportunities or chances given along these years with open call by the VRI or by direct negotiation with the VR.

- As part of energy optimization efforts, two out of the three main entrances have been renovated to reduce electricity consumption. Additionally, some lights in the communal areas and plugs for student devices have also been updated.
- Two lecture rooms have been set up in an optimized structure, and 3 new study room cabins have been established and equipped.
- All the large and medium-sized lecture rooms (5) have been furnished with new overhead projectors to deliver high-definition images for enhanced visual quality.
- Two lecture rooms have also been fitted with replication screens at the back of the rooms to enhance visibility for students.
- Throughout the pandemic, a significant number of lecture rooms were supplied with multimedia tools suitable for remote teaching.
- Additionally, the FVETUM has invested in two new video conferencing devices to furnish a versatile space adaptable for both meetings and lectures.
- A system for guiding tours is proposed for noisy sites such as farms, abattoirs, and industrial facilities. The aim is to enhance communication between students and teachers.
- The University has acquired a SANDACH vehicle in response to our requirements for the provision of cadavers and organs. This acquisition necessitates the definition of biosafety circuits and the protocols and infrastructure needs, which are currently in place.
- A new skills laboratory has been established and furnished with updated models.

- VTH has established a scheme to refurbish its equipment, which is partly underwritten by donations of equipment from the Murcia Health Service.
- Still pending the computed tomography (CT) and magnetic resonance imaging (MRI) system.
- Certain areas within the departments have been reassigned due to research teams relocating to the Pleiades and Vitalis Research Buildings. This relocation has provided additional space required for practical development.

Curriculum.

Although the study subjects and their duration have remained largely unchanged since the last visit, the main reason for this is the Spanish Deans Conference project to increase the curriculum from 300 to 360 ECTS in order to fully implement Directive 2013/55/EU. While the Conference has collaborated with different Spanish Governments, the project has invariably been halted at the final moment due to new changes. Most of them are aimed at addressing major and minor shortcomings, as well as implementing other improvements:

- Two new rotations have been introduced under the Practicum, covering equine, zoo medicine and shelter (zoonosis) work in one week of 40 hours and a second week of ruminant and porcine outpatient clinical work of a further 40 hours. Academic staff visit the clinics and are in constant contact with the practitioners via email, e-portfolio work, and telephone.
- A rubric has been implemented for students to complete regarding D1C.
- Interdisciplinary cooperation has been established for related subjects to reinforce connections within the curriculum.
- Clinical rotations have been adjusted to maximize efficiency. The voluntary program has also been modified accordingly.
- Learning objectives have been defined and an evaluation system has been established for EPT.
- The curriculum has seen a gradual introduction of animal model training, including the use of the skill lab.

Other issues of importance.

Five strategic areas have been identified for coverage in the syllabus: bias has been avoided in their presentation and precise technical terminology has been used where appropriate. One Health, Antimicrobial Resistance, Animal Welfare, Sustainability, and Biosecurity. These topics are regularly addressed in FVETUM's transversal activities, as well as in its curriculum and extension activities.

Major problems encountered by the VEE (whether resolved or not).

Regarding finances and infrastructure.

As with any other institution, the fundamental funding of the FVETUM is constrained to cover the expenditures of maintaining and repairing the contemporary research infrastructure. We are experiencing a decline in competitiveness, since certain vital facilities have not undergone renovation, at the same time when new faculties are implementing new investments.

Regarding recruitment, retention and renovation of academic staff.

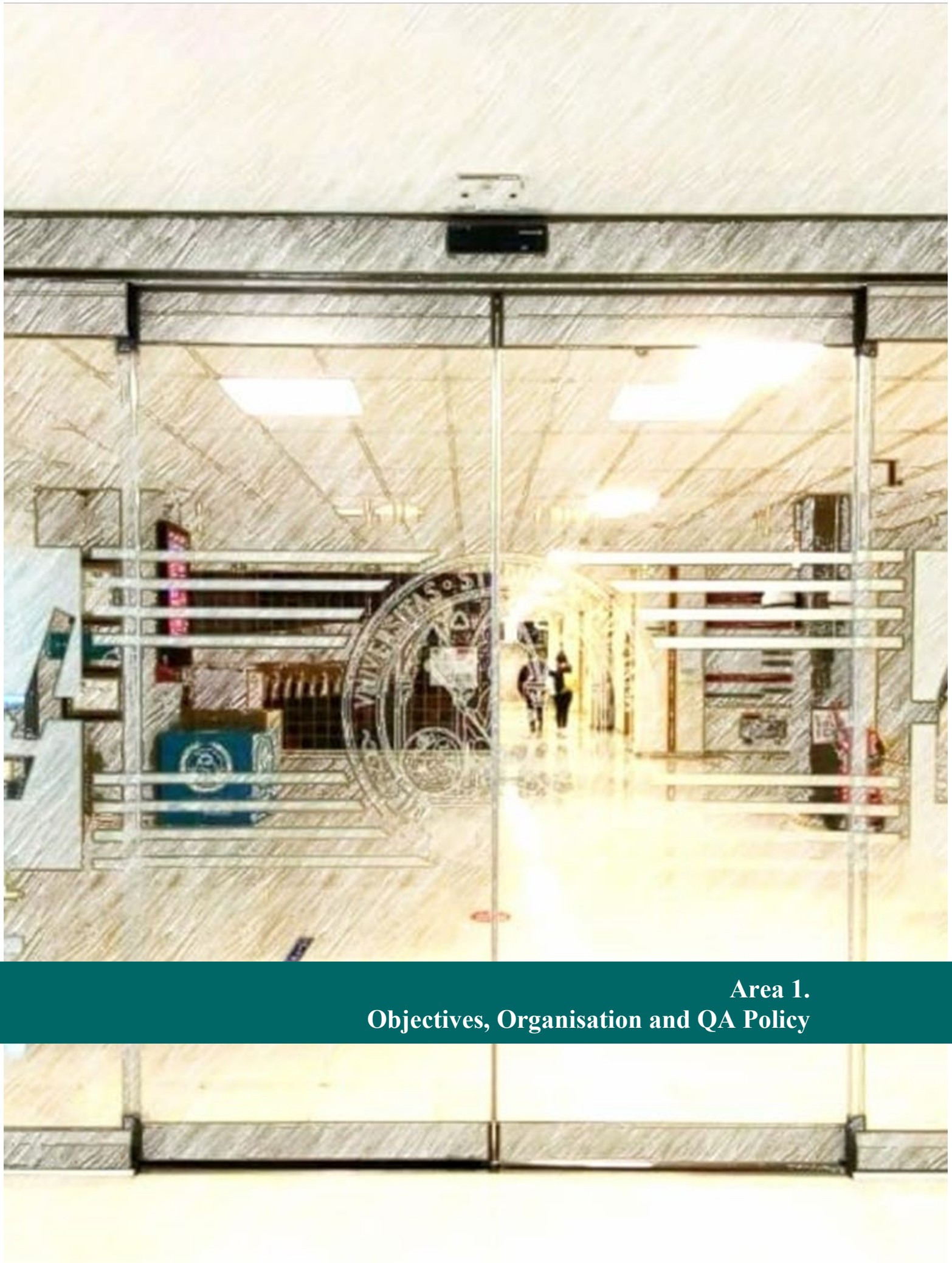
The recruitment and retention of well-trained academic staff in certain areas have encountered similar issues. The timely filling of open professorship positions with eligible candidates is problematic. The regulatory link between available teaching capacity (core-funded staff), curriculum hours, and the number of students (capacity guidelines) restricts the recruitment of additional staff for teaching or altering the number of incoming students. Additionally, the new Spanish law creates uncertainty. The limited quantity of enduring posts for non-professorial scientific personnel hinders the employment prospects of proficient early-career scientists.

Additionally, it is imperative to renew the current teaching staff with qualified personnel to ensure the maintenance of high teaching standards at the Faculty. The aging teaching staff necessitates this action.

Regarding curriculum.
The curriculum needs to be updated to fully cover the basic components of veterinary training, as well as to achieve compensation and balance between species. The project of the Conference of Deans to achieve 360 ECTS becomes essential to have sufficient space for the necessary practical and optional training.

During last visit one major deficiency was identified, namely "Non-compliance with Standard 3.5 (ESEVT 'Uppsala' SOP May 2016) because of insufficient acquisition of some of the core D1C, due to insufficient clinical rotation under the supervision of academic staff". In this regard, FVETUM made number of changes needed to correct this deficiency and Re-visitation team concluded to be this Major Deficiency fully corrected.

Version and date of the ESEVT SOP which is valid for the Visitation.
The Self Evaluation Report follows the requirements set out in the ESEVT Standards for Accreditation (as approved by the EAEVE General Assembly on 08 June 2023, ESEVT SOP 2023).



Area 1.
Objectives, Organisation and QA Policy

Standard 1.1.- Objectives, Organisation and QA Policy.

The mission of FVETUM is to function as a higher education centre that is devoted to high-quality teaching and extensive training in both Veterinary Medicine and Food Science and Technology. The Veterinary Medicine School of the University of Murcia strives to meet the demands of society in the fields of animal medicine and health, public health, agri-food, and animal production, within areas of Mediterranean climatology, with particular emphasis on the south-eastern region, through collaborations with other relevant institutions. The faculty is committed to respecting nature and the animal world, and achieving this goal through the specialist training, postgraduate education, and continuing education of skilled professionals. Additionally, the faculty conducts research, offering innovative and high-quality services.

The main objective of FVETUM is to form veterinary graduates who are fully compliant with the EU Directive 2005/36/EC (as amended by Directive 2013/55/EU) and its Annex V.4.1, through the national curriculum approved and verified by the National Accreditation Agency (ANECA) and published by the Spanish Ministry of Education by Royal Decree 1393/2007. The general design of the core curriculum responds to compliance with this EU Directive and Spanish official requirements. The FVETUM manages the curriculum, facilities, staff, learning resources and student assessment to ensure compliance and to ensure that all new graduates can function as veterinarians entering any branch of the profession and comply with the D1C defined by EAEVE. The commonly recognised branches of the veterinary profession (companion and production animal medicine, animal production and food safety, and veterinary public health) are included in the core curriculum, and as strategic training areas, One Health, animal welfare, antimicrobial resistance, biosecurity, and sustainable development goals create opportunities for other veterinary professions. The importance of lifelong learning is also introduced to students and graduates through our master's programmes offered by FVETUM and PhD programmes offered by UM and directed by FVETUM academic staff. Students and graduates are also informed about professional development and specialisation, as well as information about EBVS and Spanish professional colleges, and permanent university studies in our permanent education website. Recently, UM and FVETUM are working to develop micro-credentials for the veterinary and food industry throw the Erasmus project I-Restart and students are beginning to be informed about these new EU recommendations for knowledge, skills, and competences for personal and professional life.

Additional aims of the FVETUM are to ensure that our graduates are competitive and relevant in society by providing them with training in close collaboration with active professionals from various disciplines. We achieve this through evidence-based and research-led teaching of medicine while fostering innovation. We employ effective teaching methodologies whilst providing access to state-of-the-art technologies and soft-skill development. Our curriculum is delivered in a conducive learning environment based on respect, integrity, professionalism, and high ethical standards.

Standard 1.2.- Status of the School.

The official name of the establishment is Facultad de Veterinaria (FVETUM), a public Faculty stablished in 1982 and it is within the Universidad of Murcia (UM), founded in 1915. FVETUM is located at the Campus at Espinardo, 7 km NW from Murcia downtown. FVETUM has 3 main infrastructures (**Figure 1.1**) in 2 locations (≈2 km one from the other): Espinardo, where the Main Faculty building (MFB) and VTH, and Guadalupe, where the VTF is located (Figure 2). Contact details:

- Telephone: +34 868 884 799
- Fax: +34 868 884 147
- Web: http://www.um.es/web/veterinaria
- E-mail: decanato.veterinaria@um.es

The FVETUM Head is Prof. *Gaspar Ros Berruezo* since 2016 ending in 2024, assisted by the Dean's team (DT). The official authority is Prof. *José Luján Alcaraz*, Rector of UM assisted by the Vice-Rectors team on different areas.

The main address of UM is Avda. Teniente Flomesta, 5, 30003 Murcia, Spain; Telephone: +34 868 883 000; Fax: +34 868 888 888

The final competent authority overseeing the establishment are the Education Councillor of the Autonomous Community of Murcia and the Ministry of Education and Vocational Training of the Spanish Kingdom.

1.2.1.- Organization of FVETUM.

The organization is based on the Faculty's Departments and the Facilities/Units as shown in the following **Figure 1.1**.

Figure 1.1. Facilities of the Faculty of Veterinary Medicine of the UM (FVETUM)

1.2.2.- Management of FVETUM.

The governing bodies defined in the UM Statutes are the Dean, the Dean's Office, and the FB. The Dean represents the Faculty and acts as Director and day-to-day Manager (**Figure 1.2**).

The Dean is elected by the FB among the tenured academic staff for a four-year term. One re-election was possible, for another 4 years, but recently with the new Spanish University Law only one period of 6 years is allowed.

The Dean's Office (DO) includes: The DT: 5 Vice-Deans and 1 Academic Secretary are nominated by the Dean for his/her term (**Table 1.1**).

The official appointment is made by the Rector. The DT are and have the following competences:

- The DT manages the main academic areas and pursues a fruitful relationship between the study programs and research. The Dean performs his tasks in close collaboration with the Vice-Deans and the Departments Heads.
- The Dean's Administrative Office (DAO) are the Administrative Secretariat and the Dean's Secretary. Both gives administrative support to all staff and students of the Faculty and are centralized within the MFB.

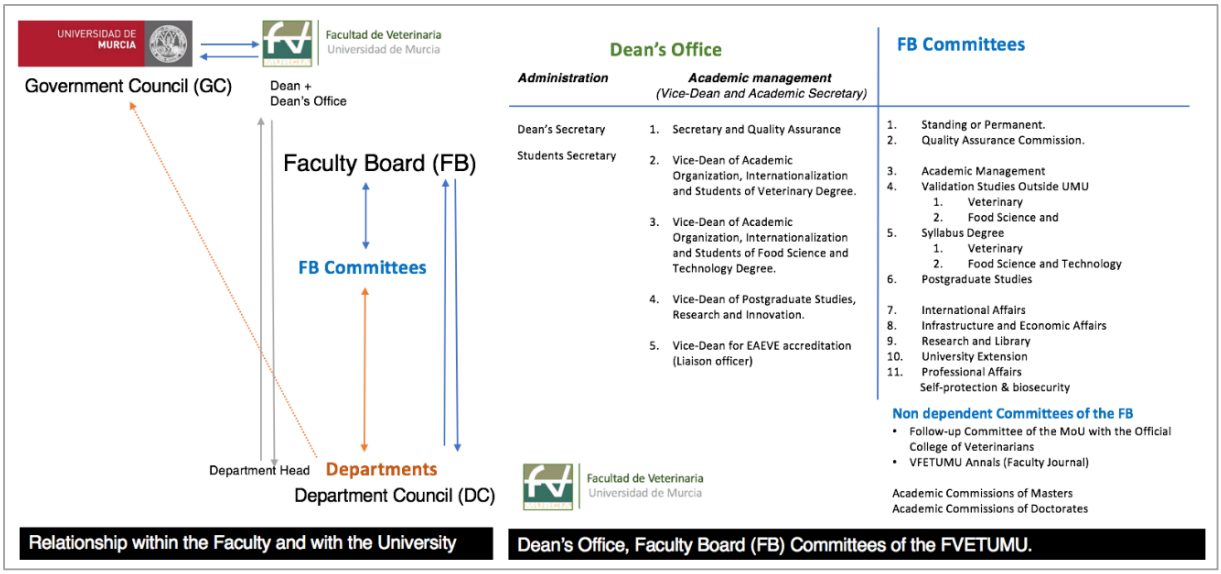


Figure 1.2. Relationship within FVETUM and UM Governmental bodies and the FVETUM management structure

Table 1.1. Dean's Team (DT) of FVETUM

Dean's Team	*Name*
Dean	*Gaspar Ros Berruezo*
Academic Secretary and Liaison officer for EAEVE Accreditation process	*Asta Tvarijonaviciute*
Vice-Dean of Academic Organization, Internationalization & Students of the Veterinary Degree	*Salvador Ruiz López*
Vice-Dean of Academic Organization, Internationalization & Students of the Food Science and Technology Degree	*Gema Nieto Martínez*
Vice-Dean of Postgraduate Studies, Care Services, Research & Innovation	*Jesús Talavera López*
Vice-Dean of Quality Assurance	*Elisa Escudero Pastor*
Vice-Dean for Biosafety, Internationalization & Sustainability	*Juan Carlos Corrales Romero*

1.2.3.- The Governing.

The decision-making process at FVETUM is carried out by the Faculty Board (FB), which is made up of representatives of all member groups with different percentages of representation: Group A (55%) of academic staff (all permanent professors belong to this group), Group B (10%) of other teaching staff and researchers, Group C (30%) of doctoral, bachelor and master students and Group D (5%) of administrative and service staff. The total number varies from academic year to academic year, and there is an election for Group D and every two years for B and C. The average total number is 140-150. The FB is the main governing body of the Faculty, which makes decisions, discusses and approves the FVETUM's policies on academic, professional and social matters and elects the Dean. The FB meets regularly throughout the year (on average 4 to 8 times a year). Information is available to FB members on the FB website.

University Departments are the teaching units responsible for coordinating the teaching of one or more fields of knowledge in one or more centres in accordance with the University's teaching programme, for supporting the teaching (and research) activities and initiatives of the teaching and research staff, and for performing other functions defined by the UM Statutes. All departments have a head of department and an academic secretary for administrative purposes. They work closely with the DT in

the academic management of the Faculty. The creation, modification and abolition of University Departments is the exclusive competence of the University, in accordance with its Statutes, and is initiated by the Lecturers, Departmental Councils or Centre Boards related to the field or fields of knowledge in question. There are 5 Departments located at the MFB (**Table 1.2**).

They are responsible for pre-clinical, clinical, animal production, veterinary public health including food control. The basic science departments are in other faculties. In addition, Biology, Physiology, Pharmacology and Toxicology units are located at the MFB, although they are interdepartmental. A complete list of departments is in our web.

Table 1.2. Departments located at the MFB and Heads

Department	*Department's Head*
Animal Medicine and Surgery	*María Antonia Gil Corbalán*
Animal Health	*Nieves Ortega Hernández*
Animal Production	*Guillermo Ramis Vidal*
Food Technology, Human Nutrition and Food Science	*Mª Belén Linares Padierna*
Veterinary Comparative Anatomy and Pathology	*Jose Antonio Navarro Cámara*

The Veterinary Clinic Hospital of the UM (VTH) is managed by the Veterinary Clinic Foundation (VCF), whose objective is to support the clinical teaching of the FVETUM, provide support for the practical clinical training of students and will collaborate in the recycling, updating, continuous training and specialisation of veterinary professionals in the different clinical aspects, in the stays and training of postgraduate students and in any other way that your bodies, in conjunction with those of the UM, deem appropriate.. The Board of Trustees is the governing body of the VCF and is chaired by the Rector of the University and vice-chaired by the Dean and the Vice-Rector responsible for teaching. The Board of Trustees is composed of members of the Rector's team, representatives of the University (5), the Faculty (2) and external representatives (5). The Board of Trustees is made up of the Director of Administration, Finance and Human Resources and the Director of Clinical and Nursing Organisation, who is responsible for the clinical training of students in coordination with the Department of Animal Medicine and Surgery.

Table 1.3 details the VTH management team.

Table 1.3. VTH management team

VTH	
Management	*Laura Fernández Jiménez*
Director	*Alejandro Bayón Arias*
Secretary	*Antonio Ferrer Martínez*

The monitoring and planning of clinical activities are coordinated by the Hospital Teaching Committee, which includes the Dean and Vice-Dean responsible for clinical teaching, clinical professors, and students. The Board of Trustees and the Teaching Committee meet at least twice during the academic year to plan and evaluate the development of activities.

The VTF is a set of human resources and infrastructures designed to provide students with a complete teaching training in accordance with their curricular needs in the field of Veterinary Sciences and Food Science and Technology, as well as the environment in which they can carry out activities complementary to their academic training; and to provide teachers with the essential teaching framework for the development of their work, the possibility of continuous training, as well as expansion and application in the different fields of Veterinary Sciences and Food Science and Technology.

And the framework in which to carry out research in the areas set aside for this purpose, if it does not involve the introduction of pathogens or any risk to animals in production. Coordination of the teaching, research, and external relations activities of the VTF is responsibility of the Governing Council, which has ultimate responsibility for its operation, and the Directorate. The Governing Board is chaired by the Dean, with representation of teachers, technical staff, and students, and meets at least twice every academic year on the Governing Board. **Table 1.4** details the VTF management team.

Table 1.4. VTF management team

VTF	
Director	*Juan Orengo Femenía*
Secretary	*Carmen Matás Parra*

1.2.4.- Organisation of Management Office.

- Committees of the Faculty Board (FBC). Several committees advise the Dean and the FB. Most of the FBCs are delegated by the FB to define, discuss and guide the issues to be finalized and approved at the FB meetings. FBCs do not have decision-making powers, apart from the Standing Committee, which deals with issues that cannot wait for the FB meeting. All faculty collectives are represented in the different committees, mostly from all departments and in many cases by the director or secretary of the department. The FBC meets according to the demands of the agenda, although the Academic Affairs Committee and the QA Committee meet at least four times a year. The list of committees and their responsibilities are as follows:
  1. Standing or Permanent: its function is to deal with day-to-day matters in the name of the FB.
  2. QA: Information is fully detailed at the end of this chapter. Input from external stakeholders is guaranteed through their participation in the QA system.
  3. Academic Affairs: it is a very important Committee where students and professors discuss and analyse all academic issues such as the teaching aspects (methods, coordination, learning outcomes), academic performance, assessment scores, etc.
  4. Transfer and Credit Recognition: Its competences are to establish the criteria and tables for credit recognition and transfer for those students who change their syllabus. There is one for each degree (Veterinary or Food Science and Technology).
  5. Assessment and Improvement of the Veterinary Degree Curriculum: This is an active Committee where curriculum is reviewed or modified, mainly with a mayor change or a new Curriculum. There is one for each degree (Veterinary or Food Science and Technology).
  6. Mobility: Its function is to support the mobility of the FVETUM members, especially the incoming and outgoing students. The Committee establishes the policy regarding the subject equivalences and credit transfers for those students who study abroad with Erasmus scholarships or other mobility programmes.
  7. Postgraduate studies: It manages all the issues related to the Master and PhD programs. Its functions are to review and approve the official postgraduate courses taught at the Faculty, to admit to pre-enrolled students in official postgraduate courses, and to coordinate the teaching of the postgraduate courses.
  8. Research and libraries: Its main competences are to propose the distribution of funds allocated for the acquisition of books and magazines, to implement the regulations of the Centre in the field of Licentiate Thesis, to evaluate the candidates to the Extraordinary Doctorate Award, and any other function assigned by the FB.
  9. Infrastructure and finances: Its responsible for discussing the distribution of the Faculty budget, monitoring the expenditures, as well as to prepare, at the end of the budget year, the settlement of the budget, and to

study and inform proposals and needs regarding repairs, works and infrastructure of the different units of the Centre.

10. University extension: Its function is to promote the holding of Seminars, Conferences and other cultural and sporting events which may contribute to the integral formation of the community. It also supports the initiatives of different associations either if run by students or academic staff.

- Non-dependent Committees of the FB. There are 2 Committees:
  - Follow-up Committee of the Memoranda of Understanding (MoU) with the Official College of Veterinarians. This commission is responsible for monitoring the general agreement between the Professional Veterinary College and the Faculty.
  - FVETUM Annals (Faculty Journal). This Committee has the role of managing the Faculty Journal as well as promoting the exchange of journals with other Institutions.
- Academic Committees of Masters and PhD Programs. Additionally, there are specific Academic Committees for running the Master affairs (4 committees, one for each) and Doctorate (3). Although these committees are directed by the Master or PhD program respective coordinators, the Vice-dean for Postgraduate studies, Research and Innovation is a permanent member of all of them.

- **Other Committees.**
  - Security is an important issue for the normal function of the FVETUM, mainly with regards to Self-protection & Biosecurity. There is a Self-protection board which works in coordination with the University Service for prevention of occupational hazards to manage the emergencies strategy at FVETUM. It is responsible for inducing the community in this field and organizing the evacuation procedures and simulation exercises. Biosecurity plays a key role in the FVETUM and for that reason, the establishment has created a working group responsible for updating and implementing the Biosecurity policy. It provides information concerning the biosecurity protocols to adopt, the available infrastructures for living or dead animals, and defines the procedures required to assess and ensure compliance with the biosecurity programme. The committee hereby presents enhancements to matters of biosecurity, in accordance with recent updates published. The Self-Protection protocols have been reviewed, and a Risk Plan Associated to all teaching activities has been set up. Specific protocols for facilities such as the VTH, the MFB and the VTF have been reviewed in depth.
  - Ethics and Animal Welfare competences are under the University Research Vice-chancellor, who evaluates, advises and approves procedures to ensure the welfare of animals used for educational and research activities.

The formal cooperation with other VEEs can be summarised as institutional, mobility and other specific activities. The institutional ones are related to the "Spanish Veterinary Faculties Deans Conference", which meets at least twice a year and of which the FVETUM Dean is currently the Vice-President, and the EAEVE, where the Dean also actively participates as an ECOVE member.

Mobility cooperation with other VEEs is the most important in terms of number of collaborations and is carried out with Spanish, European and Latin American VEEs, based on different student and staff exchange programmes: SICUE, Erasmus+ and Ila, respectively. All destinations are based on educational agreements that recognise the subjects that students take abroad and are applied to their records once they return and pass. Information is available in the "Mobility" section of the FVETUM website.

Academic, administrative, and technical staff can also take advantage of these mobility programmes.

For research, cooperation or other issues, specific Memoranda of Understanding (MoU) are signed with other VEEs based on institutional or individual initiatives.

Names and degrees of the contact responsible for veterinary curriculum is the Dean, Prof. *Gaspar Ros Berruezo* (DVM, PhD), and for the professional, ethical, and academic affairs of the VTH is its Director, Prof. *Alejandro Bayón del Río*, (DVM, PhD).

Standard 1.3.- Strategic Plan.

1.3.1.- Summary of the VEE's strategic plan with an updated SWOT analysis (Strengths, Weaknesses, Opportunities and Threats).

Strategic planning is a process by which operational plans are implemented so that an entity can achieve its objectives. This is why it is so important, because in a competitive environment it is impossible to achieve objectives without a defined plan. At the FVETUM the objectives and activities are planned each academic year in the Action Plan proposed by the Dean and his team to the FB for approval. This plan involves a series of actions that are carried out on an ongoing basis each academic year or that are strategically planned for that year. At the conclusion of each academic year, a report detailing the activities carried out in the previous year's action Plan is presented, and a proposed Plan for the upcoming year is suggested.

Influential factors shaping the current Plan include the ongoing preparation of the University Strategic Plan, as the last one was completed in 2009 and the availability of economic resources, which are challenging to secure given the economic climate. The FVETUM's second Strategic Plan, which spans 2023 to 2027, has been developed following four Contingency Plans to address the COVID-19 pandemic, which is set to conclude in 2022. Finally, the University System's new Organic Law 2/2023 requires adaptation within the next 3 years. This will necessitate a thorough review of certain aspects.

The SWOT analysis (Weaknesses, Threats, Strengths, and Opportunities) is an indispensable tool used in strategic planning. It is used in the preparation of the strategic diagnosis, which covers both the internal and external aspects of the organisation. It is applied in the elaboration of the strategic diagnosis, encompassing both the internal and external aspects of the organization. This simplistic analysis is highly powerful, enabling the identification of both the opportunities and threats faced by the organization, while also highlighting its strengths and weaknesses. Presented below is the most recent SWOT analysis.

Strengths (S)

- Accreditations and quality.
  - Full national and international accreditation and a good position in national and international rankings, which translates into a high reputation and prestige, with a high demand for new students.
  - The existence of a quality assurance system that has been implemented and is fully operational, allowing for the systematic analysis of results and the adoption of continuous improvement plans, with mechanisms for informing and communicating with internal and external stakeholders.
- Internal and external academic environment
  - Good contact with students, a cohesive small campus, a family atmosphere, together with an appropriate teacher/student ratio, which guarantees the quality of teaching.
  - The Faculty's organisation of teaching allows students to organise their time well, helping them to make the most of their efforts.
  - Excellent relations with related institutions, both public and private, regulated by educational cooperation agreements that allow the implementation of curricular and extra-curricular practices, as well as the development of research projects in which

students can participate.
  - Our students are academically and culturally enriched through the development of national and international exchange programmes.
- Infrastructures and practical training.
  - Infrastructures that cover all facets of conventional veterinary education.
  - The availability of a veterinary hospital, structured by services and manned by qualified professionals, allows students to develop high quality clinical practice.
  - The availability of a multi-species Veterinary Teaching Farm at the Faculty which allows students to carry out high added value placements, bringing them closer to the reality of commercial animal production.
- Staff and human resources.
  - A high percentage of teaching staff with a doctorate, with proven specialisation in their respective fields of knowledge, who are at the same time researchers of recognised prestige, and some of whom hold national or international diplomas.
  - Leading national and international research groups in the agri-food sector. High quality scientific production and participation in local, regional, national and international research projects.

Weaknesses (W)

- Funding and Infrastructure.
  - The general decrease in economic resources and the dependence on the distribution of funds from the university, exacerbated by the economic crisis with energy prices, are changing the financial conditions for universities.
  - The operation and development possibilities of the core activities may be affected in the medium term by the high operating costs of the FVETUM facilities.
  - The obsolescence and ageing of the equipment and infrastructure needs of the centre may affect the competitiveness of the FVETUM and, in particular, the competitiveness of the VTH and its role as a centre of reference.
- Practical training.
  - Limited ability to keep dairy cows at the VTF for practical training due to limited numbers in the region due to low milk production allowance for dairy cows.
  - Difficulties in finding the perfect balance between all the species due to the diversity of species to be covered in all respects.
  - Less possibilities to obtain necropsy cases of companion animals due to the Spanish legislation of animal welfare without sacrifice. And of large animals due to the less availability of transport.
- Staff and human resources
  - Insufficient academic staff trained at the VTH and with a European diploma to cover all clinical services.
  - The high turnover of veterinarians at the VTH and the difficulty of retaining well-trained veterinarians.

Threats (T)

- Internal and external academic environment
  - The increasing number of Faculties of Veterinary Medicine in Spain, especially the creation of another Faculty of Veterinary Medicine in the same region. The proximity of the VEE to the same niche of extramural teaching resources may cause conflicts in the medium and long term.
  - The low birth rate could mean a decrease in enrolment applications in the medium to long term, which would lead to a lower entry grade to the Faculty and therefore a lower average level of students enrolled.
  - The general decline of the livestock sector and its decreasing importance in the GDP, together with the decrease in subsidies, may lead to a reduction in the number of jobs for our graduates.
- Staff and human resources
  - Ageing staff, both academic and support, will need to be replaced by highly qualified veterinarians over the next 5 to 7 years.
- Practical training.
  - Risk of compatibility of OVS to receive students during their working day due to the new Spanish University Law.
  - Increasing difficulties in accepting students for the EPT due to animal welfare, biosecurity, farm management and transport.

Opportunities (O)

- Reputation and curriculum improvement.
  - Veterinarian is a popular occupation in Spain and there is a high demand and expectation for safe foods and veterinary medicine.
  - The full implementation of Directive 55/2013, which will lead to a real equalisation with minimum quality criteria in the teaching provided in veterinary establishments in Europe, and to achieve a 360 ECTS syllabus, increasing practical training as well as wider elective subject's range.
  - The growing social awareness of animal health and welfare in the field of production of food and companion animals, as well as the social concern for health and food safety, the control of zoonoses and antimicrobial resistances high demand for professionals who deal with.
- Practical training.
  - The development of a more accurate state-of-the-art managed skills laboratory.
  - The promotion of the cadaver donation programme to obtain more animals for dissection, necropsy or surgery for the practical training.
  - The existence of synergies with bodies such as professional associations for EPT, with private primary veterinary clinics to see primary care small animal cases, with reference private horse clinics and with local wild animal reservoir for practical training.
  - The support service for disabled students at university level that has proved to be very helpful for students at the FVETUM.
  - Digital transformation in education systems.
  - The library facilities are of high quality with a comprehensive collection of bibliographic materials and a wide variety of electronic journals available.

1.3.2.- Summary of the VEE Operating Plan with timeframe and indicators of achievement of its objectives.

The II Strategic Plan of the FVETUM 2023-2027 has 4 strategic axes: quality training adapted to social needs: people and governance, as well as financial, service and management resources; research and collaboration with companies; and the identity of the faculty and the relationship with society, divided in 12, strategic objectives, 19 strategies and 77 actions. Every strategy has a specified target audience and accountable personnel or team responsible for its implementation. There are also defined timeframes for commencing and concluding the project. Additionally, regular progress assessments and annual reporting of the findings are mandatory. Furthermore, key performance indicators must be established. Detailed Strategic Plan can be obtained at the FVETUM website and at the **Appendix 4.2**.

Standard 1.4.- Quality Assurance and enhancement management of teaching.

The quality policy is the line of action of an organisation for the improvement of its internal processes, and generates a reference framework to establish, as well as revise, the objectives that the institution intends to achieve in terms of quality to meet the needs and expectations of the stakeholders (students, teaching and research staff, administration and services staff, employers and society in general), seeking their satisfaction, continuous improvement and excellence. The Management Team of the FVETUM is committed to guaranteeing this quality by basing its actions on the analysis of the needs and expectations of all its stakeholders. The strategy of the FVETUM meets the requirement to follow and apply quality standards to its environment by following the unified procedures of quality evaluation, fully respecting the principles established by the National Agency for Quality Evaluation and Accreditation (ANECA). Its basic principles of internal quality assurance are as follows:

- Approval, monitoring and periodic review of study programmes and academic titles.
- Assessment of students.
- Quality assurance of teaching staff.
- Learning resources and student support.
- Information systems and public relations.

It is a continuous work to adapt and combine the national and international standards and protocols, which keeps the FVETUM in a constant work related to quality assurance.

The culture of FVETUM started to apply the principles of QA in 2009, being part of a pilot project of ANECA in our University for the implementation of an Quality Assessment Internal System (QAIS, or in Spanish SGIC), and was accredited by ANECA on 16.09.2009. The next ANECA phase was the PILOT PROJECT for the certification of QAIS implementation launched in 2013. FVETUM was the only one within the UM to participate in this project, achieving certification in the same year (02/12/2013 to 02/12/2017). As a distinctive element, ANECA developed an AUDIT Quality Seal. After the second audit process carried out in 2017, the certification was renewed until 2 December 2021, date on which the 2nd audit was carried out to obtain the 2nd renewal with validity from 01-03-2022 to 01-03-2028. After the QAIS audit process (Quality Assessment Internal System, since 2018), and having accredited all the Bachelor's and Master's degrees of the Centre, in July 2018 the Institutional Accreditation was applied for, which has been granted on 6 November 2018. With this step the faculty acquires the highest level of National Quality Recognition and implies that future processes of accreditation renewal for its degrees will be more simplified. According to the R.D. 640/2021 this seal is valid for 6 years (from 30/10/2018 to 30/10/2024). This award reflects the quality outcomes of our institution and its commitment to maintaining high standards in its educational programmes so that they benefit society.

The degree quality assurance system evaluates the degree program based on the education and learning outcomes of the students, including coordination, student profiles, assessment, performance outcomes and satisfaction of students, graduates, teachers, support staff and external stakeholders. It provides a comprehensive analysis of the degree that enables the identification of strengths and areas for development, which should be considered when designing the action plan.

A key tool in the QAIS is the Quality Assessment Manual. It describes how critical processes are implemented, the different actors involved and how QAIS is organised at the Centre to ensure consistent, complete and cyclic implementation of these processes, and always operating under sustainable and transparent outcome assessment, QA and quality enhancement mechanisms. The latest version of the Quality Manual, available online on the Faculty's website, is dated 7 June 2020, in which the internal audit process has been added. A new version has recently been approved by the University Council (19 September 2023), in accordance with the provisions of Royal Decree 822/2021, which establishes the organisation of higher education and the quality assurance process. This new version is currently being implemented at FVETUM (approved by FB on 23 November 2023).

FVETUM has a fully implemented QAIS and based on a hierarchy system with 3 decision bodies:

- Committee for Assessment and Improvement of the Veterinary Degree Curriculum (CAIVDC). It is the first level, and its main duty is to oversee the day-to-day QA. This Committee is the coordination body of the Veterinary Degree, and it is in charge of gathering information and evidences on the implementation and the development of the syllabus, according to the objectives, contents, teaching activities, assessment, communication and quality procedures established by ANECA in the document of the Degree in Veterinary. CAIVDC also collects data about the results and performance indicators of the Degree, and receives suggestions and satisfaction inputs from all stakeholders, which are used to make improvement proposals. CAIVDC is also responsible for the preparation of self-evaluation reports that

must be presented to UM, and regional and national QA agencies.

- Quality Assurance Committee (QAC, or in Spanish CAC) of FVETUM is an upper body that coordinates and receives information (reports, improvement proposals, etc.) from the CAIVDC of the undergraduate and postgraduate programmes offered by the FVETUM. It provides an integrated QA coordination within our Establishment for the effective management of our programmes and activities (teaching, research, services) and propose quality improvement measures, that must be approved by the FB.
- At the top level, the FB reviews the activities of the QAC, and evaluates the improvement proposals, which, if approved, are implemented in the teaching programmes. The activities of the QAIS of the FVETUM are managed by the Quality Vice Dean.

FVETUM QAIS ensures that all FVETUM members (academic and support staff and students) and external stakeholders (practitioners, veterinary officials and other industry representatives, employers, official veterinary college, etc.) are represented and participate as active members in the three bodies. This ensures a globally inclusive and cyclical approach with input/output from all parties. The contribution of students and external stakeholders is essential to ensure the continuous improvement of the Veterinary Degree to meet students' expectations of a high-quality education and the prospects of the veterinary profession. FVETUM policy requires all staff and students to act with honesty, trust, fairness, respect, and responsibility.

On the other hand, the UM maintains an Office of Quality, which reports to the Vice Rectorate for Coordination and Quality Assurance. This office collects institutional academic indicators and evaluates self-evaluation reports for all UM programmes. The resulting reports are submitted to external regional and national quality assurance agencies. In addition, the Quality Office conducts institutional satisfaction surveys for all stakeholders and runs a teacher evaluation programme (DOCENTIA-UM, latest version verified by ANECA in 2021).

The QAIS of the FVETUM includes the following procedures:

- Academic follow-up report of the Degree. Each academic year, a performance report is prepared from data on academic results, which is compared to those of previous years.
- Teaching follow-up meetings. Two types of meetings are held to monitor the progress of the Degree during each academic year; one of them is held with subject coordinators, and the other one is open to all the Faculty stakeholders, with students playing a central role. These meetings are considered a key tool of our QAIS.
- Direct input from student representatives (Student Office), which actively collaborate in both coordination and quality assessment. The students participate in different evaluation surveys and are represented in all central and faculty committees. In relation to the evaluation of the educational programmes, the student participates in the mid-term course evaluation (a collective evaluation made by the students participating in a course), the final course evaluation (anonymous individual evaluations), coordination and management meetings (between the programme coordinators and representatives of students).
- Complaint and suggestion mailbox, at the disposal of students, teachers, support staff and any member of society, is available physically at the deanery and in all pages of the FVETUM web site.
- Internal surveys completed by students, teachers, and support staff. The system also receives external input from the following sources:
  - Satisfaction surveys conducted by the UM Quality Office, which are completed regularly by students, teachers, support staff, and external

stakeholders, including FVETUM alumni.
  - Teachers' assessment made by the students and carried out by the UM Quality Office.
  - External QA Agencies (ANECA).

Regarding the participation of students in the QA system, it is important to mention that not only FVETUM undergraduates, but also students from other Universities, take part in assessment, mainly in relation to communication, transparency, evaluation, and support during ANECA Accreditation process.

The activity of our QAIS is summarised in an annual Self-Evaluation Report based on the aforementioned procedures and data sources. The items evaluated are:

- Communication and transparency.
- Structure and functioning of the QA.
- Performance indicators.
- Implementation of systems for quality improvement.
- Implementation of the recommendations by QA Agencies in previous evaluations.
- Modification of the syllabus.
- Evaluation of the strengths and weaknesses of the programme and

The QAIS is evaluated annually by the UM Quality Office, and periodically by national QA Agency (ANECA). The issues and recommendations received from these evaluations are analysed by the QAIS to implement the corresponding improvement measures.

All the proposals and actions of the QAIS are discussed and approved by the corresponding bodies, and finally if approved by the FB, they will be implemented in the programmes and planning for the next academic year. Complete information about our quality policy, procedures and performance is available on the FVETUM website, which includes, among other items the following ones:

- The composition of the QAC and their internal regulations.
- Self-evaluation reports for national accreditation.
- Self-evaluation reports for European accreditation
- Improvement quality plans.
- Results on satisfaction surveys.
- Reports issued by QA agencies (UM Quality Office, ANECA) on the assessment of the FVETUM QAIS.
- The Strategic Plan of the FVETUM (2023-2027).
- Innovative projects.
- Complaint and suggestion mailbox.
- Information about student academic performance and satisfaction.

The activities of the QAIS are also disseminated as headlines on the FVETUM website, Virtual Campus (VC), classroom screens, informative displays screens, e-mail and social networking (mainly Facebook, X, Instagram and occasionally through printed posters and leaflets.

Standard 1.5.- School Engagement with Stakeholders.

Since its creation, FVETUM has maintained strong links with the market in which it operates, fostering a heightened awareness of its environment and developing effective mechanisms for monitoring, interpreting, and responding to societal and industry changes, including regulatory changes. The FVETUM employs various methods to engage with stakeholders and society at large, including:

- Quality Commission: as outlined in Standard 1.4, the QAIS undergoes a periodic cyclic evaluation involving input from students, staff, dean management team, quality assurance university unit and external stakeholders.
- Student Council: FVETUM students elect representatives to the Student Council annually. These representatives participate in university decision-making processes at all levels.
- Monographic forums with graduates and employers,

- Forums coordinated by public and private associations at local, national, and international levels. It is through these forums that the FVETUM can monitor the external environment and exert its influence in the various economic, social, and regulatory spheres.
- Meetings with expert panels comprising of relevant professors, managers, deans, employers, industry professionals, and subject matter experts convene to discuss the curriculum's relevance as described in Standard 1.4.

FVETUM has consistently demonstrated its commitment to quality and stakeholder engagement from the start. All members of the university community participate in the process of data generation, analysis and decision-making to evaluate and improve university performance. The Vice-rector's Office for Quality is responsible for ensuring that quality assurance is up to date accordingly to national standards and measurements. FVETUM conducts cyclic satisfaction studies for students, faculty teaching members, non-teaching staff, graduates, and employers to tracks the complete cycle of a student's journey in the university, right from enrolment to graduation and subsequent employment. In this sense, periodically, labour market insertion studies are conducted by carrying out surveys, specifically, two years after graduates leave the faculty. The aim is to obtain information on the suitability of the knowledge acquired during their studies, along with other important data.

The website of FVETUM upholds integrity and transparency by providing current, precise, and accessible information about the degree and the faculty to the society and the wider community. The website publishes the ESEVT VEE's status, along with the latest FVETUM Self-Evaluation and Visitation reports, in the quality section. All information is available and freely accessible and includes the different follow-up steps such as the interim report as well as other national accreditation processes and documents.

Standard 1.6.- Management of Quality Assurance.

The Dean proposes the strategic plan, organizational structure, activities, and quality assurance policies, based on information from the DO, evaluation meetings and other sources. The FB approves the decisions, which are then relayed to the staff, students, and representatives of stakeholders, as well as published on the FVETUM website. The operational plan serves as a basis for implementing these activities, which are assessed and revised by the Dean and the DO.

Standard 1.7.- Recommendations and subsequent actions from last site visits.

ESEVT's last full visit took place in November 2017 and was granted conditional accreditation status by ECOVE in May 2018, due to the identification of one major and several minor deficiencies. The re-visit took place in October 2018. The Major Deficiency was fully addressed at that time, some Minor Deficiencies were also fully addressed, and an ongoing process was in place to address the others. As a result, FEVTUM was fully accredited in November 2018. The key corrective actions taken are summarised below, but these improvements and any changes made since 2018 are fully described in the SER:

- **Major deficiency was:**

1. *Non-compliance with **Standard 3.5** because of insufficient acquisition of some of core Day-One Competences in clinical sciences, due to insufficient clinical rotation under the supervision of academic staff.*

- Two new rotations have been introduced under the Practicum, covering equine, zoo medicine and shelter (zoonosis) work in one week of 40 hours and a second week of ruminant and porcine outpatient clinical work of a further 40 hours. All work is carried out by academic staff, who are mainly employed by the Faculty on a part-time basis. 80 hours of small animal clinical work has been incorporated into core teaching and is carried out by practitioners under the supervision of

academic staff. Academic staff visit the clinics and are in constant contact with the practitioners via email, e-portfolio work, and telephone.

- A rubric has been introduced for students to complete in relation to D1C. This is checked by both the practitioner in charge of the rotation and the academic staff member and then escalated to the academic coordinator of clinical activities. This was to ensure that all students covered all expected aspects of D1C on each rotation.
- The changes made allowed for an additional 160 hours of clinical training for students in the academic year. The clinical rotations were extended from 6 to 7 weeks to accommodate this. Therefore, the number of hours spent on clinical rotations was increased from 733 in 2017/18 to 911.

- **Minor deficiencies were:**

1. *The Establishment must have sufficient autonomy to use the resources to implement its strategic plan and to meet the ESEVT Standards.* The autonomy of the Faculty is defined in the University Statutes. The system in place, whereby the Heads of Department, the Dean and other senior staff of the Faculty are involved in the preparation of the Strategic Plan and work for the benefit of the Faculty as a whole, allows for the appropriate resources to be available to ensure that the plans are achieved.
2. *The learning outcomes for the programme must be explicitly articulated to form a cohesive framework (**Standard 3.2.**).* During the academic year 2017-18 all the learning outcomes of the curriculum and their matching with each specific competence were thoroughly reviewed. Now all subjects include the learning outcomes to ensure the effective alignment of all content, teaching, learning and assessment activities of the degree programme. It has allowed the Faculty to amend the learning outcomes to ensure they are up to date and appropriate for each area. This has allowed for the alignment of outcomes across the curriculum.
3. *Programme learning outcomes must be communicated to staff and students and underpin and ensure the effective alignment of all content, teaching, learning and assessment activities of the degree programme (**Standard 3.3.**).* The review of the outcomes take place with the subjects' coordinators and students. The results are communicated through the activities of the Academic and Quality Assurance Committees.
4. *The Establishment must have a formally constituted committee structure (which includes effective student representation), with clear and empowered reporting lines, to oversee and manage the curriculum and its delivery (**Standard 3.4.**).* The Establishment has 11 formally constituted committees. One of these, the Teaching Affairs Committee (i.e. the Curriculum Committee), meets regularly to discuss the curriculum as a whole as well as specific parts of it. All recommendations from this committee go to the Quality Assurance Committee and the FB for approval and ratification of changes.
5. *Facilities must comply with all relevant legislation including health, safety, biosecurity and EU animal welfare and care standards (**Standard 4.6.**).* The Dean's team includes a dedicated Assistant Dean for Safety and Biosecurity. The Faculty regularly reviews all aspects of biosecurity throughout the institution. All students are given the necessary instruction on the appropriate biosecurity measures required for each rotation and are required to sign a form stating that they have read and understood the information provided.
6. *Core clinical teaching facilities must be provided in a VTH with 24/7 emergency services at least for companion animals and equines (**Standard 4.8.**).* The changes to the rotations requiring students to be in the Hospitals during weekends and at nights along with the changes to the contracts of Hospital staff to now be academic staff means core teaching occurs at the time to re-visitation and remains in effect.
7. *The Establishment must have an ambulatory clinic for production animals or equivalent facilities so that students can practise field veterinary medicine and Herd Health Management under academic supervision (**Standard 4.14.**).* The institution employed 3 practitioners as academic staff working in general production animal practice, equivalent to 0.63 FTE. To increase the number of production animals seen and to enhance the students' experience, students spend up to a week with these practitioners, visiting farms, examining animals, taking samples, and analysing the results in the faculty laboratory. They accompany the vets on all their visits during the period of this rotation.

8. *The number and variety of healthy and diseased animals, cadavers, and material of animal origin must be adequate for providing the practical training (**Standard 5.1.**)* The number of animals seen and used for teaching purposes is within EAEVE parameters, except for the number of equine PMs. Practical rotations allow for increased student exposure to production animals (pigs and cattle), exotic animals including the zoo, shelter animals and horses. There is also an increase in 1-week small animal extramural placements. The new rotations mentioned above, introduced after the review, together with the increased time spent at the VTH at night, in the evenings and at weekends, allow the current caseload to be used more for teaching. The VTH has hired a marketing professional to ensure that the caseload increases in the future. Ways are being explored to get owners to agree to allow their animals, especially horses, to have a necropsy to increase the number of animals seen by students, which is currently very low.
9. *It is essential that a diverse and sufficient number of surgical and medical cases in all common domestic animals and exotic pets be available for the students' clinical educational experience and hands-on training (**Standard 5.2.**)*. The number of animals seen and used for teaching purposes is within EAEVE parameters, except for the number of equine PMs. Practical rotations allow for increased student exposure to production animals (pigs and cattle), exotic animals including the zoo, shelter animals and horses. There is also an increase in 1-week small animal extramural placements. The new rotations mentioned above, which were introduced after the review, together with the increased time spent at the VTH in the evenings, and weekends, allow the current workload to be used more for teaching. The VTH has hired a marketing professional to ensure that the caseload increases in the future. Ways are being explored to persuade owners to allow their animals, particularly horses, to be necropsied to increase the number of animals seen by students.
10. *In addition to the training provided in the Establishment, experience can include practical training at external sites, provided this training is organised under direct academic supervision and at the same standards as those applied in the Establishment (**Standard 5.3.**).* The implementation of the new rotations described above includes an additional 164 hours of extramural clinical training. All training is provided by academically appointed staff, mainly on part-time contracts. All practitioners used are under the direct supervision of academic staff based in the Faculty. The two work closely together to deliver the curriculum and assessment. All adjunct staff will receive future training in teaching and assessment.
11. *Under all situation's students must be active participants in the workup of patients, including physical diagnosis and diagnostic problem-oriented decision making (**Standard 5.5.**).* Since the last visit, staff were made aware that not all students were given the opportunity to actively participate in each consultation. This has now been addressed and will always be done with student involvement.
12. *Medical records must be comprehensive and maintained in an effective retrieval system (preferably an electronic patient record system) to efficiently support the teaching, research, and service programmes of the Establishment (**Standard 5.6.**)*. The VTH has an electronic system for recording client information and treatment plans. Students have access to the entire record when they are at the VTH. The faculty has integrated the students' online presence with the redacted patient information.
13. *A formal training (including good teaching and evaluation practices, learning and e-learning resources, biosecurity, and QA procedures) must be in place for all staff involved with teaching (**Standard 9.1.**)* Academic staff are trained internally by the Establishment on good teaching and assessment practice, learning and e-learning resources, biosecurity, and quality assurance procedures. This training is based on individual or group meetings (workshops), usually led by the Vice Deans. The University also provides training at the Centre for Training and Staff Development, which organises common courses for all University staff each year. At UM there is no formal requirement for academic staff to have training in teaching and assessment, but qualifications in this area are highly valued for admission to the University. The UM offers general courses which staff can attend on a voluntary basis.
14. *Staff who participate in teaching must have received the relevant training and qualifications (**Standard 9.3.**)*. There are no formal courses that are compulsory for staff. However, faculty members meet and discuss teaching, new methods, etc. No formal

qualifications are required by the University or the Faculty, but they are highly valued, so applicants are increasingly demonstrating knowledge and skills in this area.

The previous ESEVT evaluations have guided the development of the 2023-27 strategic plan, which includes new mission statements and objectives. Improvements in study quality have been swiftly felt by students and staff alike, and the entire FVETUM community is experiencing a profound sense of progress and accomplishment.

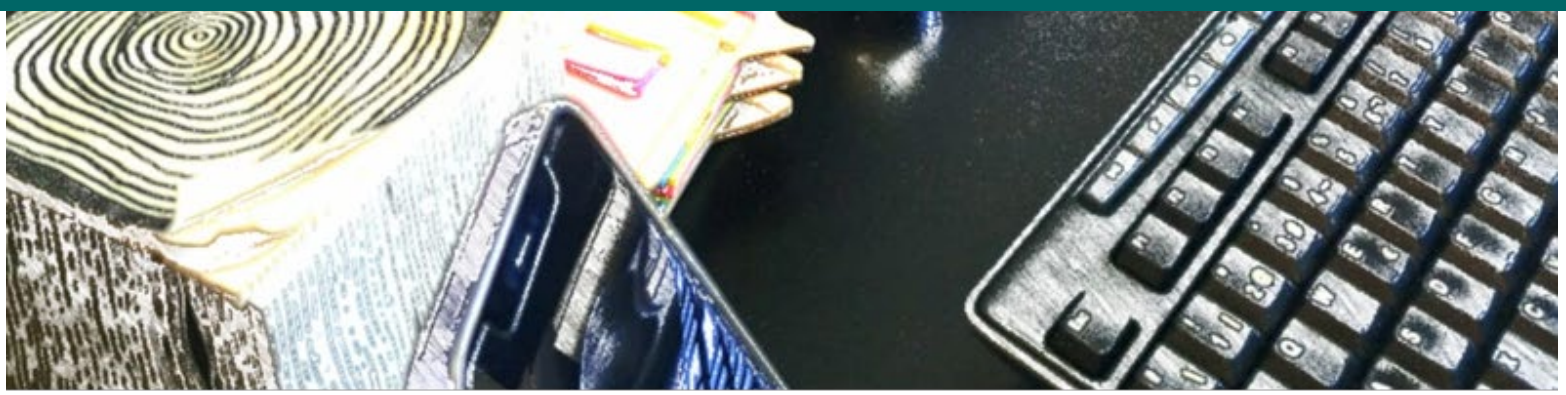
Comments on Area 1.

- The FVETUM adheres to the standard organization of VEEs in Spain, following University, Regional, and National rules.
- A recent Organic Law affecting the University System may potentially impact FVETUM's organizational structure, including its faculties.
- The FVETUM has clearly defined its objectives, mission, vision and values, in line with excellence in veterinary higher education and the demands of society.
- The FVETUM has a strong dedication to ensuring quality, as demonstrated by ANECA's recognition through quality seals, as well as national institutional accreditation and internationally recognised accreditations such as those from EAEVE and ISEKI. It was among the first Veterinary Education Establishments to seek re-accreditation of the EAEVE seal, as well as other accreditations (Spanish Institutional Accreditation).
- A Strategic Plan and yearly Action Plans have been implemented, however, certain challenges persist due to economic limitations and reliance, as well as the absence of a University Action Plan.
- The primary shortfall, as well as the 14 minor ones, have been scrutinised, remedied, and addressed. Nonetheless, the intricacy of overseeing all indicators always gives rise to complexities and hence, constant enhancement is imperative informed by our analysis of quality systems, investment in resources, and modifications in working model.

Suggestions for improvement in Area 1.

- The weaknesses and threats highlighted in the SWOT analysis need to be tackled in partnership with the UM.
- Reducing the excessive bureaucratisation of university processes will require sustained efforts.
- Curriculum changes (360 ECTS a 6-year programme) are subject to national decrees, primarily contingent upon decisions made by the Conference of Veterinary Deans. However, the alteration of such changes require approval from the Ministry of Education and Vocational Training, and the procedures involved can be lengthy, which has the potential to limit the extent of profound curriculum modifications that can be implemented by the FVETUM.

Area 2.
Finances



Standard 2.1.- Economic and financial process.

2.1.1.- General economic rules in the Spanish public university and at UM. General figures.

Spanish public universities are subject to strict rules on their finances. The legal framework of the overall financial process was defined until April 2023 by the Organic Laws 6/2001 and 4/2007 on Universities (LOMLOU), but it has been approved a new Organic Law 2/2023, on the University System so called "LOSU". Article 57 of LOSU define the finances of the public Universities as "*The budget of the universities shall be public, single, balanced, and shall include all their income and expenditure… and their liquidations shall make express reference to compliance with financial equilibrium and sustainability*." "*The budget of the universities shall contain in its income statement:*

a) *Transfers for current and capital expenditure set annually by the Autonomous Communities within a medium-term budgetary framework.*
b) *Income from public prices for academic services and other legally established fees.* In the case of studies leading to official university degrees, public prices and fees shall be set by the Autonomous Community or corresponding Administration, within a general framework of containment or progressive reduction of public prices, as well as the compensation corresponding to the amounts derived from the exemptions and reductions legally established for public prices and other fees.
c) *Income from the prices of own studies and lifelong learning.*
d) *Income from the prices of other services and fees.*

The UM budget is annual, per calendar year (from 1 January to 31 December) and not per academic year (from 1 September to 31 August). Initial approval (project phase) is given by the UM Governing Council, which then submits it to the UM Social Council for final approval. In 2023, the budget of the UM was 245,471,702 € (2.82 % higher than in 2022), with the estimated total cost financed by the following sources of income (from mayor to minor):

Source	*%*
Ordinary transfers" (local Government to finance ordinary expenditure)	76.77
"Fees, public prices and other income" (fees and public prices approved by the regional government)	16.04
"Capital transfers" (to finance capital and investment expenditure)	6.72
"Financial liabilities"	0.20
"Patrimonial income"	0.01
"Financial assets"	0.00

In terms of the distribution of the main expenses in the UM, 72.88% are allocated to salaries, 14,63 % to real investments and 10,88 % to current expenditure on goods and services.

Based on these principles, every entity, be it a Faculty, Department or Service, adheres to the same general financial system. This means that the UM (Vice-Chancellor of Economy) manages the payment of all major expenses related to staff wages, maintenance costs, which includes electricity and water supplies, cleaning, basic maintenance, air-conditioning, elevators, fire extinguishers, gardening, and waste collection services and work outsourced to external companies. FVETUM and VTF only manage the budget for operating costs, equipment, and a few maintenance costs. VTH covers personnel costs of veterinarian specialists, internships, and residents.

2.1.2.- Economic and financial process at FVETUM, VTF and VTH.

It is important to note that the FVETUM, VTF and VTH, despite their intrinsic relationship, are managed separately by different teams as distinct areas of activity. As such, each entity has its own annual budget.

FVETUM receives annual funds from the Rectorate for direct management. The annual endowment for each Centre and Department is calculated based on consensus criteria. For both, 15% of the budget is set, while 70% is subject to change depending on the subjects taught, credits awarded, credits awarded in practical laboratory or field classes (depending on the level of experimentally), and the number of enrolled students. Additionally, 10% is determined based on the average mark of the top fifth of students, the degree of student mobility, the percentage of students participating in external practices, student satisfaction levels, and the degree of budget execution. For the assessment of departments, the following factors are taken into consideration: visiting professors, credits offered, credits given in practical laboratory or field classes (depending on the degree of experimentally), number of enrolled students; additionally, 10% is based on efficiency rate, student satisfaction, degree of staff mobility, recognized activity, and degree of budget execution.

VTF boasts a substantial budget to cover its sizeable operational expenses. Third-party companies manage the livestock units containing pigs, goats, cattle and poultry along with their associated care and maintenance personnel. Meanwhile, rabbits, horses and sheep are under VTF management, facilitated through a contract established with a cooperative via the UM. This contractual agreement is fully funded by the VTF budget. Currently, VTF does not employ any staff due to its full operational contract with the cooperative.

VTH, as a foundation, is self-funded. It receives an annual endowment from UM, its main patron, based on estimated operational costs from the previous year. Additionally, the VCF defines its annual budget according to clinical and diagnostic services, as well as other services. These services primarily include leases and fees, repair and maintenance, independent professional services, insurance premiums, banking and related services, advertising, supplies, and miscellaneous services. The majority of the VTH's budget is obtained from offering services to private clients and other veterinary structures in the area, serving as a reference animal hospital, or from designated contracts with other institutions. The VCF and University Senate are responsible for overseeing the VTH. At the VCF, the Dean and two clinicians representing the FB serve as the representatives of FUVEUM.

In order to present the economic and financial process, the expenditure, income and balance of the financial status of FVETUM, VTF and VTH have been combined for an overall view of the situation, which is summarised in **Tables 2.1.1** to **2.1.3**.

2.1.3.- Expenditures.

Personnel costs.

Personnel encompasses individuals associated with FVETUM at UM, including academic and support staff compensated by UM (84.5%), personnel recruited by VTH (5.4% of the personnel budget), and research staff secured through research grants (10.1% of the budget). Research personnel are included in the budget allocated for research projects listed in **Table 2.1.2**. This amount cannot be deducted for calculations and contributes to an apparent surplus (**Table 2.1.3**).

Operating costs.

These costs comprise expenses directly paid by the FVETUM, the Departments, VTH, and VTF, primarily for purchasing consumables, personal safety devices, necessary training materials, and disposal of carcasses and waste management on top of the operating costs. In terms of budget allocation, VTH funds 82.1% of the expenses through its clinical services and contributions from the VTF.

Table 2.1.1. Annual expenditures during the last 3 academic years* (in Euros)

Area of expenditure	*2022*	*2021*	*2020*	*Mean*
*Personnel***	12.595.229	12.384.361	12.413.783	12.313.581
*Operating costs****	1.177.126	1.158.733	1.159.828	1.165.229
*Maintenance costs*****	1.014.885	906.852	706.174	875.970
Equipment	68.725	116.296	110.278	98.433
Research activities	1.966.095	1.301.050	994.988	1.420.711
Total expenditure	**16.822.060**	**15.867.292**	**14.932.422**	**15.873.925**

**The data provided is a summary of the natural year, as determined by the University's budget structure. Details are available within the text.*
***The personnel budget includes academic and support staff paid by UM (84.5%), personnel hired by VTH (5.4% of the personnel budget), and research staff hired through research grants (10.1% of the budget).*
****The budget for the project is composed of three main sources: the VTH, which covers 82.1% of the budget from its own resources through clinical services, the VTF, which contributes 16.0% of the budget from UM, and the FVETUM and Departments, which provide 1.94% of the budget from UM.*
*****Maintenance costs involve the estimated expenses for utilities such as water, electricity, gas, fuel, and other expenditures paid directly by the official authority.*

Table 2.1.2. Annual revenues during the last 3 academic years (in Euros)

Area of expenditure	*2022*	*2021*	*2020*	*Mean*
Public authorities	11.679.210	11.348.834	11.533.243	11.378.785
Tuition fee (standard students)	424.011	386.909	345.567	385.496
Tuition fee (full fee students)	--	--	--	--
Clinical services	835.089	691.536	556.640	694.422
Diagnostic services	203.547	190.248	181.564	191.786
Other services (pharmacy)	8.337	33.077	64.478	35.297
Research grants	3.696.903	3.769.770	2.509.262	3.325.312
Continuing education	--	--	--	--
Donations	--	--	--	--
Other sources	--	--	--	--
Total revenues	**16.847.097**	**16.420.374**	**15.190.754**	**16.011.098**

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

Academic year	*Total expenditures*	*Total revenues*	*Balance**
2022	14.864.104	15.190.754	**326.650**
2021	15.799.041	16.420.374	**621.333**
2020	16.759.519	16.847.097	**87.578**

** Total revenues minus total expenditures.*

The remaining 1.94% is provided by UM's FVETUM and Departments. Additionally, the UM covers the expenses for utilities (electricity, water, heating, and cleaning services).

Maintenance costs.

These costs cover the maintenance, both ordinary and extraordinary, of all the stationary and mobile facilities utilized for teaching, research, and service activities of FVETUM, VTF and VTH. Maintenance of buildings and facility systems, including wiring, plumbing, air conditioning, water supply, elevators, fire protection, water deionizers and communication systems, is the responsibility of UM. It also includes cleaning, gardening and logistic internal transportation. On the other hand, FVETUM is responsible for maintaining equipment such as photocopiers and computers, as well as vehicles used for student and staff transportation during extramural activities. VTF and VTH are responsible for their own vehicles. However, VTH does not fully cover the maintenance costs and depends on whether or not the VRI assumes the impact.

Equipment.

These costs include expenses related to the purchase of both specialised and general technical equipment (of a scientific, medical, computer or other nature) as well as specialised and general furniture.

Research activities.

The research budget is overseen by the research groups at FVETUM, which mainly prioritise outcomes. This is a government-funded grant assigned to the project and spans multiple years, with disbursement occurring on a non-annual basis. These revenues partially cover an important component of the contracts for research grants.

2.1.4.- Revenues.

Public authorities.

As a public university, the primary source of income originates from the regional government, over which the university has control for dispensation. Public sector revenue will consist of the costs of personnel (93,2% of the total revenues), operations (1,72%), maintenance (5,95) and equipment (0,06%) for both the FVETUM and VTF.

Tuition Fees.

There are no "full fee students" enrolled in public universities in Spain. The higher education funding in Spain operates through a decentralized model, with Autonomous Communities largely financing university education, constituting it as essentially public and covering most of the total cost. Thus, the remaining students are categorized as "standard fee students". Among them, there are "scholarship recipients", who are students awarded the scholarship by the Minister of Universities (refer to Area 7). The cost of each credit is established annually by the Regional Government and is dependent upon the experimental grading (currently and in the last 7 years remain at 16,78 € per credit) and the number of times the student has previously enrolled in a subject. The Veterinary Degree has achieved the highest experimental grading (level 1). As previously explained, the UM manages tuition fees, which are not allocated directly to any specific Faculty or Department. However, the total sum distributed annually for the Departments and Faculty's Operational cost, and it is calculated relative to the number of enrolled students.

Clinical and diagnostic services.

Revenue from clinical (referral mainly), emergency, recovery, and diagnostic services are summarized from the VTH activity. This revenue has been trending upwards over the past few years, owing to the high-quality services and professionalism of the clinicians. The VTH is one of the few veterinary medicine hospitals that is available 24/7, offering qualified emergency and recovery services as well as advanced diagnostic services.

Research Grants.

Research funding is derived from national, international, and private research schemes, and has experienced year-on-year growth, which is expected to be sustained throughout

this year. As previously noted, the funds raised will be applied towards research personnel and project-specific research activities.

Continuing Education.
Continuous education includes master's and PhD programmes as well as advanced courses. The revenues from these are centralised and managed by the different programmes, not by FVETUM. Therefore, incomes are not included.

Standard 2.2.- Resources from clinical and field services.

2.2.1.- Description of the modus operandi for the financial management of the clinical and field services.

Clinical and field services are a top priority for FVETUM as their effectiveness is crucial in ensuring that our FVETUM students attain the expected D1C and that more opportunities for post-graduate veterinary education are provided. The Small Animal Hospital and the Equine Hospital are operated as commercial teaching hospitals with specialist staff and paying customers. The students participate in diagnostics, treatment and management of patients and customers are charged full costs for services. Resources from the clinical and field services are aligned with their activities. Each year, the budget is submitted to the VTH Board for approval based on expected income from clinical activities. Additionally, the VTH Director and General Manager provide daily support as needed.

The VTH has a governing body, namely the VTH Council, responsible for the management of its clinical and field services. The VTH Council appoints its own director, who is designated by the VTH Patronage. FVETUM members who serve on the VTH Council are primarily clinicians on a voluntary basis. However, the VTH is not a autonomous spending centre, which guarantees that teaching missions are accorded top priority. This is because the Patronage is responsible for approving the VTH's financial arrangements.

2.2.2.- Degree of autonomy of the VEE on the financial process.

Section 2.1.1 highlights how legal limitations have a significant impact on the financial operations of public universities, mandating adherence to a standardized procedure. The faculty is incapable of creating extra revenue, with the University being the sole entity with the ability to do so by renting out its amenities, particularly lecture halls for events, although this revenue source is also centralized. Academic staff generally enjoy a degree of autonomy regarding activities such as research, extension courses, and organizing symposia and congresses. UM guidelines enable faculty to promote these events and earn extra income. FVETUM upholds these protocols and provides the additional option of renting out their farm facilities for event hosting, research projects, or management purposes. The VTH possesses the greatest degree of flexibility among clinical and diagnostic service entities. It can develop a leasing arrangement, addressing practitioners and businesses interested in conducting research activities, as well as for other objectives, pending approval by the VCF's Patronage in accordance with VTH's commitment to teaching excellence.

Standard 2.3.- Resources allocation and investments.

2.3.1.- Ongoing and planned investments of significant magnitude underway to refine, enhance and refresh facilities and equipment.

Anticipating substantial investments for FVETUM in advance presents a challenging task. Presently, there are no significant investments, but instead, requirements are periodically submitted to the VRI for consideration, subject to budget availability. The FVETUM aims to uphold and enhance its facilities and equipment based on priorities, budget, and opportunities. Improvements or refurbishments will occur as necessary. Examples of these investments include notable investments over the past seven years made by FVETUM to enhance teaching infrastructure through multiple Vice-Rectorates. (VRI, VRQ, VRIT, etc.). The

investment policy prioritises the improvement of teaching resources and the co-financing of departments to meet the University's demand for teaching infrastructure. Examples of the FVETUM investments in the last 7 years are:

- Two lecture rooms have been set up in an optimized structure. Additionally, three new study room cabins have been established and equipped.
- All lecture rooms have been equipped with new overhead projectors to provide a high-definition image for better visual quality. Furthermore, two lecture rooms have been outfitted with replication screens in the middle of the room to better serve students seated at the back. During the pandemic, all lecture rooms were equipped with multimedia facilities for remote teaching. In addition, the FVETUM has invested in new video conferencing equipment to provide an adapted room for both meetings and lectures.
- A tour guide system is proposed for noise facilities (farms, abattoirs, industries, …) to facilitate communication between teachers and students.
- The University has acquired a SANDACH vehicle in response to our requirements for the provision of cadavers and organs. This acquisition necessitates the definition of biosafety circuits and the protocols and infrastructure needs, which are currently in place.

The Department's investment support for new equipment has primarily targeted the provision of resources for the skill lab. This includes, for instance, co-financing the purchase of some of the specimens and identifying and adapting spaces for the skill lab.

VTH has established a scheme to refurbish its equipment, which is partly underwritten by donations of equipment from the Murcia Health Service, when upgrading its own equipment, which is maintained in good condition for veterinary clinics until funding permits replacement with new equipment. This year's major investment is the acquisition of a new computed tomography (CT) and magnetic resonance imaging (MRI) system. Funds will be sourced from patrons and VTH revenue and buy by leasing.

The Infrastructure and Finances Committee of FVETUM, led by the Dean together with the Faculty Secretary and elected members of the FB, analyses the requirements after studying them with the Department Heads and Units. The Committee is responsible for suggesting the allocation of the usual budget and assessing other sources of income, expenses or investments proposed by the Departments to the FB. Afterwards, the FB authorises the implementation of the budget. The Departments and FB are accountable for communicating with staff and students, as well as for administering and overseeing the budget. The administrative Secretary of FVETUM manages the budget. The annual economic report is sanctioned by the FB on a yearly basis.

2.3.2.- Prospected expenditures and revenues for the next 3 academic years.

As previously mentioned, the budget of the UM has increased by 2.82% since the previous year. However, in 2023, the operating costs of both the Faculties and Departments were reduced by 15%.

The UM budget has been impacted by economic consequences of energy and raw material crises, which are linked to armed conflicts. We anticipate the implementation of the new Regional Law for Universities, which calls for 1% of the GDP to be invested in the University by 2030 according to the new National Law. This situation presents a novel prospect for heightened revenue, however, until then it is logical to maintain the existing rate and financial pattern implemented for the previous 7 years. The data detailed in the tables appears to be relatively realistic and stable but shows no clear increase.

Comments on Area 2.

- The financial process of FVETUM is defined by law and has beneficial aspects, such as centralised payment of salaries and general maintenance and operational expenses. Additionally, VTH, VTF, and Departments manage their own budgets; therefore, the Faculty only controls a limited budget, which may constrain actions in several cases.
- FVETUM has limited potential for additional income, while the Departments and VTF, particularly VTH, have greater opportunities.
- The UM recognises the FVETUM's extraordinary requirements for its extensive and distinctive infrastructure. However, it is not always acknowledged that the cost of veterinary education is notably higher than other disciplines, and budget allocations often do not take this into account.

Suggestions for improvement in Area 2.

- Any future improvements to the budget must take into consideration the daily expenses incurred by the entire faculty (FVETUM, VTH, and VTF), which requires additional and differentiated support.
- Additionally, urgent renovations and acquisition of updated equipment are necessary for VHT to maintain its competitiveness as a reference for practical training and student education.
- The acquisition of clinical skills using simulators is a crucial investment, and the UM is set to release a call for high-cost practical training infrastructure, which will be co-financed by the FVETUM and clinical departments.
- Donations serve as a potential source for external fundraising. In the past, the UM has obtained some donations for the VTH and primarily for the VTF. There have been some efforts to explore this funding possibility with specific enterprises.

Area 3.
Curriculum

Standard 3.1.- Curriculum design, resources, and management.

The Veterinary Medicine degree at UM fulfils the requirements of the European Directive 2005/36, which has been transposed into Spanish law by Royal Decree 1837/2008. The curriculum conditions are regulated by the Resolution of 17 December 2007 (BOE 21 December) and the ECI/333/2008, of 13 February (BOE 15 February 2008), which establish the conditions leading to the qualification for the exercise of the veterinary profession. Within this legal framework, the current curriculum was reviewed by the National Agency for Evaluation, Quality and Accreditation (ANECA) and finally published by the Spanish Ministry and Regional Government on 25 February 2011 (BOE of 11 March and BORM of 8 March 2011). The whole curriculum of FVETUM, including a Quality Assessment, was recently evaluated by ANECA and renewed accreditation (30/10/2018) valid for 6 years (to 10/30/2024). All the factual information regarding the legal status and conditions of the Degree are included in the Registry of Universities, Establishments and Titles (RUCT) of the Ministry of Universities, with code No.2500988.

The current curriculum started in 2010/2011 and no major changes have been made since then. During this period, the implementation has been monitored by the Quality Assurance Committee (QAC) and Quality Assessment Internal System (QAIS), which includes representatives of academics, technical staff and students, as well as external stakeholders. According to the working protocol, surveys are regularly carried out on the learning process (teaching methods, student assessment and success, curriculum integration), the learning environment, professional integration, etc.

The teaching strategy in terms of coordination aims at a coherent achievement of competences and learning outcomes. On an annual basis, several meetings are held involving a total of 8 actors: the Dean and Vice-Deans, the Semester Coordinators, the Subject Coordinators, the student representatives (one student per academic year, 5 in total), the Academic Departments, the Academic Affairs Committee, the QAC and the FB.

The curriculum coordination strategy involves three levels, definition of coordination milestones, implementation, and assessment, in which the different actors involved in teaching participate in different ways (**Figure 3.1**):

- Definition of coordination milestones: establishing the relationship between competences and learning outcomes.
- Implementation: monitoring how the learning process and the coordination milestones are achieved during the academic year.
- Evaluation: assessing the congruence of the whole learning process.

The curriculum of the Veterinary Degree at FVETUM is organised in a series of subjects with a minimum of 3 and a maximum of 24 ECTS (**Appendix 3.1**). "Core subjects" are the conceptual units that make up the curriculum framework. "Subjects" are the individual educational units that are taught and assessed independently. Over a total of 5 academic years -10 semesters- subjects are taught annually or limited to one semester. The first 9 semesters cover the main part of the curriculum, while the 10th semester (30 ECTS) is aimed at further developing and verifying the achievement of professional competences and skills D1C in realistic scenarios.

The subjects studied by each student in each academic year and the corresponding number of curriculum hours are shown in precise detail in **Tables 3.1.1** and **3.1.2**.

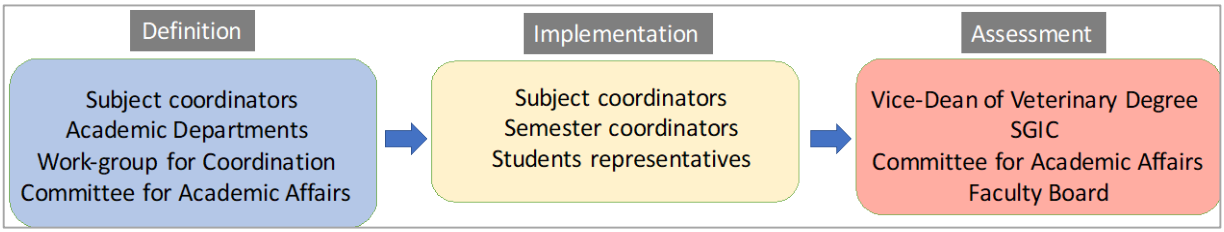


Figure 3.1 Levels of coordination strategy

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

	Hours of Training								
	Theoretical Training		***Supervised Practical Training***						
Academic Years	Lectures	Seminars	Self-directed learning	Lab. and desk-based	Non-clinical animal work	Clinical Work	EPT	*Other	Total
Year 1	369	73	738	160	86	-		74	1500
Year 2	356	58	735	113	165	-		73	1500
Year 3	339	65	586	34	18	242	150	66	1500
Year 4	341	76	700	78	26	217		62	1500
Year 5	174	37	581	57	183	316	80	72	1500
Total	**1579**	**309**	**3340**	**442**	**478**	**775**	**230**	**347**	**7500**

**Other: tutorial and evaluation.*

Table 3.1.2. Curriculum hours taken by each student

MODULE	***SUBJECT***	***A***	***B***	***C***	***D***	***E***	***F***	***G***	***H***
BASIC SUBJECTS	Medical Physics	26	5	35.5	5			3.5	**75**
	Chemistry (inorganic & organic)	25	4	38.5	4			3.5	**75**
	Animal Biology, Zoology & Molecular Biology	43	4	74	22			7	**150**
	Feed Plants (includes Agronomy)	18	4	34.5	7	6		5.5	**75**
	Biomedical Statistics (includes Business)	29	14	75	25			7	**150**
Specific Veterinary Subjects									
BASIC SCIENCES	Anatomy, Histology & Embryology	116	16	296	46	98		28	**600**
	Physiology	58	16	148	48	16		14	**300**
	Biochemistry	48	6	74	15			7	**150**
	General and Molecular Genetics	43	11	74	15			7	**150**
	Pharmacology, Pharmacy & Pharmacotherapy	81	9	119.5		18	22	13	**262.5**
	Pathology (includes Nosology & Physiopathology)	36	3	76	7	22		6	**150**
	Toxicology	36	7	67	18		15	7	**150**
	Parasitology	27	2	55.5	6	16		6	**112.5**
	Microbiology & Immunology	63	5	130.5	13	38		13	**262.5**
	Animal Nutrition	54	11	113	21	17		9	**225**
CLINICAL SCIENCES	Obstetrics, Reproduction & Reproductive disorders in all common domestic animal species	58	17	133			82	10	**300**
	Diagnostic Pathology (includes Pathological Anatomy)	72	18	120.5	4	11	57	17.5	**300**
	Medicine (includes Therapy in all common domestic animal species)	58	17	133			82	10	**300**
	Surgery (includes Therapy in all common domestic animal species)	51	14	112.5			72	13	**262.5**

	Anesthesiology	22	6	47.5			31	6	**112.5**
	Infectious and Parasitic Diseases	108	20	200	16		85	21	**450**
	Diagnostic Imaging	29	6	47.5			24	6	**112.5**
	Propaedeutic in all common domestic animal species	38	7	68			30	7	**150**
	Herd Health Management (including Farm Animal Clinics)	14	4	30.5			21	5.5	**75**
ANIMAL HUSBANDRY	Animal Husbandry	54	11	114	20	17		9	**225**
	Agrarian Economy	22	4	34.5	9			5,5	**75**
	Animal Breeding & Welfare	36	7	75	14		11	7	**150**
	Ethology, Welfare & Animal Protection	32	8	55.5	5	6		6	**112.5**
	Ethnology & Animal Handling	32	8	55.5	5	6		6	**112.5**
FOOD SAFETY & QUALITY	Food Technology	59	9	114	29	5		9	**225**
	Food Hygiene, Inspection & Control	78	12	150	18	5	22	15	**300**
	Food Security	20	5	34.5	10			5.5	**75**
VETERINARY PUBLIC HEALTH	Deontology, Legal Medicine & Veterinary Legislation	21	5	36.5	7			5.5	**75**
	Epidemiology, Zoonosis & Public Health	36	7	67	18	15		7	**150**
	Preventive Medicine & Health Policy	36	7	67	18	15		7	**150**
PROFESSIONAL KNOWLEDGE	Practicum (including, Clinical practical training in all common animal species, Communication skills, Information literacy & data management, Veterinary certification and report writing)			103		162	323	12	**600**
	Final Degree Project (including Communication skills, Information literacy & data management)			130				20	**150**
ELECTIVES	**Table 3.1.4**								**150**

A= Lectures; B= Seminars; C= Self direct-learning, D= Laboratory and desk-based work; E= Non-clinical animal work; F= Clinical animal work; G= Others: tutorial and evaluation; H= Total.
Several EU-listed subjects are included in other subjects at FVETUM. Professional knowledge topics are included in subjects such as Practicum and Final Degree Project. Soft skills are included as courses and projects within subjects. Soft skills offered in the degree include communication, leadership, data management or group-work.

The teaching strategy includes a variety of modalities including theory lectures, seminars, problem-based learning, evidence-based medicine, laboratory and desk-based work, non-clinical animal work and clinical animal work. A detailed description of the teaching timetable is available on the website and the timetable can be viewed online.

First and second year students normally have 3 hours of lectures and 3 hours of other compulsory activities (seminars, laboratory work, non-clinical animal work, etc.) per day. For theory lectures, all students of the same year (approximately 100) are taught in a single group; for the other modalities, teaching is organised in smaller groups of 10 to 20 students. Clinical topics and activities are included in many subjects, either with or without direct animal work. In addition to acquiring comprehensive knowledge in various disciplines, pre-clinical studies comprise seminars, problem-based learning sessions, exercises, and laboratory practical that provide a clinical approach.

Students from the 5th-9th semesters within the same semester are divided into clinical rotation modules (5 rotation groups) of approximately 20 students to rotate between subjects on a 2-week basis. In each rotation, students are additionally divided into sub-groups of 2-10 students depending on the teaching modality: seminars, case studies to develop evidence-based medicine, specialised laboratory diagnosis, clinical visits to farms (mainly ruminants and pigs) and clinical placements in the VTH (small animals and equines). Several hours of direct practical work with individual patients and herds, using

relevant diagnostic data, are compulsory in each rotation. From the 10th semester, students have 15 weeks of Practicum, which is also organised in rotations between clinical and non-clinical activities (**Table 3.1.3**). During the Practicum students spend 7 weeks at the VTH (2-4 students per group), 2 weeks at the Abattoir Practical Training (APT, 1-2 students per abattoir), 2 weeks at the Veterinary Teaching Farm (VTF, 4-5 students per group), 2 weeks in an Elective Practical Training (EPT) (1 student per EPT), usually in private clinics, farms or agri-food companies, 1 week in a Food Pilot Plant/Food Industry (FPP, 10 students per group) and 1 week in Animal Health Services (AHS, 10 students per group) (**Appendix 3.2**). During the 10th semester, students are also dedicated to their FDP.

Table 3.1.3. Practical Rotations under teaching staff supervision (excluding EPT: 10 days, 2 weeks)

Types	*List of practical rotations (Disciplines/Species)*	*Duration (days)*	*Year of programme*
Intra-mural clinics (VTH)	Propaedeutic/Dog, Cat, Equine, Cow, Wild and Exotics	11	3
	Special Pathological Anatomy/Dog, Small Rum, Equine, Cow, Pig, Birds	21	3
	Diagnostic Imaging/Dog, Cat, Equine,	10	3
	Veterinary Anaesthetics/Dog, Cat, Equine, Small Rum, Exotics	10	3
	Internal Medicine/Dog, Cat, Equine	22	4
	Reproduction & Obstetrics/Dog, Cat, Pig, Cow, Equine, Small Rum	22	4
	General Surgical Pathology & Surgery /Dog, Cat	11	4
	Special Surgical Pathology & Surgery/ Dog, Cat, Equine	11	5
	Practicum: Medicine and Surgery of Companion Animals: *Anaesthesia, Diagnostic Imaging, Surgery, Dermatology, Cardiorespiratory, Internal Medicine, Oncology, Ophthalmology, Clinical Pathology, Reproduction, Hospitalization & Critical Care Service;* and Exotics.	20 (4 weeks)	5
	Practicum: Equine Medicine	5 (1 week)	5
	Practicum: Special Pathological Anatomy	5 (1 week)	5
	Practicum: Emergencies (2 shifts)	24 h	
Ambulatory clinics	Farm Animal Clinics/Cattle	7	5
	Practicum: Equine Medicine, Ambulatory Cattle, Wild animals (Terra Nature Zoo)/Equine/Cow/Wild animals	5 (1 week)	5
Herd Health Management	Infectious Diseases I & II/Pig, Cow, Equine, Small Rum, Birds	21	3-4
	Parasitic Diseases/Pig, Cow, Equine, Small Rum, Birds	21	3-4
	Toxicology/Small Rum, Wild & Exotics	10	3
	Preventive Medicine & Heath Policy	11	5
	Practicum: Animal Health/Small Ruminant, Cow	5 (1 week)	5
Animal Husbandry	Animal Husbandry, Farm Facilities & Welfare	22	4
	Agrarian Economy	5	4
	Animal breeding & Welfare	11	5
	Practicum: VTF/Small Rum, Cow, Pig, Birds, Rabbits	10 (2 weeks)	5
VPH (including FSQ)	Food Hygiene I and Food Hygiene II/Cow, Small Rum/Pig/Rabbits	22	4-5
	Food Technology	6	4
	Food Security	4	5
	Practicum: Abattoirs	10 (2 weeks)	5
	Practicum: HACPP. Visits to food industries	5 (1 week)	5
Therapeutics	Pharmacology	11	3
	Pharmacotherapy	6	4

At the VTH, students are assigned to different clinical services, which also involve two 12-hour shifts. For 6 weeks they focus on companion animal medicine and surgery: *Anaesthesia, Diagnostic Imaging, Surgery, Dermatology, Cardiorespiratory, Internal Medicine, Oncology, Ophthalmology, Clinical Pathology, Reproduction, Hospitalisation & Intensive Care, Emergency*. Also, in equine medicine, exotics, and pathological anatomy. Outside the FVETUM for 1 week, students rotate between equine medicine, outpatient bovine clinics and wild animals at Terra Nature Zoo.

During this rotation, students will develop specific clinical skills: general knowledge of animals, their behaviour and principles of identification; structure and function of healthy animals; breeding, improvement, management and welfare of animals; physical, chemical and molecular principles of the main processes that take place in the animal organism; knowledge of changes in the structure and function of the animal organism; knowledge and diagnosis of various animal diseases, both individual and collective, and their prevention, with particular emphasis on zoonoses and notifiable diseases; general principles of medical-surgical treatment; knowledge of the principles of operation and optimisation of animal production systems and their impact on the environment; carry out the anamnesis and clinical examination of animals; take and send all types of samples with the corresponding report; carry out basic analytical techniques and interpret their clinical, biological or chemical results; diagnose the most common diseases using various general and instrumental techniques, including necropsy; deal with emergencies and provide first aid in veterinary medicine; carry out the most common medical-surgical treatments on animals and know the basic principles of providing adequate anaesthesia and analgesia techniques; apply the basic procedures that ensure the correct functioning of reproductive activity, technological processes and the resolution of obstetric problems.

During the APT (2 weeks), one or a pair of students are involved as Official Veterinary Surveillance (OVS) in the day-to-day activities of a selected abattoir, either general or specialised by species (pigs, cattle, small ruminants, poultry, rabbits), under the direct supervision of an official veterinarian. All abattoirs are selected and agreed with the regional zoonosis and food safety services of the regional health authority. Students follow the abattoir's timetable and carry out all activities as OVS. A maximum of 2 students are allowed in each premises at the same time. During this period, the students are required to carry out the normal duties of the Public Health Official Veterinarians who act as supervisors. Students keep a daily record of their activities and must produce a report which is assessed by the assigned academic tutor.

In the VTF (2 weeks) students are dedicated to livestock units of pigs, cattle, horses, goats, sheep, rabbits, and poultry. During this period, students are also involved in any clinical problem affecting these animals.

In the EPT during the Practicum (2 weeks), students are supervised by veterinary practitioners who allow them to deal with all aspects of the routine in private clinics, agri-food companies, or farms. At the beginning of the 10th semester, students inform the Vice-Dean of their chosen placement and in most cases, students complete their EPT at their first choice.

During the FPP (1 week), a group of ten students is assigned to visit and evaluate regional food products. During this week, students work on the principles of food science and technology, quality control of processed food and food safety, health control of different types of businesses and catering and food establishments, implementation and monitoring of quality management systems, risk analysis including environmental and biosafety risks and their assessment and management, and the application of food technology to the production of food for human consumption. The rotation is

structured around 3 sessions in which students design a Hazard Analysis and Critical Control Point (HACCP) applied to the agro-food industry, complete the e-portfolio, visit an agro-food industry, and present the e-portfolio they have prepared.

During the AHS rotation (1 week), students will acquire knowledge and diagnosis of different animal diseases, individual and collective, and their prevention measures, with special emphasis on zoonoses and notifiable diseases; they must identify, control and eradicate animal diseases, with special emphasis on notifiable diseases and zoonoses, advise and carry out epidemiological studies and therapeutic and preventive programmes in accordance with animal welfare, animal health and public health standards; assess and interpret the production and health parameters of a group of animals, taking into account economic and welfare aspects; carry out risk analysis, including environmental and biosecurity risks, and their assessment and management. The students' work is organised around several field trips to livestock farms and the VTF. It is collected in a structured way in a e-portfolio containing all the activities corresponding to the rotation.

The assessment of the D1C in Practical is carried out by both internal academic tutors (VTH, VTF, AHS, FPP) and external tutors (EPT and APT). After each rotation, students must write a specific report for each rotation: clinical cases studied using evidence-based medicine at VTH, OVS activities at APT, VTF report activities, HACCP in FPP or agro-food company and the EPT report of activities. All these reports (e-portfolio) are evaluated by the assigned internal tutors. Through the assessment of the e-portfolio and the direct assessment of the D1C, both the internal and external tutors issue an assessment statement for each rotation. To illustrate this, in the case of the clinical rotations, students will receive a schedule of activities to be carried out on each rotation. The Clinical Teacher/Specialist on each rotation must sign a weekly questionnaire assessing the knowledge and technical skills demonstrated in the field. This includes behaviour and attitude. Assessment will account for 60% of the grade, with results derived solely from questionnaires. The remaining 40% will be based on evaluation of the student's report, which must comprise clinical case studies demonstrating direct involvement of the student and rooted in scientific literature. A minimum mark of 5 out of 10 is required for each rotation to be passed and all rotations must be passed to pass the Practicum. The final mark for the Practicum is the average of the marks achieved in each rotation. The academic tutors of the Practicum have developed an online e-portfolio. It is accessible via the VC, so that each Practicum rotation has its own page. All the necessary resources for the student (description of the activity, links to research legislation, articles research, etc.) and the folders where the students must upload reports and activities are available on site. The tutors evaluate the e-portfolio and annotate the marks obtained during the on-site evaluation of the practical work. The external tutors in companies during the Practicum (EPT) have a document with rubrics to be filled in where they grade the work done by the students (**Appendix 6**).

The 4 optional subjects of the curriculum are in the 5th semester (3rd year). Curriculum hours taken and number of students in electives are summarised in **Tables 3.1.4** and **3.1.5**. Students are expected to take 6 elective ECTS out of the 12 offered through 2 of the electives (3 ECTS each). A maximum of 32-36 students will be admitted per subject. Thus, the total number of potential places for electives is approximately 130-140, which guarantees admission to all. If the number of applications for an elective exceeds the number of available places, a grading mechanism based on the following criteria, approved at UM level, is applied:

- Priority is given to students who did not enrol in the previous year.
- Students will be ranked according to their average marks in 2nd year veterinary subjects.
- In the event of a tie, the available places will be allocated by lot.

Table 3.1.4. Curriculum hours taken as electives for each student

SUBJECTS	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*
Veterinary History	18	16	36				5	**75**
Taurology	22	7	36	5			5	**75**
Wild Fauna Ecopathology	12	6	36		16		5	**75**
Veterinary Clinical Pathology	14	7	36	13			5	**75**

A= Lectures; B= Seminars; C= Self direct-learning, D= Laboratory and desk based work; E= Non-clinical animal work; F= Clinical animal work; G= Others: tutorial and evaluation; H= Total.

Table 3.1.5. Number of students enrolled into the electives in the last three years

SUBJECTS	*2022/23*	*2021/22*	*2020/2021*	*Mean*
Veterinary History	35	34	35	**35**
Taurology	20	15	31	**22**
Wild Fauna Ecopathology	32	34	32	**33**
Veterinary Clinical Pathology	18	17	28	**21**

Standard 3.2.- Objectives of the programme: students as independent learners.

The FVETUM strategic plan (2023-27) has thoroughly assessed the study program, Teaching Guides (TG), and their alignment with ESEVT D1Cs. The Dean's Office has annually reviewed the TGs, collaborating with subject and area coordinators, and examining QAC investigations, to ensure adherence to program requirements and intended objectives have been met. QAC findings serve to enhance the quality of individual subjects.

The FVETUM promotes an academic environment where students are challenged to think critically, to consult current literature and publications, to obtain information based on research and evidence, and to solve problems at the hands of active professionals who are experts in their fields. Students are encouraged to participate in research and multidisciplinary projects (individually and in groups) and to develop a culture of self-learning through individual assignments or challenges. The importance of lifelong learning is emphasised to students throughout their studies, and they are given the opportunity to assist or participate in courses offered by the VTF, VTH or associated/participating institutions as COLVEMUR.

Standard 3.3.- Programme learning outcomes.

The FVETUM curriculum is built upon a list of competences, divided into 3 categories:

- Transversal, formulated by the University. The same for all the Degrees of UM.
- General, taken from the "White Book of the Veterinary Degree" of ANECA.
- Specific. A total of 40 Specific Competences (SC) (**Appendix 3.3**), which correspond to the list of D1C defined by the EAEVE.

Based on these competences, the main educational objective of the curriculum is to ensure that students achieve a competent level of knowledge and skills in all areas of the veterinary profession. This is achieved through a progressive and comprehensive competence-based learning process with educational objectives and workload for a

total of 300 ECTS credits. These objectives pursue a set of learning outcomes (**Appendix 3.4**) associated with each specific subject of the curriculum.

The achievement of the curriculum competencies is assessed through the evaluation of learning outcomes. Thus, regardless of its classification - basic, pre-clinical, clinical, animal husbandry, animal health or food hygiene - each subject has a competence-based assessment system designed to ensure that each graduating student has achieved the curriculum competencies. For example, in most subjects, the assessment includes not only the traditional theoretical examination, but also a series of practical tests and checks, which together ensure that students not only know, but also demonstrate competence in various professional areas. The most common way to verify this is through the evaluation of practical work (in some cases continuous evaluation), the demonstration of critical thinking and the correct identification of problems related to different professional scenarios. Each type of assessment is considered, and students receive a mark accordingly. All information about the evaluation is described in detail in the TG.

The relationship between competences, learning outcomes and how they are achieved is defined at subject level and described in detail in the TG of each subject. On an annual basis, the TG are reviewed, discussed, and finally approved by the Departmental Councils and, more recently, by the FB. In fact, TG can be considered as "formal contracts" between academics and students, which serve as a reference for the implementation and monitoring of the learning process.

Standard 3.4.- Committees for curriculum structure.

As previously mentioned, the FVETUM curriculum complies with the European and national regulations that define the curriculum framework, with the requirements of an official verification by ANECA. All Veterinary Faculties in Spain are subject to the same regulations and all issues are thoroughly discussed and agreed upon within the Spanish Conference of Veterinary Faculties, to provide homogeneity and coherence to veterinary education and to promote student exchange and mobility.

Modification of the FVETUM curriculum can be motivated by a major change based on legislation or after a review and accumulated experience of the application. Minor changes can be carried out by the MONITOR programme, and major changes should follow a VERIFICA programme. In any case, the decision will be made according to a procedure that has to be approved by the FB and the University Council. It can be initiated "top down" (by the DT) or "bottom up" (by departments, staff or students). In any case, it must be justified and proposed to the Academic Management Committee and the QA Commission, which will present it to the FB. For the current curriculum, the FB designated the Veterinary Curriculum Degree to generate a debate and proposal with the staff (throw the departments), student representatives and stakeholders. After the proper debate and once consensual, it is proposed to the FB that, once approved, will be submitted to the Academic and Planning Committee of the UM, previously to be approved by the University Council. Finally, it is sent to ANECA.

The implementation is carried out under the supervision of the Academic Management Committee and the SAIC, and under the direction of the Vice-Dean in charge of the Veterinary Degree and the Dean. The evaluation and revision of the curriculum follows an internal and external process. Internally, the aforementioned committees and the FB will follow both processes. Externally, the MONITOR or ACREDITA programmes will follow. All processes are under the framework and internal support of the UM Quality Unit.

No major changes have been made to the annual planning since the approval of the degree. The minor changes and improvements are communicated to all stakeholders through meetings and publication on the website, VC, information displays and social networks.

Standard 3.5.- Optional Practical Training (OPT).

In addition, the EPT of Practicum (2 weeks), the students can accomplish a minimum of 160 h of OPT in external entities (e.g., veterinary clinics, hospitals, companies, etc.) in any of the areas linked to the veterinary profession (**Table 3.5.1**).

Table 3.5.1. Non-core Curriculum days of Optional Practical Training (OPT) for each student

Fields of Practice	*Minimum duration (weeks)*	*Year of programme*
Production animals (pre-clinical) *Companion animals (pre-clinical)* *Production animals (clinical)* *Companion animals (clinical)* *VPH (including FSQ)* *Others (specify)*	4 (160 h) (all fields of practice included)	3-5 (all fields of practice included)

Standard 3.6.- OPT providers' contracts/agreements.

UM offers its students a Centre of Orientation and Information of Employment (COIE) which, among other functions, performs the administrative management of the practices and deals the legal binds (agreements) with the companies (**Appendix 3.5**). Any student has access to the full list of available placements on the COIE website. Currently, more than 300 companies related to the Veterinary profession are listed. New placements can easily be added through signature of the official agreement.

During the OPT students are supervised by two tutors, one academic (UM) and one veterinary practitioner from the company. The practitioner in charge of tuition is the one responsible for certifying the achievement of professional skills on-site, while the academic tutor evaluates a detailed report delivered by the student (**Appendix 3.6**).

The teaching staff responsible for the supervision of the EPT activities is composed by:

- Prof. *Gaspar Ros Berruezo*. Dean.
- Prof. *Salvador Ruiz López*. Vice-Dean.
- Prof. *Jesús Talavera López*. Vice-Dean.

In addition, this team is supported by two administrative staff and the institutional environment provided by the COIE.

Standard 3.7.- Responsibilities of students during Practical Training.

Orientation meetings are held with students at various stages of the degree, particularly during the 8th semester, to explain the organisation of the practical training and how to apply via the COIE website. Approximately 40% of students also opt for work placements during the holidays of the 3rd to 5th years.

Alternatively, instead of electives and OPT, students can obtain 6 optional ECTS by enrolling in different types of university activities that are officially recognised by the UM (Credits Recognised for University Activities), abbreviated in Spanish as CRAU.

CRAU activities include collaboration with departments ("collaborating students"), placements in extracurricular practices (clinics, abattoirs, farms, or herd health management units), sports and cultural activities, active participation in professional or social associations, scientific congresses, and representational duties. Extracurricular

placements are also regulated by the COIE. Thus, each potential destination (company) must sign a formal agreement with the UM to be considered as a placement. On the other hand, the learning objectives and outcomes of each placement are directly supervised by the same teaching staff responsible for supervising OPT activities. Most of these placements take place during the summer months, after the academic year (**Table 3.7.1**).

The most common ways of obtaining elective credits through university activities (CRAU) at FVETUM are by applying for a place as a student assistant in a department or at the VTH, and through internships for extracurricular practices. 150 hours of direct work count for 1 CRAU.

Students can only choose placements for extracurricular practice if they have passed 50% of the total ECTS (150). Of the placements selected, nearly 90% are in small animal clinics.

Table 3.7.1. Use of extra-curricular placements by FVETUM students (data source: COIE)

	2022/23	*2021/22*	*2020/21*	*Mean*
*Students involved in placements**	29.93 (82/274)	39.80 (119/299)	26.38 (86/326)	32.04 (96/300)
Average hours per placement/student	223.10	201.46	176.95	200.50

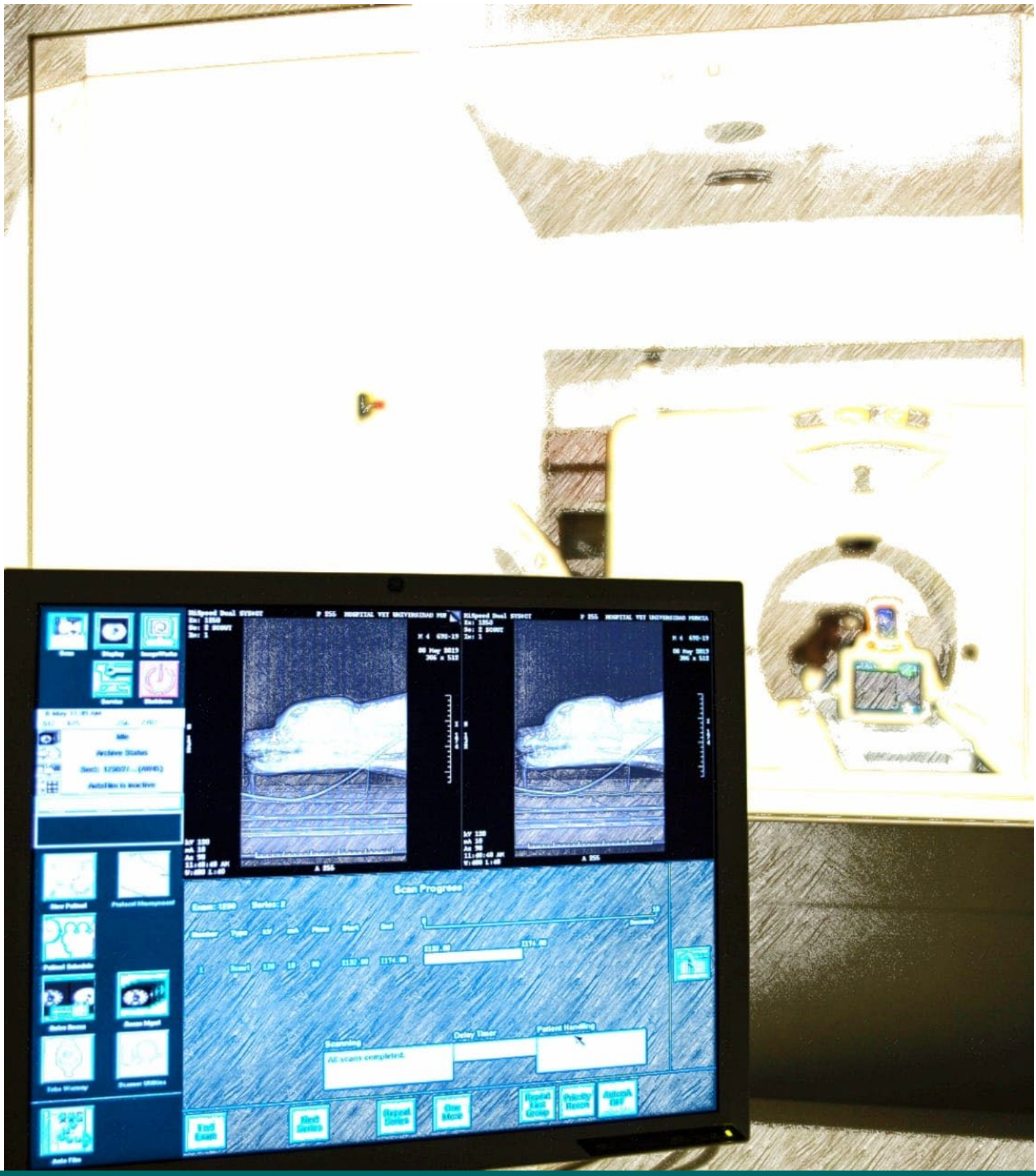
**Percentage (%) = factual/potential.*

Comments on Area 3.

- A wide range of teaching methods are used. Many academics are involved in innovative teaching activities, both theoretical and practical.
- Internal and external premises have been consolidated for intra and extramural and our students can develop EPT (4 weeks).
- The ESVET visit is an opportunity to review and analyse the current situation for improvement, which together with the visit's recommendation will help to prioritise the issues to be addressed and the order in which they should be followed.
- The inclusion of the FDP in the current curriculum has improved the acquisition of various specific professional and scientific skills by the students.

Suggestions for improvement in Area 3.

- The Spanish Conference of Veterinary Faculties has made a proposal to the Ministry of Education and Vocational Training to extend the duration of the Veterinary Degree by one year (60 ECTS), which would allow a better redistribution of the total teaching time in the field, increase the content of clinical subjects and include in the curriculum new elective subjects and others that are emerging in the field of veterinary sciences, such as veterinary physiotherapy.
- Vocational selection of students, recognising the full professional skills of the veterinarian (including food safety in abattoirs), is already in practice, but it is necessary to advise students to be aware of this at high school level.



Area 4.
Facilities and equipment

Standard 4.1.- General description.

The core of the FVETUM infrastructures are 3 buildings, a MFB (15,330 m^2) divided into 3 units (A, B and C), the Veterinary Teaching Hospital (VTH; 15,330 m^2), and the Veterinary Teaching Farm (VTF; 160,000 m^2). The MFB and the VTH are located on the Espinardo campus of the UM, in the northern area of Murcia, 6 km from the city centre and very close to the A-7 and A-30 motorways. Access is quick and easy, thanks to the three main access points (North, East and South). Buses (up to 5 lines) and trams currently connect the Espinardo Campus with the city of Murcia and the main towns in the neighbourhood. The VTF is less than 2 km from the MFB. It is well-connected and easily accessible by car, bicycle, or tram.

Facilities are under the responsibility of the VRI and the FVETUM, the Dean and the Dean's Office are responsible for proper maintenance and renovation. The general maintenance programme is based on the VRI and covers all the facilities at UM (including energy and water supply). There is a maintenance programme for each failure, which is covered by the VRI or the Faculty budget, depending on the type of issue. Major investments are also applied for to the VRI when an open call for tenders is launched at the University, or by direct negotiation in the case of a major intervention. Each year, the VRI presents to the University Senate the new investments and upgrades for facilities and equipment, based on the annual budget and priorities.

The maintenance, renewal and acquisition of equipment and facilities depend on the availability of the budget, which in turn depends on the endowment that the UM allocates to our Faculty. In addition, funds from research activities also contribute to the modernisation of FVETUM's facilities and equipment.

VTF also has an investment plan, which is defined by the Board of Directors and approved by the Board of Governors, and which is based on the VTF budget or supported by the Vice Rector for Economic Affairs on a regular basis within the framework of the UM calls, or exceptionally when the situation requires it (e.g., damage caused by heavy rain).

As a foundation, VTH has the autonomy to identify, through the Board of Directors, the main needs for renovation or new investment to update or acquire new equipment for new or improved clinical services and teaching. This project for renovation or new equipment is presented to the Foundation's Board of Trustees, which, depending on the price of the equipment, is either informed (mainly in the case of renovation or small equipment and based on the VTH budget, see Standard 2) or asked for support. The Rector is the main patron of the VCF, and the Vice-Rector for Economic Affairs technically examines the investment in order to include it in the current or future budget. Usually, this request is framed within an internal UM call for renovation or acquisition of equipment.

Compliance of the physical facilities with all relevant legislation is the responsibility of VRI, in particular the Technical Unit Area and the Occupational Risk Prevention Service (ORPS). The ORPS also ensures high standards of safety and biosecurity. The FVETUM Biosecurity Vice-Dean, together with the Self-Protection Board and the ORPS, organises fire drills and other training activities for safety porpoises.

The VRI also has a contract with various specialised companies that periodically inspect all equipment and are responsible for organising mandatory inspections of lifts and hoists, fire extinguishers, smoke detectors, compressors, etc. Relevant equipment in the department is periodically inspected in accordance with the requirements of the QAIS.

Standard 4.2.- Teaching facilities.

4.2.1.- Premises for lecturing.

The lecture rooms are located mainly in Unit A, but also in Unit C of the MFB, and in the VTF and VTH. The total number of rooms is

15, providing more than 1550 seats. All are equipped with: air conditioning; microphone system for conference and theatre room; media system (computer, overhead projector, audio system); smart blackboard; wheelchair access; modular system tables and chairs for working groups; Wi-Fi coverage and access; electric plugs for electric devices and, in case of pandemic, all protection measures, and all area adapted to possibility of holding hybrid and interactive lectures. The lecture halls are divided into 3 types of classrooms: large, with more than 150 seats and up to 380 in the "Aula Magna" medium, with 40 to 100 seats; and small, with 15 to 25 seats. Seminars and tutorials are also delivered at the lecture rooms and at the Department/Unit premises where available. The DO manage the availability of lecture rooms throw the UM management website "eSPACIOS".

4.2.2.- Premises for study, self-learning and group-work.

The FVETUM study room, commonly called "the library", is located on the ground floor near the lecture halls and the student union area. It has 128 seats. Within the library there are four study cabins for WGB (capacity 8 students each), equipped with the necessary furniture and smart TV connected to the table for projections. Self-study facilities include 3 computer rooms with 75 seats, located on the ground floor of the MFB Unit A. All are fully equipped with individual PC, centralised printer, media system and smart board. VTF also has a computer room with free access for students and for practical training.

Within 5-minute walk from FVETUM there is the University Library of the campus with 268 study places, and 10 study rooms. This library contains all the recommended books, which students can access and, in most cases, borrow for a period of 15 days (with renewal). Students also have access to scientific journals, laptops, a CD room, and DVDs. In addition, all our students can use any study room in other faculties or libraries on other campuses owned by the UM. Other study rooms are at different levels and are managed by different departments and are open to study groups of different subjects. The equipment is standard (tables, chairs, blackboard, Wi-Fi access) and the department can also provide additional equipment.

4.2.3.- Practical work facilities.

Practical work facilities are within the Departments and Teaching Units, and mostly are laboratories for practical training in basic subjects and basic sciences. These laboratories usually are equipped with common features such as gas extraction hoods, fridges and freezers, ovens, shakers, filters microscopes, centrifuges, scales and basic laboratory supplies. Specific laboratory equipment includes bacteriological culture ovens, spectrophotometer, ELISA readers, cell counters, sterilizers, microplate readers, etc. These premises are managed and maintained by the Departments or Teaching Units. Some of them have specific requirements (Anatomy, Necropsy, Food Technology…) and infrastructure are properly identified and equipped. Most laboratories have space for 20 students, 2 teachers and 1 support staff.

4.2.4.- Premises for skill labs.

The VTH holds a Skill Lab dedicated to clinical skill development with tables, chairs, a digital board, and the following items:

- Microscopes with preparations of blood films, urine sediment, cytology.
- Forelimb for blood collection.
- Mannequin for blood collection from the jugular vein.
- Mannequin for bandages.
- Suture practices.
- Ovariohysterectomy simulators.
- Dog intubation.
- One horse for blood collection, intramuscular injection in the neck, rectal palpation, palpation of the reproductive tract, and palpation of the distended intestine.
- A digital collection of clinical procedures and presentations accessible online using QR codes.

4.2.5.- Catering.

The FVETUM has a canteen located in the MFB, with 70 seats and an outdoor terrace with another extra 40 seats. Freshly cooked menus are served daily. Vending machines are also available in the hall of the FVETUM MFB, as well as in the rest area of the VTH. Students are free to request the use of microwaves located in the canteen and in the VTH student apartment area. UM also provides a wide range of canteens at each Faculty and centralised restaurants for lunch. Prices are economic and menus are supervised by the Food Safety and Nutrition Service of UM.

4.2.6.- Locker rooms, toilets and showers.

Lockers at FVETUM have two main purposes, one is to be used for the students to keep their properties, and to keep street clothes to wear adequate clothes for practical training (especially for biosecurity requirements). The first ones (student's lockers) are distributed in the corridors in the MFB (Unit A, at the Ground floor toward Unit C, at the First floor before Lecture Room 1.1.). Students manage the distribution of lockers under the supervision of the Secretary of the FVETUM and covers mainly students of the last 3 academic years. Lockers for proper dress are managed by the different Departments (Anatomy and Anatomopathology) and Services (VTH, 2 for staff and 1 for students, and VTF, 2 for students, 2 for staff and 2 in the quarantine area), including shower rooms, where needed (VTF). Toilets are situated throughout the main campus.

4.2.7.- Accommodation for on call students.

The VTH offer accommodation for 8 on call students in two bedrooms with two bunk beds each. Besides, accommodation is also available for students in the VTF with a maximum capacity of 16 seats. No further than 10 min walk is the Hall of Residence where students have full equipped rooms available for rent.

4.2.8.- Leisure.

The main leisure venue for students "Centro Social" (CSU) is located at 10 min walk from the FVETUM. There, students have plenty of resting and meeting rooms, a refectory, an auditorium, exhibition areas, an external theatre, a bank, etc. Centro Social is run by the Students Union and hosts the headquarters of the Information Service for Students at the UM. The FVETUM itself has some facilities for cultural activities (Auditorium, Graduates Lecture Room, Meeting Room, etc.), student association rooms and some indoor (main hall) and outdoor rest areas ("the sustainability square" is opposite the Faculty). Additionally, the UM is fully equipped with infrastructure for practising a broad list of sports, such as rugby, football, volleyball, handball, basketball, indoor football, tennis, paddle, gyms, and an indoor swimming pool. There is also a wide offer of sports schools.

Lockers, toilets, and showers are situated throughout the main campus, laboratories and at the VTH.

Regarding academic staff premises, offices are distributed at the different departments and in most cases are individual. Most of the Units in the Department manage almost 500 m^2 where half are offices, seminars, working groups or lectures, and the other half are teaching/research laboratories. Depending on the needs of the Unit/Department they defined the use.

Standard 4.3.- Livestock facilities, animal housing, core clinical teaching facilities and equipment.

4.3.1.- Description of the premises for housing.

Table 4.3.1 details the premises for housing healthy animals of approved species, control systems and facilities in the VTH and VTF of the FVETUM.

Table 4.3.2 shows the facilities for housing animals hospitalised at VTH.

Table 4.3.1. Premises for animal housing (in compliance with Law 53/2014, animals used in teaching are intended for scientific use)

	VTH	VTF	Total		VTH	VTF	Total
Authorized Species				***Control Systems***			
Rodents	X	-	1	*Temperature*	X	X	2
Rabbits	X	X	2	*Humidity*	X	X	2
Dogs	X	X	2	*Light-dark cycles*	X	X	2
Cats	X	-	1	*Fire*	X	X	2
Small Ruminants	-	X	1	***Facilities***			
Cattle	-	X	1	*Quarantine*	-	X	1
Equine	X	X	2	*Laboratory*	X	X	2
Pigs	-	X	1	*Surgery Room*	X	X	2
Bee	-	X	1	*Necropsy Room*	X	X	2
Exotic pets & wildlife	X	-	1	*Store Room*	X	X	2
Poultry	-	X	1	*Cleaning Room*	X	X	2
Apes	-	X	1	*Locker Room*	X	X	2
				Level 3	-	-	0

Table 4.3.2. Facilities for hospitalized animals at VTH

Regular Hospitalization: Species	*Number of seats*
Equine	11 distributed as follows: • 8 regular boxes • 2 neonatology boxes • 1 place in intensive care
Dogs	15 distributed as follows: • 9 in cages • 6 in large dog boxes
Cats	5 in cages

4.3.2.- Description of the premises.

Clinical activities. These activities are developed at VTH.

- Small Animal Area. Lobby, two large waiting rooms for dogs and a specific room for cats, 10 consulting rooms (2 Internal Medicine, 1 Cardiorespiratory, 1 Ophthalmology, 1 Dermatology, 1 Exotic Animals, 2 Surgery, 1 Reproduction, 1 Multipurpose), 2 laboratories (Clinical Pathology and Reproduction Technology), 1 Pharmacy, 1 Anaesthesia room, 1 Ultrasound room, 1 X-Ray room, 1 Film reading room, 1 CT room, 1 Student General Exam room, 5 Surgery rooms (2 student and 3 regular surgery rooms), 1 Procedures room (Dentistry and Endoscopy), Sterilization area, Hospitalization area, Medicine and Surgery animals' premises.
- The Small Animal Internal Medicine Service includes first-opinion consultations and specialty consultations (Internal medicine).
- The Small Animal Ophthalmology Service includes consultations, specialized examinations, and surgery procedures.
- The Small Animal Dermatology Service includes consultations and minimally invasive diagnostic and therapeutic procedures.
- The Small Animal Neurology Service includes consultations and minimally invasive diagnostic and therapeutic procedures.

- The Small Animal Cardio-Respiratory Service includes consultations, echocardiography, electrocardiography and Holter 24h, interventional radiology and airway endoscopy diagnostic and therapeutic.
- The Regenerative Medicine Service: includes special consultations, advise and treatments based on regenerative medicine: use of biocompatible cell matrix membranes, autologous stem cell treatments and commercial stem cell treatments.
- The Small Animal Surgery Service includes consultations and surgery procedures of soft tissue surgery, orthopaedics, neurosurgery, and dentistry.
- The Small Animal Hospitalization, IC and ER Service includes hospitalization, monitoring and therapeutic, blood bank and ER consultations and therapeutic 24/7/365.
- The Large Animal Area comprises 2 rooms for examination and specific clinical procedures, 1 radiology room, 2 induction/recovery rooms, 2 surgery rooms, 1 riding arena and 1 area for IC.
- The VTH Central Services Area comprises different services which are common to the small and large animal areas:
  - The Anaesthesiology Service performs sedations and anaesthetic procedures required by the patients (exotic, small and large animals). It is equipped with 8 Anaesthesia machines in Small Animal area (2 Anaesthesia room, 3 Surgery Rooms, 1 Procedures room, 1 X-Ray room, 1 CT room) and 1 in the Large Animal Surgery Room.
  - The Diagnostic Imaging Service performs radiographic, ultrasound and MRI diagnosis for the VTH patients and receives referrals from private practices. This service includes 1 X-ray rooms for small animals and exotic pets, 1 X-ray room for large animals, 1 ultrasound room for small animals and 1 CT unit for small animals.
  - The Pharmacy Service/Store serves as the control of all medicines and drugs, fungible material, instruments, laboratory equipment, sutures and other orders requested by the different services of the VTH distributed as 1 office, 1 laboratory, 2 storage rooms.
  - The Small Animal Reproduction Service offers a full range of techniques to improve the reproductive performance of the VTH, ranging from artificial insemination or embryo transfer to in vitro fertilization in companion and farm animals. This service includes 1 consulting room and 1 laboratory.
  - Management. Government and administration correspond to the VTH Board and to the Director, Manager and Secretary.

Diagnostic services including necropsy.

- Pathology Service carries out pathological diagnostics of necropsies and biopsies. The facilities of the Pathology Service are one large Necropsy Room, a Histopathology Laboratory and one Pathology Diagnostic Room which serve for pathological diagnosis from necropsies and biopsies.
- The Clinical Pathology Service carries out haematological, biochemical analysis and cytological studies, and coordinates the activity of the VTH emergency laboratory. It has one laboratory for routine tests and emergency techniques and another three for more advance techniques.

4.3.3.- Description of the equipment used for clinical services.

Table 4.3.3 describes the basic and specialised equipment used in the clinical services of the small and large animal areas as well as the equipment of the central services of the VTH.

Table 4.3.3. Equipment for clinical services

Area	*Service*	*Basic equipment*	*Specialized Equipment*
Small Animals Area	Internal Medicine	Available	Endoscopy, otoscopy, oscillometric blood pressure monitor
	Ophthalmology	Available	Ocular ultrasound, retinography, electroretinography, slit-lamp, direct and indirect ophthalmoscopy, laser, phacoemulsificator, Surgery microscopy.
	Cardio-respiratory	Available	ECG, Echocardiography, Holter 24h, Blood pressure Monitor (Oscillometry and Doppler), airway endoscopy (rinoscopy, tracheobronchoscopy), airway sampling, dynamic airway evaluation by fluoroscopy, C-Arm X Ray
	Dermatology	Available	Digital otoscope, Wood lamp, microscope
	Neurology	Available	
	Surgery	Available	Arthroscopy, Neurosurgery micromotor.
	Hospitalization /ER	Available	POCUS Ultrasound, 2 oxygen concentrators, 1 anaesthetic machine, 1 multiparameter monitor, Blood pressure Monitor (Doppler, oscillometric)
Large Animals		Available	Endoscopy (special instrumentation for large animals), arthroscopy, ultrasound, X-ray.
Central Services	Reproduction	Available	Microscopes, endoscopy, computer sperm analyzer, incubators.
	Diagnostic Imaging	Available	1 X-ray equipment for small animal and exotic pets, 1 X-ray fixed equipment for large animals, 1 X-ray mobile equipment for large animals, 1 computerized radiography (indirect digital) system, 2 ultrasound equipment, one for small animals and other for large animals, 1 CT system (2 slices) for small animals, and 1 fluoroscopy system for radiographic diagnosis and surgical support
	Pharmacy	Available	Hand-operated capsule-filling machine, Precision scale, Thermostatic bath, Magnetic stirrer.
	Pathology	Available	Microscopes, including multi-head microscope with digital photography system, paraffin embedding vacuum system, tissue processing system, paraffin block preparation system, microtome, autostainer, cryostat, immunostainer, storage system for paraffin blocks and stained sections
	Clinical Pathology	Available	Haematological and biochemical analysers, ion-selective electrode analyser, gasometer, ELISA reader, spectrophotometers, centrifuges, cytocentrifuge, microscopes, refractometers, quimioluminiscence reader.

4.3.4.- Brief description of the premises for the practical teaching of FSQ & VPH.

- FPU of the FVETUM is equipped with a complete line for dairy production (butter churner machine, cheese vats, plate heat-exchanger, freezer, fermentation tank, brine vat, pneumatic press), and a complete line for meat production (cutter, meat grinder, fine meat mincer, hydraulic sausage stuffer, slicer, burger maker, convention/steam oven, electric cookers, and ripening chamber). The FPU is also equipped with a piston filler, double sealers, evaporator, rotavapor, incubation chambers, freeze dryer, vacuum/modified atmosphere packaging equipment, convection/steam oven, straight line exhaust box, autoclaves, retail displayers, and general equipment such as baths, working tables, washing machine, freezers, and refrigerators. In addition, we have an experimental kitchen supported with the proper equipment.

- Laboratories of Food Science and Technology Department. Equipped with instruments and reagents for the evaluation of food composition (protein, moisture content, minerals, and fat) of raw materials and final products from animals, and to determine freshness and safety of food products. Equipments for food testing analyses in Food Safety and Quality lab are spectrometers, refractometers, Kjeldahl digester and distillator, Soxtec for automatic fat extraction, muffle furnaces, balances, precision balances, laboratory incubators, pHmeters, homogenizators, Stomacher, and baths which allows to test microbiological and physicho-chemical characteristics of foods, water, and environmental hygiene.

Our students also carry out extra-mural practical training in different abattoirs, food markets, food industries and reference official laboratories and catering facilities.

- Abattoirs. The students attending the subject of "Hygiene, Inspection and Food Control II" carry out practices in the slaughterhouse of "Cabezo de La Plata, located 18 Km away from the FVETUM. This is one of the main abattoirs supplying meat to the Southeast of Spain. It has a surface of 6,500 m^2, including 900 m^2 of cold-storage rooms. Bovine, porcine, ovine and goats are sacrificed there. It is authorised to sacrifice animal following the HALAL ritual procedure suitable for the muslim population. The Director of the slaughterhouse Veterinary Inspection Service is an Associated Lecturer in the "Area of Nutrition and Bromatology", and oversees supervising the students' practices, under a collaboration arrangement signed between the Veterinary Faculty and the Regional Health Council.
- Poultry abattoirs. Steps are being taken to conduct practices in the main company of this sector in the Region "Pollos Pujante" ("Pujante's Poultry Farm"). The premises are located in Beniel about 20 Km away from the Faculty. This agreement has been expanded and new practices are foreseen to be conducted at this place in the next academic year.
- Fish Markets. The activities regarding the Hygiene, Inspection and Control of fish are conducted in the Central Market of Alcantarilla "Eurolonja 2000" (located 15 Km away from the FVETUM, with a surface of 10,000 m^2. This is the main fish market of the Region and the second most important internal fish distribution point in Spain, just behind Madrid, with a daily volume of 20 tons of fish and seafood and a turnover of 500,000 euros a day.

Standard 4.4.- Clinical teaching facilities and equipment.

The VTH is open 24/7, all year round. The VTH consists of two different areas according to the animal species attended: the companion animal (canine, feline, and exotic animals) and the large animal (equine) areas. Both services provide clinical appointments of different clinical consultations from 09:30 to 18:00. Specialist consultations include Dermatology, Ophthalmology, Odontology, Neurology, Oncology, Diagnostic Imaging, Cardiorespiratory, Internal Medicine, Gastroenterology, Traumatology, Soft Tissue Surgery, Minimally Invasive Surgery, Orthopedic, and Reproduction. There is also an Emergency and Hospitalization service 24/7 with independent companion animal and equine facilities and staff. Emergencies and hospitalizations are handled by on-call veterinarians and telephone support specialists.

The clinical practices at VTH are organized in groups of a maximum 5 students per clinician so hands-on experience is enhanced. Students participate in the history taking, examination of animals, diagnostic and treatment plan elaboration as well as procedures for scheduled patients and emergencies. VTH activities start in the 3rd year and increase in hands-on opportunities and student responsibilities during the academic year.

The UM VTH meets national practice standards as clinical activities are always performed or directly supervised by licensed

veterinarians (national and local professional organizations). The problem-oriented diagnostic protocol is used with a scientific approach to evidence-based medicine.

Standard 4.5.- Diagnostic and therapeutic equipment.

Students have access to diagnostic and therapeutic facilities including diagnostic imaging, anesthesia, clinical pathology, pharmacy, intensive and critical care, surgeries and treatment facilities of the VTH during clinical practical training in 3rd to 5th years. Necropsy facilities are open to students from 3rd year on (curricular practical sessions take place for necropsy studies in the 3rd year and then students attend clinical case necropsies or carcass examination during their VTH training in the 4th and 5th year). Most of these services and facilities are also offered at the teaching farms used by students from 2nd year on. Students have access to the ambulatory service in the 5th year.

Standard 4.6.- Isolation facilities.

4.6.1.- VTH isolation facilities.

The two VTH areas, the companion, and large animals, have their own isolation units. The equine unit has an independent section for the treatment of animals suspected of contagious pathologies, complying with all biosafety regulations. This section is in a building that is within the equine facilities but separate from the VTH main building. Since the suspect horses are separated, they never encounter the rest of the horses. At his area will be directly conducted those equine patients suspected of having a contagious disease, diarrhoea, nasal discharge, mumps, mares with abortions, respiratory infections, multi-resistant bacteria infections, nervous symptoms plus fever (**Table 4.6.1**).

The VTH isolation unit for small animals is located in a building isolated from the other premises of the hospital. To access this isolation unit, a footbath carpet with disinfectant situated on the exterior must be cross. Afterwards you access a hall where there is specific footwear for this area. Anyone who enters must leave their footwear outside and change it for the one prepared here. Afterwards there is a corridor that gives access to 2 rooms with hospitalization stations for dogs (7) and one more with stations for cats (3) (**Table 4.6.1**). At the back there is another unit with an examination-manipulation table and clinical consumables, as well as a sink and water tap.

Table 4.6.1. Isolation facilities at VTH

Species	*Number of seats*
Equine	2 boxes
Companion animals	room with 2 cages for cats. 1 room with 2 cages for dogs.

4.6.2.- VTF isolation facilities.

The quarantine facilities at VTF are situated in a detached building, separate from those housing healthy animals. It comprises three pig pens, four stables for equine and/or cattle, four additional pens for small ruminants, and a single chamber for rabbits. Each enclosure has varying capacity (**Table 4.6.2**). Each room features a window located on the backwall. This unit serves as a temporary home to animals suspected of having an infectious or contagious disease. Additionally, all new animals admitted to VTF undergo a mandatory quarantine period in this facility. A foot bath for washing feet prior to entering communal areas is available at the building entrance.

Table 4.6.2. Quarantine facilities at VTF

Species	*Number of seats*
Pigs	30
Equine/Cattle	4
Small Ruminants	24
Rabbits	20

Standard 4.7.- Ambulatory clinic for production animals.

Ambulatory clinics and teaching farms run from Monday through Friday for scheduled appointments and daytime emergencies for equine and ruminant patients. The VTH, teaching farms, ambulatory services and any hospitals, practices and facilities used for EPT are nationally licensed establishments or service providers.

The 5th year students are involved in farm and ambulatory activities that are organized in the same way as in VTH, in groups of a maximum 5 students per clinician. Students participate in the history taking, examination of animals, diagnostic and treatment plan elaboration as well as procedures for scheduled patients and emergencies.

Standard 4.8.- Transportations of students, live animals and cadavers/organs.

4.8.1.- Students' transportation.

The FVETUM owns two vans with 8 seats/each available for student transportation to and from the VTF and extramural felicities (farms, abattoirs). These vehicles are driven by a service staff with special authorization for this activity. Also, some teaching staff drive these vans, although the number of academic staff drivers has been reducing due to the risk of potential accidents and legal responsibilities. In some cases, the students used their own vehicles for some special practical training when in small groups and during rotation.

4.8.2.- Live animals' transportation.

The need for transport of live animals has drastically decreased in the past decade. Most livestock/horse owners have their own transporters to bring an animal in. Companies subcontracted to work at the VTF have their own vehicles for live animals' transportation. Nevertheless, the Faculty still holds a car-trailer to meet the few situations where a food animal must be brought in. Within the VTF there is a truck, a farm tractor and a forklift for farm activities used by professionals working at the VTF.

4.8.3.- Cadavers/organs' transportation.

Cadavers and organs are considered animal by-products and must follow regulations according to the animal by-products disposal act, Regulation (EC) No. 1069/2009, of the European Parliament and the Council and Regulation (EU) No. 142/2011, of the Commission, constitute since March 4, 2011, the community legal framework applicable to animal by-products not destined for human consumption and products derived from them, (SANDACH in Spanish). Based on the permission given by the veterinary authorities on the 27 July 2018, the UM has acquired an adapted SANDACH vehicle for cadavers and organs. Drivers are authorized within the technical staff of the Department/Units. There are 2 special circuits to receive by-products where they are collected in special containers in a cold room (4ºC) or frozen (-18ºC). The outgoing by-products after being used for educational/research purposes are collected by an authorized company for incineration by a specially equipped truck of the carcass disposal facility. This balance of by-products is officially updated to the local authority.

Standard 4.9.- Operational policies and procedures for biosecurity, laboratory and clinical practice.

The FVETUM is aware of the importance of establishing measures that must be complied with by all members of the Centre to guarantee the normal development of its activities. In this sense, coordinated operational policies and procedures have been established that, on the one hand, signals and

informs of the general precautions and prohibitions that allow the correct development of activities, especially practices, and, on the other hand, of the good practices that must be followed as protective measures before, during and after in the Faculty facilities. This signposting is reinforced by the messages contained in the same signposting, as well as by the protocols of action to be found the WEBSITE.

The University, Faculties and Departments, especially those with laboratory or clinical practical training are all committed to biosecurity, health and safety. Overall, the UM's Service for Labour Risk Prevention (SLRP) has a role in supporting the faculties and providing a general policy that complies with Spanish and European legislation. At Faculty level we have a Health and Safety Committee with a clear communication route to SRLP. The FVETUM and local functional units (e.g. laboratories, clinical areas, farm, etc.) have their own health and safety manuals, policies, SOPs and risk assessments on-line available. SLRP is responsible for quality assurance on behalf of the institution and conducts formal periodic audits of facilities, operating procedures, SOPs, risk assessments, etc. They also maintain databases of staff who have been formally trained in relevant areas, e.g., radiation protection, fire safety, first aid, biological safety, etc., with completion and expiry/renewal dates. Local policies are posted for students in relevant areas within the physical space and are also posted in the virtual learning environment for students to access at any time. When students are preparing for teaching events (practical/clinical skills/clinical) the local rules for that area are outlined in a briefing by a key member of academic, clinical or support staff, and it is also included in the TG.

On the other hand, there is a Biosecurity Committee in the FVETUM, which is responsible for the elaboration of specific protocols, including a document of teaching-related risk prevention. The information is public through the website and significant procedures or signalling displays are posted.

Regarding biosecurity procedures, the FVETUM follows the UM general rules, which has the Service for Labour Risk Prevention, which is uncharged of managing all the aspects of risk prevention, including training for staff and students, and the removal of bio sanitary waste and hazardous chemicals. FVETUM has approved its own waste disposal protocol that complements it.

4.9.1.- Abstract of the biosecurity protocol.
In order to facilitate the use of the facilities, it has been divided into 5 major sections, the first of which is dedicated to General Information, and the facilities are grouped into 4 major groups of units according to the activity carried out, such as Pre-clinical, Clinical (VTH), Animal Production (VTF) and Food Science (Abattoirs and Pillar). These rules are mandatory and must be known and always followed, as well as the instructions of the instructors of the facilities.

The biosecurity manuals contain general and common information on good practice for personal protective equipment (PPE), hand hygiene measures and disinfectants. The VTF Biosecurity Manual is divided by species (teaching and production: pigs, horses, goats, sheep, beef cattle, dairy cattle, poultry, rabbits, apiculture; and research: dogs and primates) and indicates good practice before, during and after training. The manual also includes the clean and soiled areas, the protocol for disinfecting boots and changing clothes, the traffic patterns, and routes for people (staff, students, and visitors) and the handling and disposal of carcasses. The VHT manual is divided into the classification of cases (from the 4 classes), reception of suspected cases, what to avoid and what to do, and before, during and after the training or consultation. In all manuals, the biosecurity signal and colour warning are presented and explained. For abattoir training, students follow the SOPs of the OVS and the specific abattoir. All biosecurity measures are in accordance with current Spanish and EU legislation.

Comments on Area 4.

- FVETUM in the most complex Faculty infrastructure at UM due to the extension and complexity of managing 3 main infrastructures. However, the Faculty has limited capacity in many aspects since the competences are centralised (University) or decentralized (Departments). The main role of the Faculty is to harmonize and maintain the needs covered and encourage for improvement looking for the higher international standards.
- Many significant changes in facilities and equipment have been made since the last EAEVE visitation, as mentioned at the Introduction section of the present SER. However, even if many facilities have been recently renewed, most of the original buildings would need improvement to guarantee high-quality teaching and research activities. In the last years, due to the so called "global economic crisis" has had an important impact on the slowdown of the investments since the UM budget also was reduced in connection with the economic situation of the Regional Government.
- The VTH was open in 2001 and, as a whole, the facilities are adequate for providing practical teaching to undergraduate and postgraduate students. Its structure allows teaching in different species and specialties. Nevertheless, facilities and equipment also need appropriate maintenance and replacement, which needs continuous financial support.
- Overall, facilities and equipment at are updated and adequate for the delivery of the Veterinary Curriculum. Classrooms and laboratories are being renewed and as well as equipment on a regular basis and student needs are actively evaluated and considered. The agreements with external farms and ambulatory services have assured training in these areas without having intramural facilities to deliver these learning opportunities.

Suggestions for improvement in Area 4.

- Regarding equipment there are a need of wide the capacities of VTH and acquire a Magnetic Resonance Imaging (MRI) for small and large animals. Some steps forward have been made to identify the financial sources and suppliers.
- The Clinical Skills Laboratory at FVETUM should continue to improve its teaching and self-learning capacity and be completed with additional models. A project under study and request is to complete and update skills facility to simulate animal behaviour and for a better train and where is a place FVETUM students practice a range of clinical skills. We are waiting for a call from UM to purchase new dummies. The FVETUM will support with and extra budget together with the clinics departments.
- Equipment at the Food Technology Plant could be improved to encourage research in this area.
- The renovation or acquisition of facilities and equipment for teaching or working groups is the responsibility of the Faculty (DT) and is proposed to the FVETUM's Infrastructure and Economic Affairs Committee or the QA Committee before being submitted to the FB for approval. These investments can be carried out using the FVETUM budget or applied to the UM calls**.** For practical training, the investment is decided by the Departments Councils based on their needs. In some cases, or special projects, the Departments join their requests to the Faculty due to the impact on the global teaching process (more students or subjects affected) and also mainly due to the high costs. The communication is made at the different decision bodies (Committees, Councils or Board), implemented, assessed, and received by the different Departments and the Faculty.

Area 5.
Animal resources and teaching material of animal origin

Standard 5.1.- Use of animals and material of animal origin.

The FVETUM main objective is to ensure the proper training of our students, based on a curriculum that fully complies with the Spanish legal requirements for the exercise of the profession of Veterinary Surgeon (ECI/333/2008) and in accordance with the EU Directives 2005/36/EC and 2013/55/EU. In order to ensure that each student acquires the basic practical skills necessary to practise the profession at D1C for graduation in the best learning environment, and together with theoretical lectures, students receive practical training, in the areas of basic sciences, clinical sciences, animal production and FSQ. Such training requires activities with specimens, cadavers, and live animals. The overall strategy of the FVETUM is to progressively expose students to specimens, materials of animal origin and animals along the curriculum. For this purpose, the FVETUM is always concerned and actively working to increase and improve these resources in order to obtain a correct practical preclinical and clinical training.

To ensure that each student receives the relevant CCT before graduation, the strategy carried out by the FVETUM is based on 4 different pillars: pre-clinical training, clinical training teaching farm and learning based on animal training models, combining practical training with cadavers and animal organs, healthy animals, and diseased animals for clinical training. Animal dummies are also used as a first approach for students for students to acquire skills before being exposed to animals, reducing the excessive use of animals, and complying with animal welfare.

5.1.1.- Development of D1C with cadavers and animal organs.

Cadavers and animal organs are the practical resources in the first 3 years of the syllabus in Anatomy and Anatomical Pathology subjects and, in some practices in Physiology. During the practical sessions of Gross Anatomy, students work directly on anatomical specimens (bones, prosections or plastinated specimens) or perform dissection on fresh horse foot (1 specimen per student) and avian cadavers (1 per two students). Anatomy students have access to the Veterinary Anatomy Museum (VAM), which houses one of the most important collections of osteological and plastinated specimens in Europe. Due to its size, the inventory is divided into two collections, the "Teaching Collection", in the FVETUM, and the "Scientific Collection" on Campus in the Pleiades-Vitalis building. The scientific collection is a comparative anatomy display with more than 30 skeletons and nearly 100 plastinated specimens grouped in 8 exhibition rooms, which are available not only to veterinary students but also to students from other University courses (Arts, Medicine, Master) as well as secondary school pupils. An agreement with the University's Animal House allows for clinical anatomy exercises based on the palpation of anatomical structures on live dogs, in accordance with European animal welfare regulations.

Necropsies are performed as soon as the corpse arrives; if necessary, they can be conserved a few hours before in the cold room. The post necropsy material and abattoir organs are frozen at -18°C until removed for destruction. The subject of Special Pathological Anatomy provides to the students with a morphological vision of pathological processes and a diagnostic basis in the field of animal production veterinary medicine (poultry, rabbits, pigs, cattle, small ruminants, fish) to establish a treatment and in the inspection in the abattoir to seize organs and carcasses with knowledge of the cause, as well as in the organic confirmation of the disease in pets, exotic animals and insured animals that have died. As it is a direct diagnostic tool on the animal carcass, the veterinary student must have an anatomical, histological, and general pathological anatomy basis, but also have a knowledge of physiopathology, microbiology, and parasitology to interpret the anatomopathological findings correctly associated with the causes that produce them. Students must be familiar with biosafety

standards both in the necropsy room and in histopathology laboratories.

D1C involving cadavers and animal organs is also included in the two-week rotation at abattoirs. During this rotation, students are required to collaborate in the post-mortem inspection of various animals such as swine, poultry, sheep, goats, cattle, depending on the abattoir's availability. Additionally, one week within the rotation is dedicated to animal public health, where a necropsy may be necessary depending on the farm and herd.

5.1.2.- Development of D1C in healthy animals.

The main sources of healthy live animals for preclinical training are the farm herds at the VTF site which is a strategic facility related to preclinical/clinical/animal production training. The VTF is located 2 km south of the main campus in the vicinity of Guadalupe. The VTF structure consists of a central building divided into two areas: a teaching pavilion with general classrooms, computer room, lecture hall, library and laboratories, and a locker room. The farm is organized in a total of 12 livestock units (pigs, poultry, rabbits, horses, dairy cattle, calves, goats, sheep, beekeeping, forage unit, feed factory and wastewater treatment plant) that different companies run as a business under a contract with UM to have a preferent use for students training. It also has its own research facilities, such as the experimental vessel and others (kennels, primates and a vessel for nutrition and animal reproduction). This farm is used for pre-clinical training in propaedeutics as well as animal production, and visits to extramural herds of all the main productive species in Spain.

5.1.3.- Development of D1C in diseased animals for clinical training.

Clinical training is mainly supported by the VTH and the first objective is to maintain or increase casuistry in both, small and large animals as the main source of clinical training for students. Clinical training is provided in several subjects during the 3rd, 4th, and 5th years. In addition, during the 5th year, students are enrolled in Practicum clinical rotations.

Each clinical subject includes theoretical and practical trainings; the latter is given in small groups (5 students, sometimes further subdivided) to ensure hands-on activities. Activities are organised by subject and species to ensure a balance between species and clinical disciplines. All students are exposed to comparable activities, repeated by the same teacher for each group, with a homogeneous distribution of animals and cases. In addition, the personal e-portfolio is an indisputable tool for verifying that each student has received the relevant core clinical training before graduation. Further details regarding the Practicum and the allocation of clinical training hours by subject, in accordance with the official FVETUM curriculum, are available in **Area 3**.

The number and distribution of cases is evaluated annually by the VTH Board, the Teaching Clinical Council and the FB in order to communicate significant changes and/or propose new strategies if necessary. The VTH ensures that students receive adequate practical training, considering the extensive e-portfolio that allows students to acquire the clinical D1C. The FVETUM is located in an urban area and therefore the number of small animals treated within the hospital is higher than the number of horses and especially food producing animals. The number of intramural cases attended at the VTH is generally high, as summarized in our ESEVT indicators. As mentioned above, the VTH receives a higher number of small animals and horses compared to ruminants and food producing animals in general. Regarding small animals, 30% of the cases seen in the general practice clinic are first opinion cases. This allows adequate training of students in the clinical approach to common diseases from the beginning of a case. The average of referral cases attended in the specialty consultations is 70%. The percentage of first opinion cases in large animals is around 70%, while the percentage of referral cases attended is 30%. One hundred percent of food producing animals are seen outside the clinic by the

Associate Teachers working in the mobile clinic. The percentage of acute and chronic cases was estimated to be 63.2% and 36.8% respectively over the last 3 years. On average, 12.5% of the small animals consulted remain in hospital. On the other hand, the percentage of horses requiring hospitalisation is 80%, while 20% are treated in a one-day clinic. Finally, approximately 12.5% of our clinical activity is focused on population medicine, while 87.5% is focused on individual medicine.

5.1.4.- Animal welfare.

This is one of the strategic lines of the FVETUM and is particularly considered for animals used in teaching and research activities. The FVETUM adopts all the procedures required by national legislation for animals used in teaching and research activities. The UM Animal Experimentation Ethics Committee (CEEA) is responsible for evaluating requests from academic staff and ensuring that experimental and teaching procedures comply with the law. Such approval requires the application of the 3Rs concept of reduction in the number of animals used, refinement of the procedures used and replacement by alternative methods.

Following the Triple R (3R) principle of animal research (replacement, reduction, and refinement), various models have been acquired in recent years to enhance animal welfare and diminish the number of animals employed in teaching. To accomplish training for students, animal dummies and simulators have been utilised. This training is not meant to substitute for practical training with live animals, but rather aims to instruct students on various procedures, even those that are minimally invasive or could potentially compromise animal welfare, using simulators prior to live animal interaction. This approach equips students with fundamental skills, allowing for a reduction in potential harm and stress caused to live animals, as well as accidents and stress to students. Presently, simulations in use include:

- Equine palpation/colic simulator integrated with equine cervical venipuncture, which allows training in rectal palpation for examination of the equine digestive system (3rd, 4th and 5th year).
- Small animals: venipuncture and ovariohysterectomy models, one CPR resuscitation and canine intubation trainer model, suture training pads, model for canine heart and lung sounds auscultation. All this material is used during the 3rd, 4th, and 5th year students' clinical rotation at the VTH in various subjects such as medicine, general surgery and anaesthesia.

Exceptions are those procedures below the established threshold, such as those involving moderate animal handling (e.g., basic physical examination). The animal facilities of the establishment are under the administrative responsibility of the institution. All facilities are managed by qualified animal facility directors. Currently, most teaching clinical procedures at the VTH are performed with clients' own patients, and the number of practical activities involving laboratory animals has been significantly reduced.

Students receive instruction on biosecurity and animal handling prior to commencing practical work during their 3rd year, as well as before their clinical rotations. In the 2nd year Animal Ethology course, they gain theoretical and practical knowledge on detecting stress symptoms and approaching patients correctly. This comprehensive instruction ultimately contributes to fostering animal welfare awareness among students. All student activities conducted during intramural and extramural practicals are monitored by tutors or staff. These individuals ensure animal welfare and prevent pain and unnecessary stress when handling individuals or groups.

5.1.5.- Provision, transportation and storage of cadavers and material of animal origin for training in anatomy and pathology.

Cadavers and material of animal origin for training are obtained from different sources:

- Companion animals' provision is set up

with the Zoonosis Service of Murcia City Council, VTH, and private practitioners to provides the necessary number of dogs (and cats) for the students' training within the "cadaver donation programme for companion animals". This donation programme has been set up also to maintain the animals because the new Law 7/2023 on the protection of animal rights and welfare, known as the Animal Welfare Act, for zero culling. Donated cadavers for anatomy are collected fresh to be processed as soon as possible.

- Equine material comes mainly from private donations via the VTH and from local abattoirs.
- Pigs, cattle, small ruminants, poultry, rabbits, and fish. Isolated organs and body regions from ruminants and pigs, and whole carcasses of chickens and hens are obtained from local abattoirs. Biological material for embryology, such as pregnant uteri and foetuses, is donated by local abattoirs and practitioners. Fish is obtained at the central fish market or directly from fisheries.
- The carcasses of wild animals are obtained from found dead or containment plans, donated by the Regional Wildlife Service and from the Zoological Reserve.

For the transportation of small cadavers and organs, FVETUM employs an authorised and adapted vehicle compliant with EU and Spanish legislation for Animal by-products not intended for human consumption (SANDACH). Technical abbreviation explanations will be provided on first use. The samples are transported under isothermal conditions immediately to prevent spoilage and delivered directly to the dissection or necropsy room for appropriate processing or refrigerated/thawed storage. For biosecurity reasons, two circuits have been designed for the transfer of samples to other departments. These circuits include a checkpoint with a chest freezer for sample storage if required, as well as disinfection materials.

Cadavers are either fresh (shortly after euthanasia or death) or thawed. Animals intended for routine diagnostics are either processed upon arrival or kept refrigerated at 4°C until the following day, if necessary. After the necropsy, a series of systemic organ and tissue samples are preserved in refrigeration (for brief use), frozen (for long-term storage or microbiological, toxicological, and molecular biological research), or immersed in 10% neutral buffered formalin (for long-term storage and light microscopic evaluation). All samples from animal necropsies and biopsies are uniquely identified and catalogued. Paraffin-embedded samples and slides are securely stored in a dedicated archive. All necropsy reports are conveniently accessible in electronic format.

The biological material utilized in Anatomy and Anatomical Pathology practices undergoes elimination by an external company responsible for its collection and incineration as per established regulations.

5.1.6.- Cadavers and material of animal origin for anatomy teaching.

The organs and cadavers used in the anatomy courses are listed in **Table 5.1.1** and **Appendix 5.1**. Organs and cadavers are routinely obtained from local abattoirs. All specimens are intended to be used fresh. Where refrigeration is required for organisational reasons, the dissection room is equipped with dedicated refrigerators. Students are also exposed to the collection of the VAM, which includes fixed specimens. These latter specimens are stored in formalin-free fixative to reduce chemical risk during manipulation. Skeletons and bones of horses and other domestic animals are available for the study of osteology, arthrology and sindesmology.

5.1.7.- Cadavers and material of animal origin for training in pathology.

To complete and compensate for the whole-body necropsies listed in **Table 5.1.6**, organs and pathological specimens are collected from local abattoirs once a week during the teaching period and used for practical training (lungs, livers, kidneys, hearts, and other

viscera from cattle, small ruminants, pigs, and horses) (**Appendix 5.2**). Cadavers on which necropsies are performed are obtained from:

- hospitalised animals that have died or been euthanised at the VTH.
- diagnostic necropsies referred from VTF.
- diagnostic necropsies referred by practitioners and owners.
- necropsies for teaching purposes referred by practitioners.
- necropsies for forensic purposes.
- piglets collected for teaching purposes from local farms.
- wild mammals died from Terra Nature Zoo.

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

Species	*2022/23*	*2021/22*	*2020/21*	*Mean*
Cattle	108	102	101	104
Small ruminants	120	120	117	119
Pigs	546	546	546	546
Companion animals	266	254	251	257
Equine	325	269	249	281
Poultry & rabbits	61	61	61	61
Aquatic animals	88	85	84	86
Others (South American beaver)	2	2	2	2

****Appendix 5.1** details the number and type of different specimens and materials of animal origin by species.*

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

Species	*2022/23*	*2021/22*	*2020/21*	*Mean*
Cattle	117	131	169	139
Small ruminants	354	381	372	369
Pigs	1,286	1,275	1,281	1,281
Companion animals	2	2	2	2
Equine	11	13	14	13
Poultry & rabbits	2,158	2,382	2,380	2,307
Exotic pets (Canarius serinus)	20	22	18	20
Others (Wildlife)	10	10	10	10

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

Species	*2022/23*	*2021/22*	*2020/21*	*Mean*
Cattle	--	2	1	1.5
Small ruminants	--	5	1	2
Pigs	3	2	1	2
Companion animals	4,359	4,037	3,720	4,039
Equine	234	211	196	214
Poultry & rabbits	46	82	35	54
Exotic pets	28	18	36	27
Others (rhinoceros, rat, lemur)	2	1	2	2

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

Species	*2022/23*	*2021/22*	*2020/21*	*Mean*
Cattle	121	79	121	107
Small ruminants	520	480	550	517
Pigs	460	465	463	463
Companion animals	78	70	90	79
Equine	24	77	133	74
Poultry & rabbits	--	--	--	--
Exotic pets	84	74	--	53
Others (Wildlife)	10	10	10	10

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	*2022/23*	*2021/22*	*2020/21*	*Mean*
Cattle	100	100	100	100
Small ruminants	100	100	100	100
Pigs	100	100	100	100
Companion animals	27	31	32	30
Equine	55	59	59	58
Poultry & rabbits	100	100	100	100
Aquatic animals	--	--	--	--
Exotic pets	100	100	100	100
Others (Wildlife)	100	100	100	100

Table 5.1.6. Cadavers used in necropsy

Species	*2022/23*	*2021/22*	*2020/21*	*Mean*
Cattle	3	15	1	6
Small ruminants	77	95	72	81
Pigs	67	83	42	64
Companion animals	80	69	60	70
Equine	12	10	6	9
Poultry & rabbits	99	136	151	129
Aquatic animals	1	1	1	1
Exotic pets	11	14	23	16
Others (Wild carnivores & ungulates)	26	43	3	34

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

Species	*2022/23*	*2021/22*	*2020/21*	*Mean*
Cattle (animals)	10 (328)	10 (79)	5 (121)	8.33 (176)
Small ruminants (animals)	25 (1,162)	20 (898)	10 (1,434)	18.3 (1,165)
Pigs (animals)	35 (1,419)	35 (1,434)	15 (1,780)	28.3 (1,544)
Companion animals (Zoonosis service)	21	21	32	25
Equine (animals)	51	48	39	46
Poultry & rabbits (animals)	225	240	261	242
Aquatic animals	--	--	--	--
Exotic pets (animals)	21	21	--	14
Others (specify)	--	--	--	--

Table 5.1.8. Number of visits in abattoirs and related premises for training in VPH (including FSQ).

Species	*2022/23*	*2021/22*	*2020/21*	*Mean*
Ungulates' abattoirs (ruminants, pigs & equine)	162	160	70	131
Poultry abattoirs	20	2	2	8
Rabbit abattoirs	22	20	7	16
Related premises:				
Fish Central Markets	10	10	10	10
Catering Industries	10	10	10	10
Bakery, Brewery, Wine & Candy products	7	7	7	7

*** Premises for the production, processing, distribution, or consumption of food of animal origin.*

The teachers responsible for each pre-clinical and clinical subject of the programme design a teaching programme based on the content of the curriculum. The approximate number and variety of animals and animal materials to be used for optimal training are determined. This programming is done five to six months before the start of the academic year. The programme is submitted for discussion and approval to various governing bodies such as the Departmental Council, the VTH Board, and the FB. These programmes are published on the FVETUM website. All the information is evaluated annually by the Curriculum Evaluation and Improvement Committee, which is responsible for preparing a report that is submitted to the FB for approval. All faculty collectives (academic staff, support staff and students) are represented in the governing bodies.

Standard 5.2.- External training.

The practical training of the students is complemented at various external sites with which FVETUM has signed agreements. The training is provided by academic staff. The main external sites used for practical training are the teaching farm, the food safety and quality facilities mentioned in Standard 5.1, livestock farms visited for animal production and herd health management training, and farms and stables visited by out-patient clinicians. VTF is managed by VTF academic staff and receive students from all years of the curriculum daily for various practical training purposes. Students are actively involved in various aspects including:

- Ethology and welfare assessment of farm animals as well as resident exotic and local species.
- Assessment of production aspects such as egg quality, animal weight and conformation, nutrition and feeding.
- Physical evaluation of animals and reproductive examinations, including semen, oocyte, and embryo evaluation.
- Diagnosis and treatment of animals when hospitalisation at the VTH is not required, including castration, medical and reproductive treatment.
- Preventive medicine and herd health management of resident animals. The training in animal production and herd health management is supplemented by visits to additional external sites, where students participate in milking, feeding, evaluation of production and welfare parameters, and in preventative medicine and herd health management.

Standard 5.3.- Nursing skills and procedures.

Nursing skills are acquired during the VTH rotations in the 3rd, 4th, and 5th years through the different clinical services that students are placed in. Each clinical group is divided into small sub-groups that allow for active involvement and hands-on training of students in the clinical examination and care of hospitalised patients (medication, feeding, monitoring) as well as participation in clinical procedures (sampling, diagnostic imaging, basic surgical procedures). Each subgroup is permanently supervised by a veterinary clinician (VTH academic staff) who ensures that the practical training is properly carried out and monitors animal welfare. Training in problem-oriented diagnostic approach together with diagnostic decision making is achieved through student participation in daily rounds with senior and junior VTH staff (VTH academic staff) and through communication with students and evaluation of their deductive process in case management. Overall, group sizes are reduced throughout the clinical training with a maximum of 3-4 students per service or senior clinician/VTH academic staff:

- 3rd year students begin their internships in the hospital through the subjects of Diagnostic Imaging and Anaesthesia. The clinical activities are carried out by a number of 3-5 students per group.
- 4th year students actively participate in the following clinical rotations: General Practice and Internal Medicine, Ophthalmology, Cardiorespiratory, Dermatology, Surgery, Intensive Care (Hospitalisation) and Reproduction, both in the small and large animal departments. The clinical activities are carried out by a number of 3-5 students per group, except for

the Hospitalisation Service where the clinical shifts are 1-3 students.

- During the 5th year, rotations at the VTH cover the emergency service (small and large animals) and clinical specialties (neurology, oncology, dermatology, ophthalmology, cardiorespiratory, rehabilitation, exotic animals, advanced diagnostic imaging, and advanced equine medicine/surgery). Practical training and skills in obstetrics and reproduction are acquired both at the VTH clinic (small animals) and at the teaching farm (cattle, horses, and small ruminants). During the final year, in order to complete the practical training in large animal species, all students participate in the outpatient clinic rotations. Practical clinical training is achieved by ensuring that students carry out the following procedures:
  - General consultations (internal medicine and surgery): Gathering accurate and relevant clinical histories, handling and restraining the patient if necessary, performing a complete physical examination, assessing the patient's nutritional status, compiling a list of ancillary tests demonstrating ability to make clinical decisions, obtaining biological samples (blood, urine, skin scrapings, etc.), discussing differential diagnosis, planning therapeutic approach, communicating effectively with owners, using clinical database software and writing clinical reports.
  - Emergency and hospitalisation: contribute to emergency care and first aid, administer medication (IV, IM, PO, SC) according to an appropriate treatment plan, including responsible use of antimicrobials and deworming, carry out any special procedures required (IV and urethral catheterisation, CRI calculation, ECG, blood pressure measurement, etc.), fluid therapy calculation, nursing care (dressing changes, walking, feeding, wound cleaning, post-operative care), euthanasia protocol, if necessary.

5.3.1.- Group size for the different types of clinical training.

Over the last three years, students have been organized into modules composed of 5 groups, averaging 20 students per year. The number of students in each module may vary slightly based on enrolment figures. Typically, these modules consist of 4-5 smaller groups, each with concurrent intra-mural activities (such as specialized clinics or other activities from the same service), overseen by multiple instructors who aim to maintain a low student-to-teacher ratio. This ratio never surpasses 5 in clinical settings and 10 in laboratory settings. A schedule of the distribution of rotations during the Practicum can be found in **Appendix 3.2**.

5.3.2.- Hands-on involvement of students in clinical procedures.

The students participate actively in all the clinical procedures, both within the VTH and outside of it. Specific activities vary depending on the research field, but core elements may include the following:

- First-opinion and Specialty Consultations, both medical and surgical, in all animal species:
  1. To carry out the patient (or the population) anamnesis and complete physical examination, including neurologic, orthopaedic, and ophthalmologic exam, depending on the clinical case.
  2. To analyse the nutritional and welfare status in individual and population medicine.
  3. To prepare the list of problems, differential diagnoses, working plan and therapeutic approach.
  4. To effectively communicate with the client.
  5. To make diagnosis procedures: fine-needle aspiration cytology, blood and urine sample collection, blood pressure, Schirmer test, ocular tonometry, skin scrapings, electrocardiogram, faecal smear, Pap smear, etc.
  6. To apply therapy: through different routes of drug administration (PO, SC, IM, IV).

7. To assist in other diagnostic and therapeutic procedures, such as endoscopic protocols, cerebral spinal fluid analysis, skin biopsy, chemotherapy administration, euthanasia, etc.
8. To put bandages and other immobilization techniques.
9. To write medical records and to elaborate reports.

- Hospitalization and emergencies, both medical and surgical, in all animal species:
  1. To perform first aid procedures, when necessary.
  2. To review the history, to evaluate the patient through physical exam (TPR) and to actualize the clinical record.
  3. To prepare the list of problems, differential diagnoses, working plan and therapeutic approach.
  4. To carry out routine diagnosis procedures in hospitalized animals: blood and urine sample collection, blood pressure, etc.
  5. To work in different therapeutic procedures: placement of IV catheters, fluid therapy (choice of fluid, dose calculation and administration), drug administration by different routes, placement of urinary catheters, bandage, wound cleaning and dressing, and other post-surgical care procedures.
  6. To design and to administrate nutritional therapy for hospitalized cases.
  7. To assist in other diagnosis/therapeutic procedures, such as feeding tube placement, drainage tube placement and effusion drainage, blood transfusion, endotracheal intubation and mechanical ventilation, euthanasia, etc.
  8. To apply biosecurity procedures, and more especially in isolated cases.
  9. To effectively communicate with the client.
- Surgery Operating Rooms (in all animal species):
  1. To participate in the preparation of surgeries (surgical material, room and patient), taking into account biosecurity rules and the concept of aseptic surgery. To perform by themselves easy surgical procedures (ovariohysterectomy, orchiectomy).
  2. To assist the surgeon in complex surgeries (assistant surgeon).
  3. To suture the surgical wounds and to place bandages and drains, when necessary.
  4. To be responsible for the immediate post-operative care of surgery cases.
  5. To effectively communicate with the client.
  6. To write medical records and to elaborate reports.
- Anaesthesia (in all animal species):
  1. To evaluate the pre-anaesthetic status of the patient.
  2. To discuss and to design the anaesthetic protocol to apply in every case and procedure.
  3. To carry out all the complementary work, including fluid therapy administration and orotracheal intubation.
  4. To administrate the anaesthetic protocol validated by the teacher.
  5. To monitor the anaesthetic procedure induction, maintenance, and recovery.
  6. To assist the anaesthetist in taking decisions, when necessary.
- Diagnostic Imaging (in all animal species):
  1. To collaborate with patient positioning.
  2. To start ultrasound studies and to assist the teacher in complete studies.
  3. To discuss and to interpret results of radiological and ultrasound studies and to write reports based on diagnostic imaging.
  4. To participate in computed tomography, when necessary.
- Necropsies (in all animal species):
  1. To review the animal individual/population history.
  2. To make a complete and systematic necropsy, discussing the macroscopic findings and determining their relationship with the clinical findings.
- Large animal reproduction:
  1. To make rectal palpation.

2. To assist in different procedures usually performed in cattle reproduction (especially, ultrasound).

- Preventive Medicine/Population Medicine (cattle, small ruminants, pigs and poultry):
  1. To assess the biosecurity measures on farms of different animal species.
  2. To evaluate the welfare conditions of animals of different ages and physiological states.
  3. To assess the possible role of environmental conditions as predisposing factors for disease in animals of different ages and physiological states, and to evaluate environmental control systems in poultry and pig farms.
  4. To clinically evaluate animals in order to identify potential disease indicators.
  5. To evaluate the body condition of animals and the feeding programme of the population.
  6. To review the health and preventive medicine programmes implemented in different farms.
  7. To collect biological samples (especially blood and milk), significant in Medicine Population for diagnosis of different types of diseases.
  8. To perform necropsies (in case of any casualty in the operation).
  9. To review mastitis control programmes in ruminant dairy farms.
  10. To describe and to analyse data record (including the use of management programmes in farms in which they are routinely used).
  11. To apply sanitary programmes.
  12. To perform different on-farm common practices as reproductive control (pregnancy diagnosis, insemination).
  13. To perform boar management and semen collection, evaluation, and preservation.
  14. To perform artificial post-cervical insemination.
  15. To detect pregnancy by palpation and the use of ultrasound scan.
  16. To perform neonatal attention (teeth reduction, iron delivery and tail clip).

5.3.3.- Procedures to enable all students their comprehension of the clinical case and its management.

Across all consultation, hospitalization, anaesthesia, and surgery operating rooms, students convene with their designated instructors to analyse designated cases as part of their daily routine. In cases where they have previously reviewed the case, they deliberate the actions taken during the procedure and plan the next course of action. After the consultation, students analyse and discuss the patients they attended to with their teachers. This promotes the development of management skills. On non-clinic days, students engage in comprehensive discussions about clinical situations, all of which are supported by evidence-based medicine.

During necropsy rotations, students analyse the diagnosis and therapeutics utilized in each clinical case. Finally, this information is correlated with the lesions identified during the necropsy.

Learners are assigned to choose and present a clinical report on an animal clinical case/group which they have taken part in by the end of a specific rotation. This report should include a summary of their individual involvement and a thorough analysis based on current literature, facilitating learners' understanding of the case.

Standard 5.4.- Patient record system.

Patient information has traditionally been recorded in their personal files. Each VTH service has a casebook for fast access to patient visits, allowing staff and students to obtain the file number and date. This information is accessible to authorized personnel. In recent years, the VTH has developed its own computerized record software, which has been available since April 2017. This programme will replace the conventional system, providing both staff and students with access to the most pertinent patient information.

The clinical database of VTH is managed by a specialized software, which provides access from any computer situated within the hospital facilities and/or via the internet. This software is accessible to clinicians, VT academic staff teaching at the VTH, and students through various profiles that safeguard the confidentiality of animal and owner data. The software documents various sources of clinical information at the VTH, including the schedule for each clinical service, appointments, and clinical histories. Students engage with this programme on a practical and routine basis, as they observe veterinarians performing their work. They also have access to clinical information including the reason for consultation, the ancillary tests performed, their results, the diagnosis made, the treatment selected, and any necessary follow-up during hospitalisation. Technical terms will be explained when first used to ensure clarity for all participants.

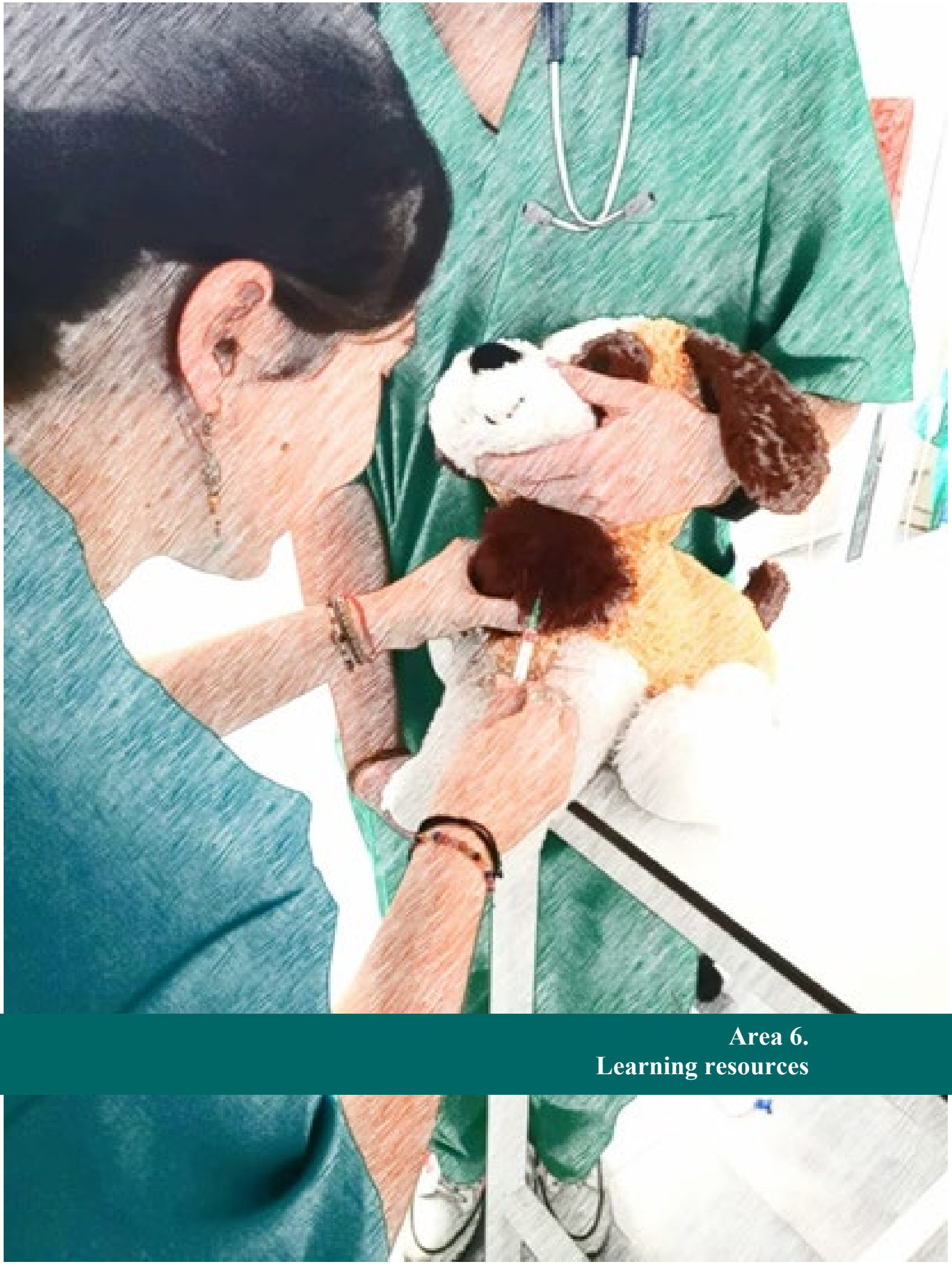
All images obtained within the diagnostic imaging department are swiftly transmitted, and saved to a picture archiving. The electronic system stores images and reports and allows remote access to all data for clinicians.

Comments on Area 5.

- Another priority is to correct the possible imbalance between different species. For small animals, even if the number of cases is sufficient, the VTH specialty appointments are scheduled in the morning (9:30-15:00). Since 2005, the first opinion surgery has extended its work to 5 days a week in the afternoon and the emergency service to 24/7. At the same time, and with the same aim, new specialties and services have been opened at the VTH, such as the CT unit, the stem cell unit, the unit for minimally invasive surgery in cardiology and the international exchange of frozen dog sperm. These measures have led to an increase in the number of first opinions and referrals.

Suggestions for improvement in Area 5.

- One important strategic line has been to strengthen the clinical training of horses and cattle. This objective is being achieved by increasing the number of extramural cattle teachers and the number of intramural equine teachers. The biological material of animal origin required for preclinical training comes mainly from the Zoonosis Service of the Murcia City Council, donation programmes and agreements signed with external bodies, as well as the VTH (**5.1.6**).



Area 6.
Learning resources

Standard 6.1.- Adequacy and available of learning resources.

6.1.1.- Description of the general strategy of the Establishment on learning resources.

UM's strategic goal is to ensure that learning resources (physical and virtual) provide excellent teaching and research opportunities and a stimulating learning environment for students and staff. These resources include library services, IT provision and teaching facilities. Extensive academic resources are available, including a well-stocked university library, extensive Eduroam Wi-Fi coverage, an extensive catalogue of e-learning tools (including printed book service as well as electronic ones via UM's Library) and public feedback system (via Wooclap).

All VTH students have access (using their electronic passwords) to the digital archive of the Veterinary Hospital's medical records, after accepting a confidentiality agreement. The priority is to enable students to self-assess and create case-based learning materials to promote student-centred and competency-based learning. This is supported by providing students and staff with continuous access to e-learning and IT systems, both on and off campus.

6.1.2.- Description the procedures for access to and use of learning resources.

Newly enrolled students go through an induction week before the actual study programme begins. Throughout this week, newly enrolled students are provided with guided tours and orientation programs to become acquainted with all the available resources, including teaching materials, at the VTH. In addition, they are issued with a multi-purpose identity chip card that allows them to make use of the library, the PC suite, and other facilities.

Students are offered a variety of support elements: the above-mentioned welcome course, an administrative platform (LMS, VC, the UM website with a list of all links to information systems, various IT services (e.g., e-mail, cloud service), e-learning courses, video tutorials and FAQs. Regular IT and e-learning training is available to staff through the Training and Professional Development Centre (TPDC). The Applied Information and Communication Technologies Area (ATICA) also assists with individual queries. Add to that, the library offers specific user training focusing on information management: searching, selection, evaluation, ethics, and communication. Students can receive 1 elective ECTS (CRAU) for this training. Additionally, to the on-site training, tutorials and learning materials are published on the website. All the information is also available on the website of the library, and the most common way to access the use of learning resources is to consult the reference or recommended literature on the subject, check availability ("Catálogo Alba") and reserve a collection from the Main Library or the Vet Library. The UM has developed a mobile application (UM app) and a Whatsapp service for users of the University Library. The application's main functionalities include aiding users in locating books, renewing loans, reserving borrowed copies, viewing active loans, and identifying available reserves and loan expiration dates.

Each member of staff is automatically given access to all the learning resources as soon as the employment contract is signed. An e-mail address is set up and access to IT services is granted with an access code and password. There is a helpdesk in the University's IT department for questions about the central e-learning resources.

6.1.3. Description the learning resources provided by the Establishment.

Decisions on the introduction of major campus-wide systems and technologies are taken by the Rectorate based on recommendations from project teams, which usually consist of experts from the relevant departments and IT Services. The procedure for recording new requirements is defined and explained in an internal IT Requirements Management Guide. Innovations are approved by the requesting department or the relevant decision-making body (e.g., IT

Steering Committee). Tutorials and user documentation are adapted in parallel with this process. Information about IT changes is disseminated through various channels in diverse ways (e.g., social media, direct personal emails, website, e-learning platform). Telephone helplines are set up to answer questions about central e-learning and IT resources.

The selection and deselection of holdings in the University Library is governed by a Collections Policy based on the current needs of researchers, teaching staff and students. All literature orders for print or electronic media are managed by the University Library. Library coordinators in the organisational units liaise with the University Library on acquisitions. Students and staff can submit requests for new monographs online. Library specialists in the University's research areas acquire new publications. Regular updates on new acquisitions are published on the website. Almost all monographs are available for loan. To access e-resources, you need to be a member of the University community. A valid @um.es email account is required for membership. Members of the University (including students) can use a dedicated remote access service to access e-resources (e-journals, e-books and databases) off-campus.

Learning resources are closely linked to the subject syllabus approved by the departments. At the close of each academic year, the academic staff review the TG, considering feedback from both students and practitioners in the field. The TG are updated accordingly, and revisions include recommended reading materials, which are approved by the FB. With this information, the Library Committee approves the purchase of a certain number of volumes for students, based on the annual library budget (4,247 € for 2022). The purchase of new resources reflects the demand expressed by both academic staff and students and includes the recommended bibliography for the different subjects. An important criterion in the decision to purchase is the ad hoc consultations and students reached. If the situation allows, the Faculty's general budget and the Department's budget can also support the purchase of a larger number of volumes or special requests. This committee is also responsible for the implementation, evaluation, and revision of library policy. This literature is available on the website as described above. Based on the UM policy, any person requesting a document may borrow it according to the rules described on the Library's website.

Regarding the acquisition of new software needed for teaching, the teachers in charge of subjects contact the computer technicians and define the best way to acquire it, depending on the licence. In most cases, the software is purchased from the department's or subject's practical training budget, but it can also be shared with other subjects in the FVETUM or UM, and finally installed in the ADLA. Using the EVA application, students and academic staff members are able to use the software remotely.

Standard 6.2.- Library and electronic information.

6.2.1.- Description of libraries available to FVETUM students and staff.

Since the last visit, the policy of the UM has changed and the library of the FVETUM has been moved together with other faculty libraries to the UM Central Library. Services have been centralized to provide a more efficient service to students, academic and support staff. However, the FVETUM still uses the old library as a "Study Room".

6.2.2.- Facilities.

Study Room at FVETUM. It is located at the MFB Unit A, conveniently located between the lecture halls, the free access computer room (named ADLA "Vencejo") and in the same hall where the student associations have their offices. It has a global space of 250 m^2 with 128 seats. Additionally, it has a 4 students WGB for up to 10 students each one, and a free access computer room of 80 m^2 with 24 seats (so-called "VULTUR"). VULTUR at the Study Room aims to facilitate self-learning and the development of

transversal competences, especially in English, and also provides free access so that students can review course materials and complete assignments using the VC.

University Main Library ("María Moliner Library") at Espinardo Campus. It is remarkably close located to the FVETUM, only 250 m. It has 4 floors with a wide range of services. The students have access to the following services in the General Library:

- A general study room with capacity for 268 seats.
- A section of Health Sciences (Veterinary Science, Medicine, and Nursing Studies) has a surface of 420 m^2, with capacity for 40 students. A collection of 2.500 monographs is accessible.
- Scientific Journals Library covering 420 m^2 and accommodating up to 26 students. The Journals are available in both paper and electronic formats.

Other or subsidiaries Libraries.

- VTF also has a small library with 20 seats, and all Faculties (at different campuses) also has a Faculty library with free access to any UM student.
- Downtown Library (Antonio de Nebrija) is another Central Library of 3776 m^2, distributed in 12 rooms of free access and a Media library. The reading posts are 745. There are 10 WGB with 126 seats.
- Departments have a collection of specialised bibliographic references controlled by the library using ABSYS (Library Management Programme).

According to the library regulations, students can consult the library during the opening hours of the departments. Books can be borrowed or lent from the departments. Most parts of the bibliographic collections of the Departments/University are open access at "Catálogo Alba".

6.2.3.- Opening hours and days.

Study Room at FVETUM follows the faculty's timetable, opening at 8:30 and closing at 21:00 from Monday to Friday, and during the holiday period it is usually open from 9:00 to 14:00, or according to the timetable set by the General Manager of the University.

The University Main Library on Espinardo Campus maintains the same timetable as the Study Room of FVETUM; however, during holidays, they accommodate the requirements of final exams, and the opening time extends to midnight. The schedules for the various libraries are available online.

6.2.4.- Equipment.

Libraries and study rooms are furnished with either individual or small group seating, and in most cases, a frontal panel is present, providing isolation for students. As previously stated, students at VULTUR have free access to 24 computers to search for bibliographies and other teaching resources. Most students bring their own laptops or tablets to the study room and can access Wi-Fi through Eduroam. A power supply and wireless internet connection are both available to the entire FVETUM community.

6.2.5.- Number of veterinary learning resources.

Books and periodicals. The policy of the UM is to cover all referenced main subject literature and provide the number of needed copies for students and staff. The recommended bibliography is covered, with an average above 90%. All are available at the Main Campus Library.

E-books and e-periodicals. The UM offers an e-book service through the Library Service which classifies by subject area and 18 editorials. Within "Health Sciences", Veterinary Sciences are categorized, offering access to more than 3000 e-books. However, for specific Veterinary subjects (veterinary physiology, biochemistry, food, …) access is limited to no more than 40 e-books. E-periodicals are mainly for research and can be accessed online using the identification system of e-mail and password throw a proxy system when outside the UM. E-periodicals are contracted with the most reputed editorial companies (Elsevier, Oxford…), and articles can be download for research purposes. Only

final year students undertaking the FDP or master programmes are granted free access. Other students may request access through their tutor or the Library Service.

Old Bibliographical Background of the FVETUM. Through the generous donation of retired veterinarians from Murcia and the surrounding areas, the Library has established an Old Bibliographical Background collection. This assortment of books is available to students, primarily those studying Veterinary History. The bibliographical collection comprises 203 titles, ranging from the late 19th century to the early and mid-20th century, and is representative of the period chosen.

6.2.6.- Staff (FTE) and qualifications.

Under the centralised policy for learning resources in the main libraries, all support staff (librarians) are mainly centralised. The list of librarians is long, with more than 100 for all the UMs, in different categories. For scientific periodical subscriptions in Medicine, Nursing and Veterinary Sciences, there is a full-time support staff in addition to the Head of Subscriptions (the former Librarian Head of FVETUM). The library staff keep their knowledge up to date through regular training.

6.2.7.- Annual budget.

The annual budget of the UM Library in 2022 was 2,041,750 € to support scientific periodical subscriptions (the most important part of the budget) as well as teaching books (123,228 € for the whole University and, to be precise, 4,247 € for FVETUM). This includes all the bibliographies required for the various curricula. Students have access to multiple copies of each volume in the main library, which can be reserved and borrowed online for convenience. Students can check the recommended textbooks online at the web page by selecting the academic year/degree/subject. Also, the FVETUM has made an effort to support the subscription of Specialised Veterinary Medicine literature, which has become available under the Library Service this year. It can be accessed online through the VetLibrary website, and it has links to Veterinary Clinics of North America journals (equine, small animal, exotic and food animal practice) as well as national publications such as "Canis et Felis" journal.

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

IT is essential for accurate and rapid access to information and for fast communication. For this reason, the UM policy is to provide each UM member with an email and password to access Eduroam or Icarum (UM Internet) via Wi-Fi to all IT services.

FVETUM has 3 computer rooms (called ADLAs, free access). The total number of seats is 75, divided into:

- MFB:
  - ADLA Vencejo: 35 seats and located on the ground floor of the FVETUM, next to the “Study Room”.
  - ADLA Verderón: 24 seats, located on the ground floor and close to the VTH.
- VTF:
  - ADLA “José Manuel Cid Díaz” (16 seats, located at the VTF main building).

This is additionally to the 24 VULTUR seats (described earlier in this section), bringing the total number of computer seats to almost 100. ADLAs are also used for lectures and practical training, and students have free access to them outside of scheduled class time.

Full support for all IT services is provided by the Central Computing Service (known as ATICA) which offers assistance for teaching projects, learning services, digital exams and many more. For equipment or network assistance a support unit is available that serves the 3 faculties: Chemistry, Biology and FVETUM.

The institutional Virtual Classroom of the UM is the official platform for virtual teaching (e-learning), providing teachers and students with various telematic tools that aid in the advancement of teaching and learning.

The Virtual Classroom is based on the open-source platform Sakai CLE (Collaboration and Learning Environment) and includes the UM development tools.

This, in turn, provides a more flexible communication channel and access to information and digital resources in the various subjects. The VC boasts versatility: it facilitates face-to-face instruction or class sessions virtually (online), also enables the formation of collaborative workspaces, serving the needs of research teams, projects, as well as promoting collaboration between teachers from diverse universities, etc. The tools offered by the VC included TG, Calendar, Resources, Web Content, Content (centralised organisation of content and units), Announcements, Private Messages, Forums, Chat, Tasks, Online Examinations (including surveys), Orla, Registration (to manage meetings), Appeals for Examinations, Personal Examinations, Qualifications, Surveys, Records, Perusall direct link and Videoconference. It is used for undergraduate and postgraduate studies, and, for example, it is under the QA system to post the teaching guide for the next academic year before the end of July. This learning environment is also accessible from mobile devices and is linked in 1 click from the FVETUM website.

FVETUM has created an innovative online e-portfolio project with the aim of tracking, checking, and evaluating the learning outcomes of rotations to fulfil D1C requirements. Following the last visit, we established a centralised and standardised access to clinical cases. Presently, every Faculty of Veterinary Medicine student can comprehensively access the VTH's medical records via the platform.

With the aim of providing UM users with a virtual desktop environment equipped with enterprise-level control and management, while maintaining a familiar environment for the user, UM has created the Virtual Desktop EVA project. It is a set of remote virtual machines that can be deployed from a centralised hosting server. This allows us to reduce operating costs and improve security while maintaining the user experience. There is an EVA dedicated to FVETUM, which is very useful for specific remote software.

The University has its own video streaming and recording service, Tv.um.es (based on Opencast), which can be used to securely add video to Moodle courses. Simple live streaming and/or recording of lectures is available in selected lecture theatres. Teachers can also use the TV.um.es studio to create their own educational videos in an easy-to-use and quiet environment. Recently, the UM has also integrated a specific podcast platform that can be used by teachers and students for teaching and dissemination purposes.

Standard 6.3.- Access to learning resources.

6.3.1.- Description of the available electronic information and e-learning courses.

The FVETUM Library offers an introductory course for new students on its use and services; various courses on the use of bibliographic databases (PubMed, Web of Science, Scopus, FSTA), citation tools (RefWorks, Mendeley, EndNote online, EndNote X7) and the basics of scientific writing. The participation of library staff is also required for postgraduate and continuing education programmes.

To support online teaching, FVETUM has always been involved in innovative programmes such as Open Course Ware (OCW) or A Massive Open Online Course (MOOC). FVETUM has created 11 OCW with several awards for quality and innovation, and for MOOC a few, which are managed by the MIRIADAX platform.

6.3.2.- Accessibility for staff and students to electronic learning resources both on and off campus.

Wireless Internet connection in the whole Establishment is available. Remote access to Internet resources (including electronic

library resources and learning materials) is also provided through a safe VPN connection for staff and students. On the UM website there are instructions and tutorials to help students configure their remote access and are supported by ATICA services.

6.3.3.- Access to learning resources.

There are 12,020 print books and 119 print periodicals in Central UM Library, 222 veterinary-specific e-books and 274 veterinary-specific e-periodicals. These resources are in addition to the University's wider collections, including e-theses and research repository resources.

The VTH utilizes our Virtual Classroom platforms to deliver pre-induction and induction week orientation resources and tasks for new students. This facilitates acclimatization with the virtual learning environment. All students receive facilitated training and have the opportunity to attend drop-in sessions, both provided at the start of the semester. These sessions serve to ensure that their devices are connected to the network, and that they are proficient in using our technology tools within the learning context.

All students have access to the Veterinary Hospital patient records through the platform https://historialeshcv.um.es/.
This information is supplied by the VTH and from the different subjects. Several physical training materials (simulators, mannequins, models) are also available in:

- Veterinary Anatomy Museum (VAM).
- Small Animal Department:
  - Complete equine manikin.
  - Canine manikins for blood sampling.
  - Cow's tail for blood sampling.
  - Surgical simulator room for self-study.

Comments on Area 6.

- FVETUM learning resources model (centralised library, open sources, phone Wi-Fi, remote desktop, e-learning, ...) has greatly impacted the teaching model and significantly enhanced student performance. The policy of FVETUM has been always to participate and be part of the change based on an innovative model of teaching, the reason why Innovation plays a key role within the Dean Team.
- The UM also provides students and staff with online computer training courses.

Suggestions for improvement in Area 6.

- Measures to improve learning resources involves continuously enhancing our collections, improving user training, and producing self-learning materials. Such efforts reflect our commitment to support and enhance the academic experience of our students.
- The projects of Innovation for online e-portfolio and centralised access to clinical cases for teaching purposes complementary to the print-out are very useful to reinforce the use of the virtual desktop and to improve the learning skills of the veterinary students.

Area 7.
Student admission, progression and welfare

Standard 7.1.- Student admission, progression and certification.

7.1.1.- Admission Procedures.

Prospective students are undergraduates from the Murcia region or neighbouring provinces, with a primarily regional impact in the southeast of Spain. However, we also attract students from other areas beyond the main sphere of influence. Students in Spain have the right to select any public university. In the "Single University District," there are multiple veterinary faculties available for admission based on academic records. Also, we receive requests from EU countries, Latin America and other geographical areas that are informed via e-mail for their specific requirements. To disseminate information to new students, FVETUM implements different strategies:

- On-line and WEB information. The information is kept updated on the University and Veterinary Faculty web pages, and there is a section devoted to "New Students", where they can find the on-line information. It is also reinforced by the Academic Secretary that also has a section for new students and reply to all questions arise using previous appointment, WhatsApp, on-line procedures as well as FAQs and usual procedures.

- Secondary school visits. Each year, the UM organises secondary school visits to all faculties of the UM, and the FVETUM is regularly contacted by prospective students. During these visits, baccalaureate students interested in enrolling the Veterinary Degree take a tour and attend an introductory session that explains the admission process at UM, the degrees offered at FVETUM and the respective curricula. A Dean's Office representative (e.g., Secretary or Vice-Dean) answers specific questions posed by the students.

During the second part of the tour, students have the opportunity to visit key infrastructure of the Faculty, including the VTH, the VAM and the FPP. UM also organizes informative talks each year for the prospective students which cover the professional opportunities available after completing a Veterinary Degree. These talks are easily accessible and reinforced at the FVETUM website for future students.

7.1.2.- Students progression and certification.

Once the students have been admitted according to UM rules (see Section 7.3), all information pertaining to the academic year will be available on-line on the website at least one month prior to registration. The FB discusses the academic calendar annually, with each department organising its activities accordingly.

For students of the 1st academic year the UM arranges "Orientation" and "Welcome" events while the FVETUM specifically organises the Welcome and Preparatory Week for the students enrolled in the degree programme at the Faculty of Veterinary Medicine (SAPG-Vet) as part of the Student Orientation Plan (POE).

Upon enrolment, students will discover a well-organized support system provided by the POE. This includes the option to participate in the Voluntary Tutorial Action Plan (PAT) for those who desire mentorship from a teacher, as well as Guidance Talk and Training Support in conjunction with UM services like the COIE and ADYV. Additionally, a Work Guidance programme is available to students seeking further assistance.

Academic advancement and certification procedures are handled by the Academic Secretary, who maintains administrative and student records. Graduation necessitates student compliance with all UM academic regulations. The Secretary and Vice-Deans' administrative staff and tutors offer guidance on the most efficient progression based on regulations and student performance. Other UM advisory units provide support to this instruction.

Formal cooperation with other VEEs are advertised through our websites, where international programs such as Erasmus and Bilateral Agreements outside of the EU are described.

Also, UM is part of EUniWell, the European University for Well-Being, an alliance of universities that seek to improve the well-being of society and the environment in a sustainable way through joint teaching and investigation programs.

Standard 7.2.- Students admitted consistent with the resources available.

The policy on student admissions was set by the FVETUM in the 1990s, when the 1st EAEVE visit took place and the ratio of students to academic staff and resources was reviewed. At that time the number of students admitted per year was 150 and a strategy was agreed with the UM to reduce the number of students admitted per year to 90 and this number has been constant for the last 20 years. In addition to this decision, there is an annual review process based on the QAIS and programme monitoring. The QAC monitors all programmes on an annual basis, considering the ESEVT indicators (where the number of students or graduates per year is used for calculations), identifies potential problems and makes recommendations to the FB, which proposes to the UM Academic Senate the number of students to be enrolled in the first year of the following academic year. The figures presented in the following tables come from an internal database implemented by UM on the admission, progress and welfare of students, accessible via the UM Intranet, called BOARD or UNICA, but public information can be found on our web page "Quality and academic results of the Degree in Veterinary Medicine". The Secretary's Faculty Services and the Statistical unit of UM provide data on the annual graduate student count for **tables 7.2.1** to **7.2.5**.

Table 7.2.1. Number of new veterinary students admitted by the FVETUM

Type of students	*2022/2023*	*2021/2022*	*2020/2021*	*Mean*
Standard students	65	57	55	59
Full fee students	--	--	--	--
Full tuition students (scholarships recipients)	32	39	37	36
Total	**97**	**96**	**92**	**95**

Table 7.2.2. Number of veterinary undergraduate students registered at the FVETUM

Year of programme	*2022/2023*	*2021/2022*	*2020/2021*	*Mean*
First year	97	96	92	95
Second year	103	94	101	99
Third year	93	100	96	96
Fourth year	92	83	107	94
Fifth year	132	156	155	148
Total	**517**	**529**	**551**	**532**

Table 7.2.3. Number of veterinary students graduating annually

Type of students	*2022/2023*	*2021/2022*	*2020/2021*	*Mean*
Standard students	41	56	68	55
Full fee students	--	--	--	--
Full tuition students (scholarships recipients)	36	40	41	39
Total	**77**	**96**	**109**	**94**

Table 7.2.4. Average duration of veterinary studies

Duration	*% of the students who graduated in 2022/2023*
+ 0	63.64
+ 1 year	22.08
+ 2 years	5.19
+ 3 years or more	9.09

Table 7.2.5. Number of postgraduate students registered at the FVETUM

Programmes	*2022/2023*	*2021/2022*	*2020/2021*	*Mean*
VTH				
Interns	4	4	4	4
Residents	2	2	2	2
Total	**6**	**6**	**6**	**6**
Master Programmes				
Biology & Technology of Reproduction in Mammals	19	23	22	21
Wildlife Management	26	25	24	25
Small Animals Medicine	16	12	13	14
Nutrition, Technology & Food Safety	28	32	34	31
Total Master Programmes	**89**	**92**	**93**	**91**
PhD Programmes				
Veterinary Sciences	72	78	79	76
Reproductive Health Biology & Technology	29	32	31	31
Food Technology, Nutrition & Bromatology	41	45	53	46
Total PhD Programmes	**142**	**155**	**163**	**153**

**PhD students remain at least 3 years in the program as an average.*

Standard 7.3.- The selection and progression criteria.

All New Students are selected based on their records obtained during the 2 last years of High School and the selective test to Access to the University.

After finishing the Baccalaureate, students must pass the University Access Exam (EBAU), which is the same test for all Public Universities in Murcia. There is no additional specific exam to enter the FVETUM. Access to the Veterinary Degree at the UM is regulated by a *numerus clausus* system: a certain admission rate is established attending to the number of students to be admitted (90) and the number of students demanding access. The EBAU includes two phases: a general phase (which is compulsory for all Baccalaureate students; maximum 10 points) and a specific phase with subjects related to the area of interest (which is voluntary and

allows improving the mark up to a maximum of 14 points). Considering the high admission mark needed to access the Veterinary Degree, all students must pass both phases. The final mark is calculated according to the following formula:

- Admission mark = *0.6*NMB + 0.4*CFG + a*M1 + b*M2*
  Where *NMB = Average mark corresponding to 1st and 2nd years of the Spanish Baccalaureate; CFG = EBAU General phase mark; M1, M2 = The two best marks of the subjects of the EBAU specific phase; a, b = weighting coefficients of the subjects of the specific phase.*

In the case of international students with recognised secondary studies

- the item (*0.6*NMB + 0.4*CFG*) is replaced by the average grade of Baccalaureate.

In the academic year 2022/2023, the admission mark was 11.576 and the number of students applying for admission was 1833.

In addition to the standard procedures, there is a percentage of places reserved for students with special situations: 1% for university graduates, 5% for disabled students (equal to or higher than 33% disability), 3% for high-level and high-performance athletes, 3% for students over 25 years old, 1% for students over 40 years old, and 1% for over 45 years old students. These figures are mandatory by UM rules.

Following Spanish Royal Decree 822/21 of 28 September, 5% of available places for new students must be set aside for disabled and ill learners. They must present an official certificate of disability, proving a rating of 33% or higher. Applications will be processed according to the same criteria as non-disabled applicants. During their first academic year, disabled and ill learners are not required to enrol in all Year 1 subjects. ADYV provides individualized and focused support.

There is no specific selection committee for student admission, since it is based on the mark obtained in the EBAU.

Unsuccessful applicants and those that disagree with their mark can present their appeal addressed to the examining board for revision or also, addressed to the Rector of UM.

The standard admission procedure depends on the University and is fully advertised and transparent. All the information is published online. Results of the admission procedure are also communicated online at the same time for all the public universities of Murcia, and personally to all the applicants. The admission procedures for full fee students is not applicable.

The number of students admitted each year is strictly limited. The number of admissions depends on the teaching capacity needed to achieve a satisfactory standard, considering available facilities and staff. Additionally, the demand for veterinary graduates in the labour market is considered. Moreover, new admissions must align with the official UM Veterinary Degree document approved by ANECA (ENQA member), which specifies 90 admissions. Each year, the FVETUM, through its FB, proposes a specific number of places to be offered to the UM Governing Council. The Council then submits it to the University Coordination Committee of the Ministry of Education and Vocational Training. Although this committee has the authority to decide, they typically approve the faculty's proposal.

New students are introduced to the concepts of biosafety and biosecurity in the introductory course, Welcome and Training Week for the Veterinary Grade, which takes place during the first week of each academic course. Students are instructed to familiarise themselves with the FVETUM's safety and biosecurity procedures and all students receive relevant health and safety presentations prior to animal handling sessions and clinical rotations. Working with laboratory animals is covered by the UM Code of Practice on Allergy to Laboratory Animals and the Code of Practice on Animal Hazards. The UM has a Code of Practice

covering safe working with domestic animals in clinical and teaching settings, including work on farms.

According to the ANECA approved document on the Veterinary Degree, the estimated number of places for incoming students over the next 3 years will remain constant at the current limit of 90, with no plans for expansion.

Standard 7.4.- Policies and procedures on disabilities or illnesses applicants.

7.4.1.- Policies on disabilities or illnesses applicants at UM and FVETUM.

UM is committed to removing any obstacles that may impact students with special needs and their experience of university life. We aim to create a more inclusive learning environment by providing necessary accommodations and support. Since the academic year 2011-12, multiple services, created in the 1990s, united to form the Diversity and Volunteering Service (ADYV). This service is a crucial tool for the University of Murcia to manage significant social action in four main areas: diversity, promotion of solidarity and volunteering, personal counselling, and community health.

The aim is to allow students with disabilities to participate in all the activities carried out in the different university structures, from the admission procedure to graduation. The services provided are pedagogical and specialised tutoring to provide and facilitate study skills and to identify alternative methods of taking exams; classroom and timetable planning to facilitate access to classrooms and other University facilities; transport assistance to ensure the necessary transfers for those with reduced mobility; technological assistance/aids through the use of IT tools and specialised software to provide support for different types of support needs; economic and administrative support for stays abroad; monitoring of architectural barriers to check the accessibility of facilities and promote immediate action to remove obstacles; welcome project to assist students in planning their academic careers by showcasing the available support options. The provision of support aspires to ensure that all students can satisfy the ESEVT D1C the requirements by the time they graduate.

7.4.2.- Procedure on disabilities or illnesses applicants and students at UM and FVETUM.

Disabled applicants must provide an official certificate of disability with a rating of 33% or higher. Five per cent of places are reserved for disabled and sick students. Applications are processed according to the same criteria as for the rest of the students. During the first year of study, they are not obliged to enrol in all the subjects of the first year. Throughout their studies, the ADYV provides direct and personal assistance to students. Likewise, the coordinators of all course subjects receive confidential annual or semi-annual reports from ADYV regarding the needs and peculiarities of students with disabilities. This information enables them to take appropriate corrective measures during subject development, with the aim of reducing the impact of these disabilities as much as possible.

Standard 7.5.- Students permanence and progression.

In order to align the right to study with the appropriate use of public funds, the implementation of the EHEA (European Higher Education Area) requires the establishment of mechanisms for continuous improvement of the educational offerings according to the results achieved. Consequently, MU has regulated the situation and revised the Progression and Permanence legislation.

7.5.1.- Permanence.

To continue their program of study, enrolled students must pass at least 12 ECTS in their 1st year if studying full-time, and 6 ECTS if studying part-time. This is a mandatory requirement.

In an academic year, students typically sit three exam sessions, unless they are studying a subject for the first time, in which case they

will have only two exam sessions. Each subject permits a maximum of six exam attempts.

There are other systems in place at the UM to promote the permanence of students:

- A request to cancel a session can be submitted to the Dean, accompanied by the relevant documents or certificates.
- If a student fails 4 regular sessions, they have the right to be examined by an examination board for the fifth and sixth sessions.
- Students who have failed all 6 regular examinations in a subject may apply to the Rectorate for an extraordinary examination (7th session).

Students who comply with the standard which regulates the "Curriculum evaluation through grade compensation" may benefit from the mechanisms for passing subjects outlined therein.

7.5.2.- Progression.

To enrol in the subsequent courses, students are required to complete the enrolment of subjects that have not been passed from lower to higher courses, additionally to any pending credits from previous courses. Furthermore, they must adhere to the maximum enrolment limit, as specified by their academic programme. It is imperative to use objective language throughout the application, avoiding any biased or emotional language, and ensuring precise word selection and grammatical accuracy.

The criteria for advancing through the curriculum are stipulated and accessible via UM and FVETUM websites. Student requirements may be communicated via their representatives within the FB. To qualify for examinations, students must attend at least the practical sessions for each course and pass the practical exam. To ensure that students have acquired the requisite knowledge, skills, and behaviours specified in the syllabi, they are tested with a written, practical, or oral exam at the conclusion of each subject. Refer to Area 8 for further information.

The student must have passed at least 70% of the ECTS to be enrolled in the EPT, rotations and the FDP. They cannot present their FDP until they have passed all the subjects of the degree.

7.5.3.- Remediation and support for students who do not perform adequately.

For students who need help learning, tutorials are perhaps the best way to provide direct, personalised guidance. The teacher offers unbiased recommendations and support on all aspects of instruction that can enhance the educational process. All academic staff have a specific tutoring schedule that must be adhered to (minimum 6 hours per week), there is also a tutorial programme in which lecturers monitor the performance and progress of students on an individual basis from the first academic year, and there is a specific programme at the FVETUM for this assistance.

7.5.4.- Rate and main causes of attrition.

The official attrition rate is relatively low, and we have noted a trend towards its reduction over the last three years for which we have updated data, i.e., 13.79% (2020-21), 8.54% (2021-22), and 4.55% in 2022-23, with an average of 8.96%. In general, a Veterinary Degree is a highly competitive and vocational programme which generally has a low dropout rate when compared with other careers. At FVETUM, the rate of withdrawal is also below the national average. First-year students did not proceed to their second year primarily because they transferred to a nearby university to pursue degrees in Veterinary or other health sciences, such as Medicine. The estimated dropout rate after the first year is difficult to ascertain due to inconclusive information and personal or family circumstances, job opportunities, or not meeting academic expectations may play a significant role. Poor academic performance also affects attrition rates, as students with low academic achievement and success are more likely to drop out. Additionally, the increase in tuition fees and reduction in scholarships may contribute to the rise in

dropout rates, particularly during and after the pandemic.

7.5.5.- Assessment and revision of admission procedures and criteria.

Admission procedures and criteria are the same for all UM courses and are set by the Ministry of Education and the Autonomous Government of Murcia. The number of candidates admitted is based on the official document on the Veterinary Degree approved by ANECA, which is evaluated and approved by the FB.

Standard 7.6.- Mechanisms for the exclusion of students from the programme.

Ethics is a vital asset that must be cultivated and promoted in all spheres of life, particularly in university education of students. The teaching and research objectives assigned to FVETUM require all members to maintain ethical conduct and always uphold the university spirit. The UM Code of Ethics is the document that explains some of the values that the institution considers priority for the development of its functions, among which "Commitment, Dialogue, Respect and Responsibility" stand out.

The Statutes of the UM, in its article 128.1, dedicated to the "*Sanctions and Discipline*", establishes that "It will be the Rector's responsibility, in accordance with current legislation, to adopt decisions and resolutions relating to the disciplinary regime for members of the University community. This power cannot be delegated". Based on these regulations, the Dean's Office will send the UM General Secretary all the information related to the said disciplinary file, noting the repetition of the offence by the student and requesting the application of the corresponding sanction, which could even lead to the expulsion of the student from the Faculty and the University.

Against the decision of the Rector, who exercises the disciplinary power, the student recognises the right to appeal to the Spanish Courts. The UM applies pre-defined regulations that cover all stages of the student's "life cycle", which are published on the website.

Standard 7.7.- Welfare, emotional and physical needs of students.

The University of Murcia has implemented a Health and Wellbeing Strategy, which aims to enhance the physical and mental well-being of all individuals affiliated with the institution, including students and staff members. It is also part of the backbone of EUniWell to which the UM belongs since 2020. The strategy includes common academic sections and adheres to established formatting features, while maintaining a formal register and grammatical correctness. Technical terms are explained clearly, and a causal connection between statements is established. The scheme aims to create a salubrious atmosphere for studying and working, encouraging the integration of all members of the university while promoting eco-friendliness. Attention will be dedicated to individuals with mental health disorders, and the university community will be taught techniques for managing conditions such as stress.

7.7.1.- Services provided by the UM and FVETUM.

Specialist teams and experienced counsellors are available to assist students with a range of issues. The services available to students are:

- Welfare:
  - Assistance services.
  - UM Equality between men and women (Igualdad).
  - UM Office for Practice and Employment (COIE).
  - UM Culture (Culture).
  - UM Sustainable and Health Campus (Campus sostenible).
  - UM Center for applied speechpadics (CELA).
  - University Information Service (SIU).
  - UM Pedagogical Guidance (UM Tutoring).

  - University Social Center (Students House) (CSU).
  - UM Students Associations.
  - FVETUM Students Associations.
- Emotional:
  - UM Applied Psychology Service (SEPA).
  - UM Attention to Diversity and Volunteering (ADYV).
  - UM Social Attention Office (OAS).
- Physical:
  - UM Sport Service (Deportes).
  - UM Dental Clinic (COU).
  - UM Vision Clinic (CUVI).
  - UM Health Inspection Service (SIS).

All these UM offices have a coordinator in each faculty, in FVETUM it is the Vice-Dean with responsibility for students. Also, veterinary students can make use of various medical services offered by the UM at reduced (or free) fees. Health, accident, and liability insurance is included in the registration fees.

The various services available to students at the FVETUM are coordinated by the Office of the Vice-Dean for Academic Organisation, Internationalisation and Students of the Faculty of Veterinary Medicine. This office works closely with the Student Secretariat, which is responsible for admission, registration and all other administrative matters for both undergraduate and postgraduate students. Students can address their needs directly to the Office of the Vice Dean for Students. The FVETUM has a Student Orientation Office, which is directly supervised by the student representatives of our institution. Its mission is to provide students counselling, lobbying and a range of extra-curricular activities, as well as being at the heart of student social life. Students profile for further information.

Mentoring and tutoring are provided by the teaching staff, who act as reference tutors for students enrolled each year. The Student Guidance Plan (SGP) offers a dedicated service for mentoring and tutoring of attending students, with tutors providing guidance and advice. A specific procedure lists their names.

The FVETUM has an internal quality assurance system (QAIS), where students have the possibility to present and express their complaints, congratulations or suggestions anonymously, if they wish. This mailbox is periodically checked by the relevant Quality Assurance Commission to provide a response and possible solution to the messages presented.

The UM Ombudsman is another important source of guidance for the university community. Collaborative dispute resolution is encouraged whenever possible, and mediation services are available upon request through the UM Ombudsman.

Standard 7.8.- Students' needs, complaints, comments, and suggestions to the FVETUM.

There are two primary modes of communication with the FVETUM staff and directives: informal and formal.

The primary approach for addressing concerns and receiving suggestions involves engaging with students and their representatives in a direct manner. Communication is friendly and professional, and most issues are successfully resolved through in-person meetings, email exchanges, or phone conversations.

On a formal level, students can express their needs and concerns through their representatives: a delegate and sub-delegate for each academic year, as well as representatives at the FB and Department councils.

Additionally, individuals may submit written feedback, including suggestions, comments, complaints, or congratulations, via the relevant email address provided on the dedicated FVETUM webpage. Maintaining the anonymity of any complaints is of utmost

importance. Typically, the Vice-Dean or the Dean, who is copied on the emails, oversees the resolution of any issues.

UM provides a service known as the "University Mailbox" to enable university members and outsiders to communicate suggestions, comments, complaints, and congratulations to any UM member.

Upon completion of each course, anonymous evaluations are requested from students, which are subsequently used to enhance the quality of the entire FVEUM programme.

Any feedback, including suggestions, comments, complaints, and compliments, as well as student evaluations of course content and teaching staff, are subject to the FVETUM's QAIS. The QAIS reviews the status of resolutions and analyses trends and types on an annual basis. The Quality Assurance Commission periodically checks the "University Mailbox" to provide a response and possible solution to any submitted messages.

Comments on Area 7.

- The number of admitted students is analysed every year and is based on the maintenance of hands-on training and teaching quality at the FVETUM.
- Preliminary results show a rational average time to complete the Degree (5 and 5.5 years), like the data of the Spanish Conference of Veterinary Faculties (national average of 6.8 years).
- Studies in FVETUM are demanding, but the learning environment is friendly, our students are highly motivated, and they also have a good and sound academic background, which influences the low attrition rate.
- The Faculty takes seriously the support of students and staff in their health and wellbeing.

Suggestions for improvement in Area 7.

- The admission of students from an Establishment other than FVETUM is legally possible. Our Faculty has largely reduced the number of such admissions, but a change in the current regulations would be needed.
- A rational approach of veterinary education in relation to the requirements of veterinary profession and society in general is also needed.
- A control system of the student admission in all the Spanish Veterinary Faculties based on a critical analysis would be desirable.

Area 8.
Student assessment

Standard 8.1.- Student assessment strategy.

At UM, student assessment is one of the fundamental pillars of the University's teaching function, the most direct consequence of which is the accreditation of students' academic results. Therefore, the whole process must be governed by a set of rules that define the rights and obligations of the parties involved in the process; these rules must be based on the principle of fairness and equality of opportunity and must guarantee objective assessment. At UM, the rules related to student assessment are included in the "Student Evaluation Regulations (REVA)". This document brings together the rules relating to the assessment of students, including assessment systems, assessment of works and reports, assessment criteria according to procedures, assessment methods, among others.

The FVETUM strategy for student assessment is based on the UM REVA rules and includes the most effective method of assessing different competencies and skills. This strategy is part of the QA system and transparency to ensure that all information is public, debated and harmonised within the FVETUM and UM policies.

The specific methods for assessing the acquisition of the different skills and knowledge are specified below:

- **Theoretical knowledge.**

Although the specific method depends entirely on the subject, the main method used is the written examination. Different subjects have different types of written examinations, although most include one of the following types of questions: multiple choice, short answer, essay and matching or fill-in-the-blank. It may also be assessed by continuous assessment and evaluation of supervised work. The examination questions are written based on the number of topics taught by each professor, with a certain percentage of questions allocated to each topic in the programme of the specific course.

Regardless of the type of written examination chosen, the specific methodology is described in the TG for each course, along with the percentage of the final grade that the written examination represents. The methodology chosen depends on the teaching material and is freely designed by the academic staff primarily involved in teaching each subject.

- **Pre-clinical practical skills.**

The pre-clinical practical skills are assessed primarily through continuous assessment, written reports, supervised work assessment and oral presentations and examinations. Some of these examinations require the use of specific software programs to manage and solve the proposed scenario and are based on the analysis of written clinical cases, clinical scenarios, or images. Depending on the subject, practical examinations may also be carried out on healthy animals, organs, cadavers, patients or in the laboratory. In most cases, attendance and a positive assessment of practical skills are required to pass the subjects.

As with theoretical knowledge, the specific methodology is described in the TG for each course, along with the percentage of the final grade that the assessment represents. The final content and specific design depend on each course and is freely designed by the academic staff primarily involved in teaching each subject.

- **Clinical practical skills.**

The assessment of clinical skills acquired during clinical activity is carried out through a variety of systems. In general, students are directly supervised by at least one professor during their clinical performance in clinical rotations or clinical laboratory work with mannequins. An individual evaluation form is kept for each student, assessing various parameters of student performance (attitude, behaviour, punctuality, interest, general level of theoretical knowledge, professional demeanour, etc.).

Some courses may choose to use written multiple-choice examinations at the end of the practical skills activity as a means of assessment. These written assessments of practical clinical skills are usually included in the same formal examination sessions in which theoretical knowledge is assessed. Others assess the acquisition of skills by evaluating students' performance of various techniques on a one-to-one basis with live animals or mannequins.

The assessment of D1C is based on the assessment of the rotations of the previous academic year and semester. Currently, the methodology used is based on 6 rubrics of the supervising professors of each rotation. To achieve the rubrics, the student has to fill in a memorandum of the activities carried out during the different rotations, indicating how the competences were acquired during the practical activities. Currently there is no formal logbook because it is difficult to take notes when hands are on the practical activities, so at the end of the day students write down the information for the memorandum and e-portfolio.

- **Soft skills.**

The soft skills are evaluated transversally in most courses of the whole curriculum, since written reports, bibliographic reviews, oral presentations, and debates are an integral part of the year-long academic activities. The Final Degree Project (FDP) is a particularly representative academic activity where the most relevant soft skills are evaluated, as it assesses bibliographic research, synthesis, interpretation of data, written, oral and non-verbal communication skills. In this subject, students are also exposed to dealing with pressure, learning how to manage their time effectively, being flexible and, finally, dealing with criticism, both from their tutor and from the panel of professors who will evaluate their project at the end of the academic year. (For more information on the FDP, see Area 10, **Standard 10.2**).

Standard 8.2.- Assessment methods.

8.2.1.- Processes for ensuring the advertising and transparency of the assessment criteria/procedures.

The assessment process is formally regulated in the UM Regulations for Calls, Assessment and Minutes to ensure publicity and transparency of the assessment criteria/procedures. The assessment criteria/procedures are published in the subject TG before the start of the academic year. Calls for final examinations must be published on the e-learning platform (CV) at least 15 days before the examination date. The following information must be included in the official examination notices: date, time, place, type of examination, duration, evaluation criteria and date of publication of results, which should be communicated no later than the last day of the final examination calendar of the semester. The assessment tasks and grading criteria for each unit of study in the programme shall be published, applied consistently, clearly identified, and made available to students well in advance of the assessment. Pass requirements shall be explicit. Students may review their examinations after the results have been published.

The FVETUM co-ordinates the assessment process in two main ways:

- **Examination schedule.**

The FVETUM approves the timetable of final exams and progress (mid-term) examinations in consultation with student representatives, and the FB approves it several months before the academic year begins (before 30th of May), so that the calendar is available for students to make decisions before choosing subjects for the next academic year. This information is also included in the syllabus of each subject. The calendar of final examinations must follow the meet criteria:

  - No examination should last more than one day.
  - No student should be required to sit more than one examination in subjects of the same semester/course on the

same day.
- Care should be taken to ensure that the dates of consecutive course examinations do not fall on the same day.
- The dates of the final examinations of the subjects rotate each year, so that the last of one course becomes the first of the following course.

From 2021, the dates for final examinations have been changed in order to start the academic year earlier in September and to make the summer period available for extra mural training or other personal activities. The current terms for final examinations are:
- January: last week of December before Christmas and January is the term for the final examinations of the first semester.
- June: term for the final examinations of the second semester.
- July: extraordinary examination period for resits.

Each semester has 20 to 30 days to schedule the final exams. If the student discovers a clash of final exams, or if there is a justified and important reason that did not allow the student to perform the final exam, the UM Regulation for Calls, Evaluation and Minutes, allows to the student to request to the Dean for a new date that is agreed with the professors of the subject and the date set.

Minutes of final exams have a certain period to complete in order to ensure that the administrative process is followed properly and for students to be informed with enough time in advance for other activities such as re-sit July call for final exams, EPT or to graduate, for example.

- **Approval of the subject's syllabus**.

The syllabus of each subject is prepared by the teaching staff of each subject and has to must include information regarding the timing of assessment, methodology and grading criteria. The methodology used, can be of one type or combine different student assessment methodologies. Coordinators and academic staff in general are offered training in evaluation methods specific to health sciences on request or when available by the TPDC, or for exams organised through the VC platform, especially during pandemic and post-pandemic periods.

The syllabus then must be approved by the Departmental Council, and reviewed by the Dean or Vice-Dean in charge of the Veterinary Degree to ensure that they meet the criteria set by the FVETUM and the UM. Finally, they are published and available on the TG website.

The performance of these methods is evaluated by the QAC meetings, together with information obtained from coordinators of other subjects, students, and stakeholders.

8.2.2.- Processes for awarding grades, including explicit requirements for barrier assessments.

The process of assigning grades is also officially regulated by the UM and the same standard. Grades must be expressed as numbers to which the corresponding qualitative grade is added: (fail: 0-4.9; pass: 5-6.9; grade B: 7-8.9; distinction: 9-10). Similarly, the "Matrícula de Honor" (Honourable Mention) may be awarded to those students who have obtained a grade of 9.0 or above, subject to the limits set by national regulations (the number may not exceed 5% of the students enrolled in a subject, unless the number of students enrolled is less than 20).

For students with disabilities or assessment barriers, UM's Diversity and Volunteering Service (DVS) will assess the student's request and inform the subject coordinator and dean of how to adapt the teaching and assessment process.

Standard 8.2.3.- Description of the processes for providing to students a feedback post-assessment and guidance for requested improvement.

Post-assessment feedback and guidance on areas for improvement. The examination review is an essential part of the learning process and the starting point for the post-assessment feedback process. The improvement process is based on the monitoring of students' progress through a system of individual tutorials by lecturers, which is considered to be the best method of providing correct guidance to students.

Student results for each course are presented each semester in the Study QA Report. Trends in failure rates over the years are carefully monitored. If more than 20% of students fail in all three final examination calls, the course coordinator must take action and also report on this.

Standard 8.2.4.- Description of the appeal processes against assessment outcomes.

In the event of disagreement with the outcome of the review, the student may appeal to the Subject Coordinator for a review. If the disagreement persists, the student may appeal to the Dean, who will inform the Head of Department to appoint two Departmental Lecturers who, together with the one appointed by the Dean, will consider the information and the written report to review the assessment. Finally, the student may appeal to the Rector. The specific procedure is fully described in the UM Student Statutes (REVA).

Standard 8.3.- Process to review assessment outcomes.

8.3.1.- Review the student assessment strategy and its communication to staff, students and stakeholders for implementation, assessment and review.

The TG for each subject is reviewed every semester by subject coordinators, student representatives and the Vice Dean of Veterinary Studies. The purpose of these reviews is to ensure compliance with assessment criteria and systems. If necessary, the reviewers will develop an improvement plan which may include changes to the assessment process for the following academic period in order to improve academic performance whilst maintaining learning outcomes. After reviewing the subject assessment procedures, the QAC informs the departmental councils and submits them to the FB for final approval. The examination schedule is then drafted by a representative of the Curriculum Assessment and Improvement Committee in collaboration with academic staff and student representatives. Once approved, all information is published on the website and VC at least two months before the start of the academic year. This process follows the official Veterinary Degree document approved by ANECA and the FVETUM QAIS.

8.3.2.- Link between learning outcomes and assessment design.

The acquisition of the expected theoretical knowledge, first skills and other professional competences, as well as the evaluation systems used to assess their acquisition, are described in detail for each subject in the teaching guidelines of each course. During the final year coordination meeting between the professors and the course coordinator, an analysis of the results is carried out and, based on these results, changes are made to the course guidelines for the following year.

Standard 8.4.- Assessment Strategies.

8.4.1.- Description of the system to certify student achievement of learning outcomes in the different subjects, years of study, etc.

All general and specific competencies are incorporated throughout the diverse courses in the Veterinary Degree curriculum, ensuring students' acquisition of them over a five-year period. Although certain courses may focus on specific skills, all competencies are guaranteed to be included in the five-year program's curriculum.

Comprehensive end-of-semester assessment sessions are not a common feature of our country's academic system, unlike in many international education systems. Instead, we have subject-specific exams that serve to certify the attainment of learning outcomes in four ways:

- Successfully achieving a positive grade in the final examination of any teaching unit, as per the corresponding subject syllabus.
- Obtaining a positive grade, or "approved", in relevant interim examinations, if applicable.
- The grade awarded following discussion of the graduation thesis.
- Any other criteria that may be outlined in subject-specific guidelines.

8.4.2.- Description of the strategy to encourage students to take an active part in the learning process

While many students enter their Veterinary studies with high ambitions and aspirations, promoting active student involvement is an enduring hurdle for both academic faculties and governing organisations. Frequently, students concentrate on succeeding in examinations and disregard their involvement in coursework, owing to workload pressure from theory and practical activities, as well as seminars. Attending lectures is not mandatory according to UM guidelines, however, completing practical activities is required as a prerequisite for the final exam. Active engagement in the learning process is fostered through the implementation of a continuous assessment approach during both theoretical and practical training, coupled with the utilization of student-centred teaching methodologies derived, among other, from UM's progressive projects including the Thinking-Based Learning Teacher, Flipped Classroom, Project-Based Learning, Cooperative Learning, Gamification, Design Thinking and Problem-Based Learning. These methodologies have proven efficacious in elevating attendance rates and enhancing educational performance and outcomes.

To improve student engagement in the learning process, digital content is created and shared through various teaching platforms. The FVETUM has its own UM online TV channel, while professors also use YouTube or other platforms to disseminate educational resources. Additionally, teaching materials are presented in an accessible and engaging format to students through Instagram, Facebook or X (Twitter) profiles. An additional approach has been implemented- the QAIS. This encompasses monitoring performance over the semester, assessing pedagogical quality and the correlation between course content and competencies, and offering guidance for refinement.

Also, the internship programme and hospital volunteering opportunities provide effective tools for students to directly participate as members of assistive activities.

Standard 8.5.- Methods of formative and summative assessment.

The formative assessment of D1C is a summary of the subject assessment method described previously in **Standard 8.4**. Specifically, clinical practical skills are assessed in practical formats using a summative approach. In the 10th semester, clinical skills are assessed summatively and formatively (through supervision and feedback) in continuous assessment courses and clinical rotations, including outpatient clinics. During the clinical rotations, students are supervised as they carry out anamnestic assessments, physical examinations and generate a prioritised list of case-related problems with likely differential diagnoses. Abbreviations of technical terms will be explained the first time they are used. Language will be clear, objective and value neutral with consistent technical terminology. Passive tone and impersonal construction will be used. The text will adhere to conventional academic structure and maintain regular author and institution formatting. Citations will be consistent and style guides will be followed. Precise word choice will be used, using technical vocabulary when it conveys

the meaning more precisely than a similar non-technical term. Grammar will be correct and there will be no spelling or punctuation errors. Casual language, informal expressions and unnecessary jargon will be avoided, while positions on issues will be made clear through hedging. Finally, causal links between statements will be ensured to avoid any form of bias.

Each rotation is overseen by a dedicated tutor who monitors the progress of students through the e-portfolio on the VC platform. The teaching staff tutor is responsible for assessing CCT, while the qualified person tutor assesses EPT.

All assessments are conducted objectively and with clear communication and feedback to the students. Each rotation with EPT also has an external tutor.

The clinical examinations assess D1C on real or simulated patients, as well as animals kept for demonstrating clinical questions or specific veterinary skills, such as injections, repositioning, or surgery. In the clinical assessments of the rotation (10^{th} semester), the assessment of problem-oriented case management is of great significance.

Comments on Area 8.

- The assessment strategy for FVETUM has been enhanced since the last ESVET visitation and accreditation process to ensure accurate evaluation of D1C. The method has been adjusted slightly each subsequent academic year for minor improvements following evaluations by tutors, both academic and external, to increase reliability over the past 6 years.
- The implementation of the new Spanish University Law and expected regional legislation could affect external qualified personnel, specifically veterinarians acting as external tutors, due to the potential conflict with their employment commitments. In order to maintain external tutors for the EPT engagement and compete with the newly established Veterinary Faculty, we must adapt to this situation in the coming years.
- The participation of external evaluators of EPT is appreciated by stakeholders.

Suggestions for improvement in Area 8.

- The evaluation of the e-portfolio/logbook by the EAEVE working group and the forthcoming guidelines for the next general assembly will serve as a pivotal tool for enhancing the assessment quality of FVETUM's e-portfolio.
- Reinforcement of the overview of horizontal and vertical coordination is necessary in the Strategic Plan to prevent overlap or gaps between D1C and assessment methods.
- The incorporation of skill labs for self-directed learning and training, and the VTH voluntary programme will serve as a strategic approach towards enhancing clinical training and assessments.

Area 9.
Academic and support staff

Standard 9.1.- Appointment and Qualification of Academic Staff.

The FVETUM's teaching staff is recruited according to strict Spanish and EU regulations, which guarantee transparency and the adequacy of the staff to fulfil the expected competences in relation to the school's educational and research mission. The current categories of teaching staff at FVETUM are shown in **Figure 9.1**. As shown in **Table 9.2.1**, most of the teaching staff at FVETUM are permanent academic staff. All academic staff, except for assistant professors from 2023, must be accredited by ANECA. (the Spanish acronym for the National Agency for Quality Assessment and Accreditation). In order to be accredited, teachers must meet certain criteria established for each category. The criteria include the evaluation of training and activities in teaching, research, and management. The established criteria for each category can be found on the official ANECA website.

The Assistant Professor has a fixed term of 4 years, during which he/she must obtain the ANECA accreditation for the next category and apply for the upgrade. If this is granted, and if the department agrees, the professor will be upgraded to the temporary position of Contracted Associated Professor. The professor in this position can be upgraded to the permanent position of Contracted Associate Professor or directly to the position of Associated Professor (if they already hold this accreditation) via an open call examination. The position of Contracted Associate Professor and above is permanent. As a result, the University's core staff consists of professors with stable, permanent positions, ensuring the continuity of teaching and research activities. This system also allows teachers to progress and innovate without fear of failure.

In addition to academic staff, teaching at the FVETUM is supported by those on fractional contracts - adjunct faculty (self-employed, graduate teaching assistants and those employed by third parties), VTH practitioners and residents. Pre- and post-doctoral researchers are also involved in student teaching. The non-academic staff must be renewed and added to the list of lecturers every academic year.

The number and percentage of teaching staff with a veterinary degree is shown in **Table 9.2.2**. As can be seen, the FVETUM meets the formal requirement laid down by EAEVE that "the majority of the teaching staff (calculated as FTE) involved in core veterinary education shall be veterinarians". It is expected that more than 2/3 of the teaching given to students, as determined by student teaching hours, will be provided by qualified veterinarians". Veterinarians are mainly found in pre-clinical, clinical, animal production and food science settings. In order to strengthen the practical training of the FVETUM for the intermural curriculum practical training, various adjunct teachers are contracted in key areas such as food hygiene for abattoirs (1 OVS), large animal reproduction and pathology (3 veterinarians), and for special surgeries as invited professional veterinarians (the number depends on the availability and special cases per year). Additionally, the FVETUM engages veterinarians of different specialities for EPT. These veterinarians are recognised as honorary supporting professors.

A significant number of AS veterinarians are members of various national and international boards, committees, and agencies (AEMPS, AECOSAN, R&D&I, etc.). Special mention should be made of the diplomats of the European Board of Veterinary Specialisation (EBVS) (n=23, four of them being diplomate by two European Colleges, ECAR and ECPHM) and the Spanish Association of Veterinary Specialists in Small Animals (AVEPA) (n=18).

FVETUM has two European residency programmes (cardiology and veterinary clinical pathology) and a Latin American College of Veterinary Ophthalmologists (CLOVE) residency in veterinary ophthalmology.

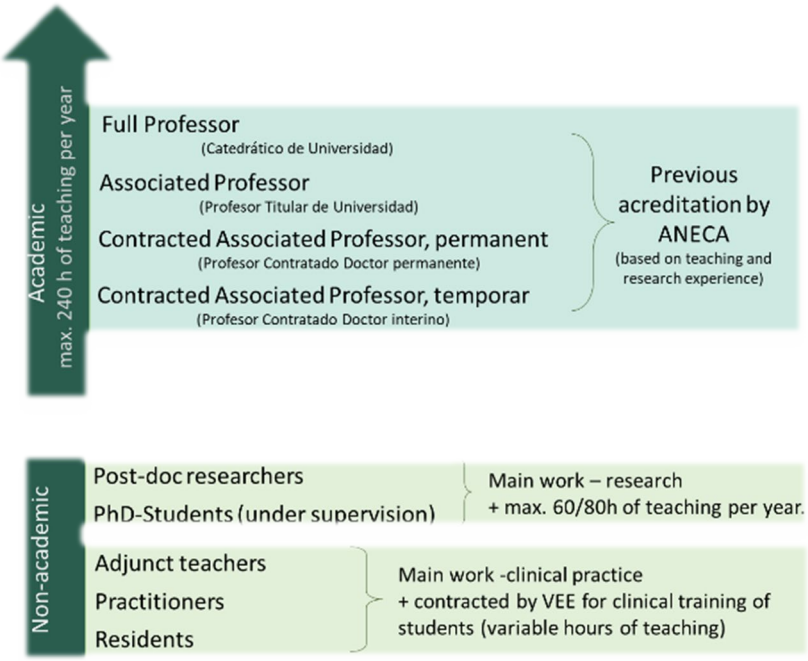


Figure 9.1. Teaching staff categories at FVETUM

Standard 9.2.- Staff involved with the study programme.

One of the strengths highlighted during the first EAEVE visit to the FVETUM was the youth of the staff and the potential for promotion of academic staff. In recent years, however, the FVETUM (as well as the Spanish public university as a whole) has reached a plateau. Causes include the economic crisis, the COVID-19 pandemic and the balance between teaching load and capacity based on UM standards. On the other hand, the university has adopted new strategies to renew the teaching and research staff, given the average age of the staff, which is over 50, and the increasing number of retirements. However, it is not easy to determine or forecast the number of FTE academic and support staff for the veterinary programme for the next three academic years, due to the above-mentioned reasons and the incorporation of new staff after the completion of the prestigious "Ramon y Cajal" grant from the Spanish Ministry (a competitive five-year research grant that recommends the recruitment of the researcher by the university in the position corresponding to the possession of the accreditation of ANECA, but no higher than Associate Professor).

The new professional admission and human resources management is particularly important in the VTH, which needs to expand or strengthen new services. For this reason, the VTH has the flexibility and capacity to recruit new staff. However, although the current student/FTE academic staff and student/FTE support staff ratios can be considered adequate and within the EAEVE recommendations, they should be improved to some extent, especially in relation to practical teaching in small groups, which requires a larger number of AS compared to other teaching activities.

However, given UM's current recruitment, its replacement policy, and the progressive ageing of the staff, it is expected that the number of FTE academic and support staff of our school will not be significantly increased by the UM over the next three academic years.

Tables 9.2.3 and **9.2.4** refer to veterinary programme support staff and FVETUM research staff.

Table 9.2.1. Teaching staff involved with the core veterinary programme

Type of contract	*2022/23*	*2021/22*	*2020/21*	*Mean*
Academic Staff (FTE)	107	102	96	**102**
PhD Students (FTE)	6	4.5	6	**6**
Postdoc Researchers (FTE)	1.3	3.3	3.3	**3**
Adjunct teachers (FTE)*	5.9	6.0	5.4	**6**
*Other** (FTE)*	3	4.3	4.3	**4**
Total	**123.2**	**120.2**	**115**	**120**

** Including practitioners and residents. ** Contracted researcher, Hired educator for substitutions.*

Table 9.2.2. Percentage (%) of veterinarians in teaching staff

Type of contract	*2022/23*	*2021/22*	*2020/21*	*Mean*
Academic Staff (FTE)	84.1	88.2	93.8	**88.7**
PhD Students (FTE)	75	66.7	62.5	**68.1**
Postdoc Researchers (FTE)	25	50	60	**45**
Adjunct teachers (FTE)*	85.1	85.4	90.7	**87.1**
*Other** (FTE)*	88.9	69.2	69.2	**75.8**

** Including practitioners and residents. ** Contracted researcher, Hired educator for substitutions.*

Table 9.2.3. Support staff of the veterinary programme

MFB				
Role	*2022/23*	*2021/22*	*2020/21*	*Mean*
Teaching support				
Permanent	41	33	45	40
Temporary	--	--	--	--
Total	**41**	**33**	**45**	**40**
VTH				
Role	*2022/23*	*2021/22*	*2020/21*	*Mean*
Teaching support				
Permanent	13	13	13	13
Temporary	--	--	--	--
Total	**13**	**13**	**13**	**13**
VTF				
Role	*2022/23*	*2021/22*	*2020/21*	*Mean*
Teaching support				
*Permanent**	10	10	10	10
Temporary	--	--	--	--
Total	**10**	**10**	**10**	**10**

**Hired by a company that manages the VTF.*

Table 9.2.4. Research staff of the VEE

Type of contract	*2022/23*	*2021/22*	*2020/21*	*Mean*
Permanent (FTE)*	96	102	107	102
Temporary (FTE)	13	12	10	12
Total (FTE)	**109**	**114**	**117**	**113**

** The permanent academic staff of the FVETUM also conducts research activities.*

The recruitment or promotion of academic and non-academic staff at FVETUM level follows a transparent procedure defined by the UM in strict accordance with national regulations. In each case, a competition is organised to which all professionals who meet the established criteria can apply.

- In the case of academic staff, the criteria include being accredited by ANECA and being trained and working in the target knowledge area. All applicants must sit the examination, which consists of two parts. In the first part, applicants must present a research project, a teaching project and their curriculum vitae, all of which must be supported by documentation. In the second part, the candidates have to give a lecture. Both parts are evaluated by the court and the candidate with the highest score is hired by the university.
- In the case of non-academic staff, the recruitment criteria include education and work in the target area of knowledge and experience and being professionally active in the field of the position in the public or private sector. A selected panel of judges evaluates the CVs of each candidate and the one with the best evaluation is recruited.

9.2.1.- Training to teach and assess students (including continuing education).

Those wishing to train in veterinary teaching and research begin their academic careers as a Master's or PhD students. During a period of pre-doctoral training (3-4 years), their training is focused on initiating both research and teaching activities. Their teaching (a maximum of 60 hours per academic year) is mainly carried out in a specific area in which their doctoral supervisor is involved, with continuous supervision. This methodology ensures the correct training of beginners, the transfer of knowledge and the application of different didactic methods, the treatment of students and different evaluation methods.

In 2022, the UM launched a new course "*Expert in University Teaching*" dedicated to UM contracted PhD students, postdocs, lecturers and assistant professors. The main objective of this course is to strengthen teacher training in the first moments of integration into university teaching. It offers training to acquire teaching skills (professional and personal) and promotes the professional development of the new teacher through a theoretical-practical training process supervised by expert teachers.

In addition, all teaching staff, regardless of category, have the opportunity to attend (or participate as trainers) various courses organised and promoted by the UM Centre for Training and Personal Development (CTPD). The CTPD is designed to train new professionals as well as to manage the continuing education of the UM teaching staff. Training includes courses on pedagogy, inclusive education, institutional management, gender equality, research and knowledge transfer, languages and bilingual programmes, occupational risk prevention, health and well-being, and IT.

Since 2010, the UM has had an Innovation Unit whose main objectives are to guide and promote collaborative groups on teaching innovation; to manage the process of evaluation and accreditation of ICT skills; to keep the university community informed on issues related to teaching innovation; and to manage calls for proposals for teaching innovation projects promoted by the Office of the Vice-President for Studies. It publishes calls for projects, called "Innovation and Improvement of Teaching Quality Projects", which allow teaching staff to apply for funding for new initiatives to improve and introduce innovative teaching techniques and to improve the quality of teaching programmes at different levels. FVETUM teachers actively participate in these calls with an average of 15 teaching innovation projects per academic year (2020/21: 15; 2021/22: 17; 2022/23: 12 projects).

There is also the Campus Mare Nostrum (CMN), the International Excellence Campus of the UM and the Cartagena Polytechnic University, which, together with research centres, public administrations, international

organisations, technology parks and companies, aims to transform the Region of Murcia into a centre of educational, scientific, productive and cultural excellence by and for the Mediterranean. Every year CMN publishes a call for proposals to promote and consolidate bilingual education projects, in which FVETUM participates every year.

9.2.2.- Support Staff Categories.

SS are classified as administrative support staff (ASS), technical support staff (TSS) and service support staff (**Figure 9.2**). ASS and TSS are graded on the basis of academic degree, responsibilities and specialisation of the position. ASS have a basic position (administrative assistant) and advanced positions (administrative), and in most cases an administrative unit has an administrative manager. Depending on the unit/department/service, the TSS position may also be basic (laboratory technician) or advanced (specialised laboratory technician), and if the number of technicians is large enough, a manager or head of service is designated for them. Usually, only the central services of the University have a Head of Technical Services.

9.2.3.- Support staff selection and recruitment.

The selection and recruitment of support staff is the direct responsibility of the UM General Manager. The General Manager decides on the number of SS positions on the basis on the UM staff report and in consultation with the trade unions. The final numbers are approved by the University Council. The UM staff report is prepared on the basis of the needs expressed by the faculties, departments and services of the UM. The University can recruit both permanent and temporary staff, and in most cases the UM has a pool of pre-selected staff (within the so-called "bag of employment") based on open calls and selection based on curriculum, work record and experience. The specific needs of faculties, departments or services are met by contacting individuals from the "bag of employment" list, which is organised on the basis of the scores obtained. These employees are recruited on a temporary basis, and in order to promote them to a permanent position (civil servant support staff), the University must define the profile and issue a public call for competition. There are different calls for different categories and different levels of responsibility.

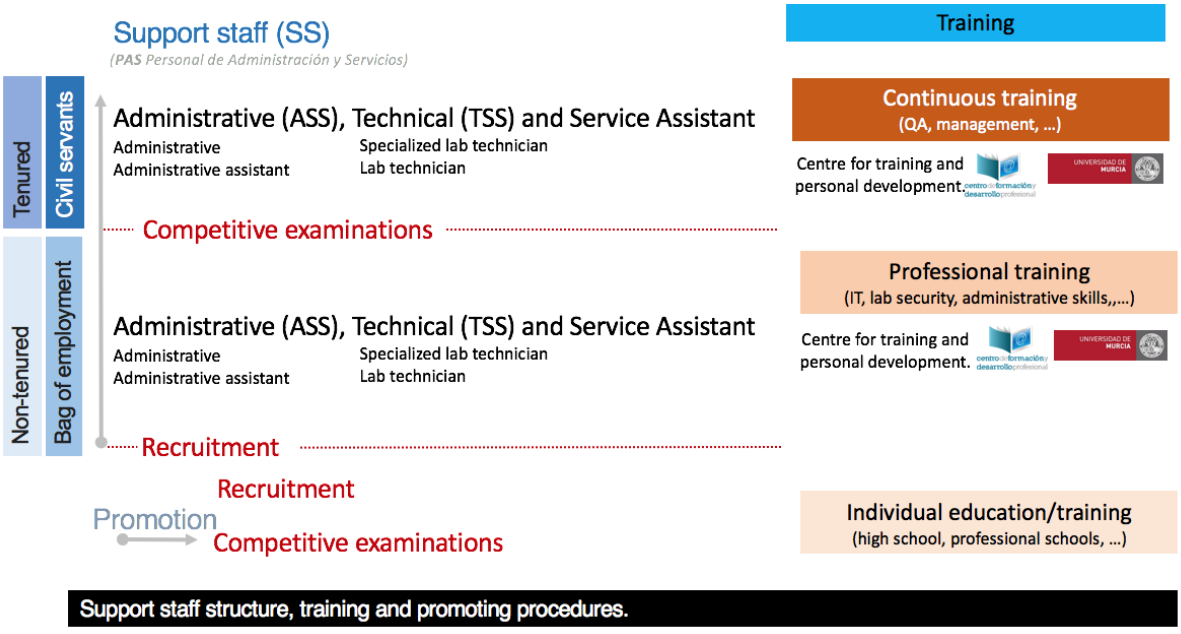


Figure 9.2. Support Staff (SS) structure, training and promoting (selection) procedures

9.2.4.- Support staff training.

The training of the SS, once recruited personnel or becomes tenure, can be defined according to the personal interests of each one and can apply to specialisation courses or obtain a new degree (Master). In addition, the University provides professional and continuous training through the CTPD. Each academic year, employees and trade unions define their training needs and draw up a training plan in agreement with the General Manager of the UM. Each employee can select and request training courses based on individual and/or professional needs/interests, which are approved by the head of the unit, service, department or faculty. This training is carried out during working hours. The diploma obtained is also considered as part of the professional record.

In accordance with Spanish legislation and University regulations, full-time academic staff may not engage in practice or other related activities outside the University and may only act as consultants if a contract has been signed between the company and the University. Based on these rules, the VCF has decided to establish an incompatibility between academic staff professors and the relationship with clinical activities outside the FVETUM.

Part-time lecturers are allowed to work in parallel, and in the case of adjunct lecturers, outside work is a prerequisite for obtaining this position.

Standard 9.3.- Opportunities for staff development.

Academic staff have a limit of 24 credits (or 240 hours) of teaching per academic year. However, this limit can be reduced due to various key activities (e.g., research or management duties or trade union membership), but can never be less than 16 credits per academic year. This is based on internal university rules that are calculated and adjusted each academic year (the so-called ValDoc, teacher assessment). On the other hand, lecturers, practitioners, and assistants are usually contracted for 60 teaching hours per academic year. PhD students have the same limit but must be supervised by experienced academic staff. Postdoctoral researchers are limited to 80 teaching hours per academic year.

The teaching excellence of all academic staff is evaluated every 5 years by the UM central services. This evaluation, called the "*quinquenio*", is based on the evaluation of the total teaching hours by the Evaluation Commission, which makes a preliminary decision that must then be approved by the targeted Department Council, and the final decision is made by the Rector. If the evaluation is positive, the evaluated teacher receives a salary increase. To date, all FVETUM academic staff have been positively evaluated.

In addition to teaching, academic staff at UM are strongly encouraged to carry out research activities. The University supports research activities through the above-mentioned ValDoc system (by reducing teaching hours) and by providing support through specialised services (i.e. Scientific and Technical Research Area (ACTI); Research Management Unit (UGI); UM European and International Projects Office (OPERUM)).

In addition, every 6 years, any member of the academic staff (except Assistant Professors) can submit documentation to ANECA to be evaluated for excellence in global research activities within the "*Sexenios*" programme. In case of a positive evaluation, the evaluated teacher will receive a salary increase. Furthermore, the possession of 3 or more *sexenios* is recognised by ValDoc by reducing the limit of teaching hours per academic year. Although the evaluation for *sexenios* is optional, most of the academic staff at the FVETUM participate and are evaluated positively.

On the other hand, UM offers various opportunities for national and international stays of staff for both teaching and research purposes. To this end, UM relies on a highly developed Internationalisation Office, which

provides information and assistance on various programmes, projects and grants to facilitate staff exchanges that lead, among other things, to the sharing and improvement of teaching and research skills.

Standard 9.4.- Professional growth, mentoring and support.

Although there is no official formal programme for the professional development or mentoring of faculty and support staff at UM, all faculty and support staff are supported and guided by internal (department, dean, vice-rector, specific university administrative units, e.g., *quinquenios* or *sexenios*, unions) and external (professional associations, ANECA) groups and associations. In this way, all staff, whether academic or auxiliary, have easily accessible information on the procedures for their professional growth, development, evaluation, and promotion.

Regarding the involvement of staff in the decision-making processes of FVETUM, both teaching and support staff are involved in the management and decision-making processes of the VEE at different levels (department, faculty, and university):

- At the departmental level, all staff can be part of the Department council (**Table 9.4.1**) and the permanent academic staff can present their candidatures for being elected (through anonymous virtual voting) for the department director and secretary (four-year term).
- At the Faculty level, all staff can be part of the FB (**Table 9.4.1**). Also, everyone is encouraged to participate in various Commissions dependent and independent on FB, Academic Master Committees and Doctoral School (Comisiones FVETUM). In addition, academic staff can present their candidacies to be elected (through anonymous virtual voting) for the position of Dean and for his/her secretary and team (four-years legislature).
- At the University level, the UM staff have the opportunity to participate in:
  - University Senate, which is the highest representative body of the University community. It is responsible for the drawing up the Statutes and other tasks assigned to it by Law. It is made up of representatives of the 4 groups (as at the faculty level), elected by anonymous vote.
  - Governing Council is the ordinary governing body of the University. It is composed by Rector and his team, Deans and representatives of University Senate among others.
  - Every 4 years, any member of the academic staff can present their candidature to be elected (by anonymous virtual vote) for the post of Rector and for the group of Vice-rector group.

Table 9.4.1. Composition, in per cents, of FVETUM Department Councils and Faculty Board.

Group	*Group composition*	*Department Council (%)*	*Faculty Board (%)*
A	*Permanent Academic Staff*	65	55
B	*Resting Academic Staff & Researchers*	5	10
C	*Degree, Master and PhD students*	30	30
D	*Administrative & Support Staff*	5	5

Standard 9.5.- A system for assessment of teaching and teaching staff.

In all cases, the quality of the teaching and teaching staff is assessed through:

- Questionnaires completed by the students. Each year, students are asked to complete an anonymous questionnaire for each professor they have had during the academic year. The questionnaire consists of 24 questions. The answers are based on a scale of 1 to 5 (1 being the lowest and 5 the highest grades). The last question summarises the "overall satisfaction" with the professor. The threshold is 3 (5 points scale) and FVETUM professors are mostly above this figure. These results are analysed by the IQAC, the new measures for improvement are proposed, and submitted to the FB for discussion and approval. The positive assessments are needed to obtain further accreditation by ANECA.

- The DOCENTIA-UM programme has been developed by ANECA and is implemented and managed by the Vice-Rectorate for QA at UM. Its main purpose is to evaluate the quality of the teaching activities of the teaching staff, in order to promote their development and recognition. The programme was optional until 2023. Nevertheless, all the academic staff of the FVETUM who requested to be evaluated within the framework of DOCENTIA-UM received a positive evaluation and 75% received the "Excellence teaching mention".

Comments on Area 9.

- The FVETUM has a highly qualified, motivated and experienced staff, and an appropriate student-teacher ratio. Academic staff are subject to pass national accreditation by ANECA, which ensures their qualification and transparency in recruitment and promotion. In addition, the high percentage of veterinarians on the teaching staff and the fact that most of the Departments involved in the Veterinary Degree are located at the FVETUM are good evidence of the clear veterinary orientation of the teaching.

Suggestions for improvement in Area 9.

- Ideally, formal programmes should be developed and implemented at University level to train new educators and support staff, and to guide teaching and support staff for professional development and mentoring. At FVETUM level, the number of EBVS diplomats and residency programmes should be increased and consolidated.

Area 10.
Research programmes, continuing and postgraduate education

Standard 10.1.- Research Activities.

The UM, and particularly the Veterinary School, is not only focused on academic excellence, but is also a key player in the world of research. Therefore, all FVETUM staff are encouraged and supported, both financially and academically, to maintain their research activities. The financial support is provided through internal UM call "Complementary Aid for Research" to all research groups proportionally based on their scientific production (JCR papers, congress presentations or posters, research grants from European, National or Regional calls, research or assistance contracts with enterprises) of the previous year.

The University's commitment to supporting research is demonstrated by the construction of two new buildings dedicated exclusively to research, Pleiades and Vitalis, in 2021. A large part of this space has been allocated to FVETUM research-active staff. However, active research groups from other faculties have also been integrated, resulting in the creation of multidisciplinary research centres that enable inter- and transdisciplinary interaction and networking. In addition, university researchers have access to facilities and support from the Research Support Services and the Office for International Research Projects, among others. In addition, the academic activities of UM academic staff are reviewed annually through the teacher evaluation process (Valdoc), based on scientific output, and reductions in teaching capacity are applied individually if different criteria are met.

Currently, FVETUM counts 32 research groups, of which 3-5 are usually ranked among the top 20, and half of them are ranked among the top 50 of the 330 research groups of the UM.

Their activities resulted in the publication of more than 336 scientific publications in peer-reviewed scientific journals (JCR-indexed journals) in the period 2020-2023 (September) (**Appendix 7**). This has contributed to the national and international recognition of the FVETUM as a research centre, which is also reflected in the recently published 2023 Global Ranking of Academic Subjects, Veterinary Sciences. The FVETUM was ranked 50th among all veterinary schools in the world and 4th among the 12 existing veterinary schools in Spain (http://www.shanghairanking.com). In addition, 7 researchers are among the 2% of the world's most cited scientists in the field of veterinary medicine in 2021 (DOI: 10.17632/btchxktzyw.4) and 8 in 2022 (DOI: 10.17632/btchxktzyw.6), according to a ranking published by Stanford University.

The research activities developed by FVETUM staff contribute to research-based education in several ways. Firstly, as teachers directly apply and transfer their knowledge during practical and theoretical sessions, students receive the latest available information, allowing them to be aware of the current situation and even, in many cases, to be aware of possible future changes based on today's research. Secondly, various activities (seminars, congresses, etc.) are carried out throughout the academic year, which not only bring students closer to the research carried out by FVETUM researchers or visitors, but also allow them to obtain credits for their curricula. Thirdly, UM is strongly committed to scientific dissemination, so that all VEE researchers are aware of its benefits and actively carry out dissemination activities. Overall, all these activities not only contribute to the scientific training of students, but also make them aware of the research lines being developed.

Table 10.1.1. List of ongoing research projects.

ID	*Financing Entity*	*Scientific Area*	*Grant/year (€)*	*Duration*
Projects funded by National Entities				
PID2019-106380RB-I00	State Investigation Agency	Physiology	50,850.89	4
PID2019-106693RB-I00	State Investigation Agency	Nutrition and Bromatology	39,600.00	4
PID2020-113493RB-I00	State Investigation Agency	Animal Medicine and Surgery	43,251.06	4
PID2020-113366RB-I00	State Investigation Agency	Physiology	57,153.19	4
PID2020-113531RB-I00	State Investigation Agency	Animal Production	33,188.57	3
PID2020-116310RB-I00	State Investigation Agency	Animal Medicine and Surgery	32,438.30	4
PCI2020-120712-2	State Investigation Agency	Animal Medicine and Surgery	41,142.86	3
PID2021-125533OR-C42	State Investigation Agency	Food Technology	40,904.91	3
PID2021-123115OB-C21	State Investigation Agency	Food Technology	51,442.29	3
PID2021-123628OB-C44	State Investigation Agency	Nutrition and Bromatology	38,617.02	4
TED2021-130685B-I00	State Investigation Agency	Animal Medicine and Surgery	102,600.00	2
TED2021-131316B-I00	State Investigation Agency	Zoology	58,200.00	2
TED2021-129998B-C21	State Investigation Agency	Food Technology	78,000.00	2
	Robles Chillida Foundation	Animal Medicine and Surgery	5,454.55	1
21864/PI/22	Seneca Foundation	Animal Medicine and Surgery	31,680.00	3
21916/PI/22	Seneca Foundation	Animal Medicine and Surgery	47,520.00	3
21935/PI/22	Seneca Foundation	Animal Medicine and Surgery	26,991.77	3
22034/PI/22	Seneca Foundation	Animal Health	17,925.94	3
22065/PI/22	Seneca Foundation	Physiology	35,451.43	3
22001/PI/22	Seneca Foundation	Physiology	26,211.43	3
Funds for investigation in addition to the Grants for Researchers hired by National agencies				
RG2020-003UM	University of Murcia	Animal Medicine and Surgery	40,000.00	5
IJC2019-039404-I	State Investigation Agency		6,000.00	3
RYC2021-034546-I	State Investigation Agency	Animal Medicine and Surgery	42,000.00	3
RYC2021-033660-I	State Investigation Agency	Animal Medicine and Surgery	42,000.00	3
RYC2021-034764-I	State Investigation Agency	Animal Medicine and Surgery	42,000.00	2
FJC2021-046798-I	State Investigation Agency	Food Technology	4,800.00	2
FJC2021-047738-I	State Investigation Agency	Physiology	4,800.00	2
Total			**1,040,224.2**	
Projects funded by International Entities				
ECDC/2019/020	European Commission	Animal Health	93,600.00	5
862919	European Commission	Animal Medicine and Surgery	256,293.75	4
2015	PRIMA	Animal Production	414,372.00	4
101060813	European Commission	Animal Health	140,968.00	5
101057690	European Commission	Animal Health	449,882.00	2
Participation in COST Actions				
CA21132	European Commission	Animal Medicine and Surgery		4
CA21124	European Commission	Animal Medicine and Surgery		4
Total			**1,355,115.8**	

Standard 10.2.- Involvement and Training of Students in Research Programs.

At the FVETUM, students are made of the importance of evidence-based medicine, scientific research, and lifelong learning:

- Directly from the educators. As mentioned above, the VEE has a strong scientific base. The importance of evidence-based medicine, scientific research and lifelong learning is therefore communicated directly to students. This is also conveyed through innovative student-centred teaching methods (e.g., flipped classrooms).
- FDP. In preparing and defending their FDP (see section **10.2.1** for more information), students put into practice the research-related skills and knowledge they have acquired during their studies.
- Academic events. Several seminars, scientific meetings and congresses are held at FVETUM during the academic year. Most of them have free access or special rates for students. In addition, in 2024 the "III National Congress for Veterinary Students" will be held at the FVETUM, where students, supervised by their teachers, will present their research work. The aim is to make this congress an annual event, organised mainly by the Student Union. In addition, this year the UM Students' Union is organising the 1st UM Students' Publishing Congress (CEUM), which is dedicated to the public presentation of the research work carried out by the students of our university. Most of the activities contribute to the elective credits of the curriculum.
- Outreach activities. The FVETUM actively participates in the outreach activities, such as the National Science Week or the European Researchers Night. In addition, the FVETUM actively shares knowledge via social media (Instagram, Twitter and Facebook) and is in close contact with the Scientific Culture Unit of the UM which helps to transfer the scientific knowledge generated, highlighting the importance of science and lifelong learning.

In addition, students are offered the opportunity to participate in research programmes on a non-compulsory or compulsory basis. FVETUM offers several non-compulsory research programmes for ungraduated students:

- Each year, the departments offer places for internal students; each department can offer as many places for internal students as there are full-time professors. Selected students are involved in the research and/ or other tasks not included in the teaching obligations of the teaching staff. This collaboration is recognised with credits for the curriculum. Students can be integrated in this programme fr.om the 1st year of study. Approximately 140 students choose this option each academic year (2020/21, 157 students; 2021/22 and 2022/23, 136 students each academic year).
- Collaboration Scholarships. Every year, the Ministry of Education and Vocational Training awards grants to students in their final year of study. The aim of this scholarship is to facilitate the participation of students to get engaged in research activities/training in UM Departments, in a way that is compatible with their studies, in order to initiate research tasks and facilitate their future professional decision (Becas de colaboración (Convocatoria 2023 - 2024) | Ministerio de Educación y Formación Profesional (educacionyfp.gob.es). The average number of Collaboration scholarships awarded to the FVETUM over the last three years has been 4 per year.
- During their undergraduate studies, students can choose internships at research centres, either in the 5th year of their degree or extracurricular practices in any year of their undergraduate studies.

In addition, UM also has its own research programme, with several funded programmes for undergraduate research training:

- Scholarships for students to participate in RDI (Research, Development, and Innovation) activities. The research groups finance students to complete their academic training through conducting internships in the field of RDI. During the academic years 2020/21, 21/22 and 22/23, a total of 4 undergraduate students received this scholarship within the FVETUM research groups.
- Research Initiation Grants. The aim is to make students interested in a research career offered by the UM in various fields and to introduce the beneficiaries to the knowledge of current scientific problems and the methods used to solve them. This scholarship has two categories: (A) Students in their final year of studies; (B) Students who have been awarded a Master's degree by the UM. In the last 3 academic years, the UM has financed 8 FVETUM students by this programme.

In addition, all students are taught and made aware of the resources and methodology related to bibliographic search. Every academic year in September, during the FVETUM Welcome Week for the new students, a conference is held by the library staff to explain the operation and resources of the scientific library of the UM. This information is put into practice throughout the year in various research-based activities. Also, during the academic year and periodically, the library organises a free course on bibliographic search methods, electronic resources and bibliographic managers for graduate and undergraduate students, with the aim of increasing students' confidence in the bibliographic search and writing of scientific papers.

The FVETUM coordinates the publication of a scientific journal called "Anales de Veterinaria de Murcia" (Veterinary Annals of Murcia), which is open access, without publication fees, peer-review system and indexed in scientific databases. This journal has a special section called "Master's/ Degree Final Project", which specially invites the publication of the FDPs of FVETUM students in the form of articles. In addition, the journal admits in this section without the requirement of peer review all papers that receive a grade higher than 9/10 by the evaluation panel.

10.2.1.- Final Degree Project (FDP).

Since 2014, based on the legal regulations (Orden ECI/333/2008), it is mandatory for all students to prepare and present a FDP worth 6 ECTS. It is a personal and autonomous work of the student whose purpose is to give an integrated account of the contents and skills that have been acquired with the rest of the subjects and/or materials that make up the study plan. However, it is developed under the supervision of one or two tutors. An FDP reflects the structure of a scientific article; it must include a bibliographic review as scientific contextualisation, introduction, hypothesis and objectives, materials and methods, results, discussion, conclusions, bibliography and summary. Once completed, it must be presented as written memoir and defended orally individually before a board of examiners made up of 3 educators responsible for the assessment.

The final grade of the FDP is deliberated by the Board of Examiners considering:
[1] The supervisors report (although this is informative only); [2] The content and form of the written work (50% of the mark); [3] The oral presentation and defence (50% of the mark).

The minimum requirements for the FDP are as follows:

- Written work:
  - Formal correction. Text free of spelling and grammatical errors.

Appropriate formal aspects: title page, page numbering, index.
  - Content adapted to the required elements, sufficiently developed and coherent.
  - Summary. Focused on the work but does not present the relevant results. It conforms to regulations.
  - Presentation. Appropriate figures, tables and illustrations.
  - Discussion. Appropriate to the results obtained.
  - Bibliography. Appropriate and located in the text.
- Oral Presentation:
  - Defense in English. Time allowed according to the rules.
  - Quality of the oral presentation. The presentation shows a good ability to synthesise. Appropriate use of text, images or supporting data
  - Clarity of Expository. Correct oral expression, but sometimes lowers the tone and does not always hold the interest of the audience. Keeps to time.
  - Responses to Examiners. Appropriate and reasoned responses to their work.

Standard 10.3.- Advanced Postgraduate Degree Programs.

10.3.1.- Professional tracks.

The FVETUM offers training for veterinary specialisation at the national level (Veterinary Specialist) as well as on the international level (European Diplomate). The current number of Specialists and Diplomates of the European Colleges among our academic staff is 23 , four of them being diplomate by two European Colleges, ECAR and ECPHM, and the number of teachers accredited by the Spanish Association of Small Animal Veterinarians (AVEPA) is 18. There are currently two approved Residency programmes accredited by the European Board of Veterinary Specialisation (EBVS), one by the European College of Veterinary Internal Medicine in Cardiology-Companion Animals and one by the European College of Veterinary Clinical Pathology. There is also a Residency in Veterinary ophthalmology accredited by the Latin American College of Veterinary Ophthalmologists (CLOVE). The following table (**Table 10.3.1**) shows the number of graduates enrolled in each programme for the years 2020-2023.

Table 10.3.1. Number of students registered at postgraduate clinical training

Training	*2022/23*	*2021/22*	*2020/21*	*Mean*
Interns				
Companion animals	4	4	4	**4**
Equine	-	-	-	**-**
Production animals	-	-	-	**-**
Total	**4**	**4**	**4**	**4**
Residents				
Cardiology (EBVS)	1	1	1	1
Ophthalmology (CLOVE)	1	1	1	1
Total	**2**	**2**	**2**	**2**

10.3.2.- Academic track.

Four Official Master Programmes (OMP) are taught at the FVETUM by academics with a research profile (accredited by the National Research Accreditation Agency, ANEP) and professionals with extensive experience (practitioners, health science and animal science veterinarians, business managers):

- Biology & Technology of the Reproduction in Mammals (BTRM). From a multidisciplinary point of view, this OMP aims to provide students with a broad and in-depth knowledge of the most relevant topics related to the professional and scientific fields of the Biology and Technology of Reproduction in mammals (including Humans).
- Nutrition, Technology & Food Safety (NTFS). This OMP provides advanced and multidisciplinary scientific training in the fields of Human Nutrition, Food Technology and Food Safety.
- Wildlife Management (WLM). This OMP trains students to develop their professional activities in the biological and health management of free-living (wild) animal species. Currently (during the academic year 2023/2024) the course is being reorganized to better adapt the current needs, and therefore, this academic year was not offered. Once the changes have been made, the course will have to be reapproved by ANEP.
- Small Animal Medicine (SAM). This OMP provides the most advanced knowledge and skills in the following specialties: Clinical Pathology and Oncology, Diagnostic Imaging, Anaesthesia, Reproduction and Obstetrics, Ophthalmology, Endocrinology, Nephrology, Neurology, Traumatology, Soft Tissue Surgery, Cardiorespiratory, Dermatology, Veterinary Emergency and Critical Care.

In Spain, the Nacional Education Regulations for Doctoral Studies were modified in 2011 to adapt them to the European Higher Education Area, being reviewed according to the procedures established by RD 99/2011. As a result, in 2013, the UM created the International School of Doctorate (EIDUM). The EIDUM is responsible for the management of doctoral programmes and doctoral students. Currently, the main Doctoral Programmes developed in the FVETUM include the PhD Programmes in Veterinary Science, Reproductive Health Biology & Technology, and Food Technology, Nutrition & Bromatology (**Table 7.2.5**). Within the doctoral programme, in addition to their research, students participate in a series of transversal and specific training activities that contribute to their scientific-technical training. These trainings include, among others:

- Ethics and Integrity in Scientific Research. Code of Good Practices.
- Electronic resources. Bibliographic Managers.
- Languages for Scientific Communication: English.
- Security in Laboratory.
- Design of Experiments and Fundamentals of Data Analysis.
- Bases for Animal Experimentation.

Both Master and PhD students are trained and must carry out research studies under the supervision of the teaching staff. Therefore, at the FVETUM, all postgraduate students (**Table 7.2.5**) must be registered for postgraduate research training.

10.3.3.- Prospected number of students registered at post-graduate programmes for the next 3 academic years.

As in the Veterinary Degree, in the Masters' and PhD Programs, the number of students admitted per year is limited. The number of places to be offered is established in the document "Master's Degree of the UM", approved by ANECA (ENQA member).

OMP BTRM, WLM and NTFS are extremely popular and oversubscribed. In these OMPs, it is expected to continue with the current trend in the next years. The OMP SAM has been the last to be implanted and presents the lowest occupation percentages (approx. 50 %). Nevertheless, a tendency to increase has been noted in the last years. No conflict is produced between post- and

undergraduate students concerning clinical cases management since postgraduates collaborate in the practical training of undergraduate students. An area of potential conflict is performing technical skills in some specific situations (for example, emergencies). The decision of who handles the case is made at the right time, depending on the skills and experience of each student and safety, but always trying to ensure that each student has the possibility of performing all kinds of procedures.

FVETUM has a close relationship with public and private veterinary institutions and associations, such as cultural associations, the Professional Board, and the National Health Service. One of the objectives of these relationships is the organization of courses for postgraduates and continuing education (**Tables 10.3.2** and **10.3.3**).

Table 10.3.2. Number of students registered at other postgraduate programmes in the VEE but not related to either clinical or research work

Courses	*2022/23*	*2021/22*	*2020/21*	*Mean*
Professional opportunities in veterinary medicine.	19	16	17	**17**
Livestock, industrial and agri-food fair, SEPOR.	52	49	50	**50**
Opportunities for the veterinary profession in the face of the environmental challenge and digitalization.			16	**16**
The human food industry as a professional opportunity for the veterinarian.	20			**20**
The importance of nutrition in dermatological problems of dogs and cats.	15	15	15	**15**
Scientific Conference Armed Forces Horse Breeding Service.	90			**90**

Table 10.3.3. Number of attendees to continuing education courses provided by the VEE

Courses	*2022/23*	*2021/22*	*2020/21*	*Mean*
Product co-creation, collaborative recycling-reuse, and sustainable consumption of meat products			26	**26**
II International congress on education in animal sciences – ICEAS			56	**56**
The future of One Health (One Health) in the face of the impact of COVID-19 on our society		50		**50**
Course on breeding, maintenance, and pathology of exotic animals		30		**30**
I University specialist in sustainable and precision porcine technology	10			**10**
Ophthalmic surgery	15			**15**
Annual symposium of Avedila	35			**35**
Double balloon enteroscopy courses	12			**12**
Endoscopic diagnosis and treatment of foreign bodies in the digestive system	15	15	15	**15**

Standard 10.4.- Quality assurance of research-based education.

The FVETUM has a dedicated Vice-Dean for Postgraduate Studies, Research and Innovation who is a member of the Academic Commissions and Committees of the Postgraduate Education Programme and follows the various activities. The

Academic Commissions of the OMP and PhD Programmes are composed by teaching staff, students of the programme and stakeholders:

- OMP Academic Commission. It is responsible for the defining and updating of the Master programme. It annually manages the student admission process, the course coordination, and the application of the QAIS.
- Academic Commission of the PhD Programme. Its mission is to evaluate the research plan and the activities of its doctoral students and to carry out an integral follow-up of the students' performance throughout their doctoral training. On an annual basis, it is responsible for the admission of students, the coordination of the activities and the application of the QAIS.
- Research Committee: It is composed of members of the DT and of the department's heads of the FVETUM. Its responsibilities include the development of scales and the evaluation of candidates for Awards for the award of the best doctoral thesis each academic year.
- Postgraduate Committee: It consists of the members of the DT, the coordinators of the different OMPs of FVETUM, students and other academic staff. Its function is to manage all the issues related to postgraduate studies.

In addition, each PhD and OMP has a Quality Assurance Committee that reviews the progress and results of the Thesis (PhD or Master) every year. These Committees are also part of the FVETUM QAIS and report to the FVETUM QAC. Periodically, regional, and national Quality Agencies evaluate our official postgraduate programmes.

Comments on Area 10.

- Research is a strong and consolidated pillar of FVETUM, based on its impact on international and national repertoires and rankings. The various instruments of interaction between the teaching staff, researchers and the undergraduate and postgraduate students have succeeded in creating an effective dynamic that manages to awaken the research interest in many of them. The requirement to develop a final Degree / Masters / PhD research project plays an essential role in the approach and training of all students to research.

Suggestions for improvement in Area 10.

- The research lines most sought after by students for their final dissertations tend to be clinical. However, these are often the areas with the greatest problems in obtaining funding and ethical approval, which limits the number of studies that students can undertake. Therefore, strategies that favour research in clinical areas of knowledge (both in terms of funding and obtaining approval) are needed to overcome this imbalance.
- It is also crucial to implement a strategic plan for training, promoting and/or recruiting graduates in the more in-demand clinical areas to ensure the sustainability of undergraduate clinical training and the continuous training of postgraduate.

ESEVT Indicators on the years 2020/2021, 2021/22 and 2022/2023

Name of the Establishment:	Facultad de Veterinaria, Universidad de Murcia (FVETUM)
Name & mail of the Head:	Gaspar Ros Berruezo, decanato.veterinaria@um.es
Date of the form filling:	1 December 2023

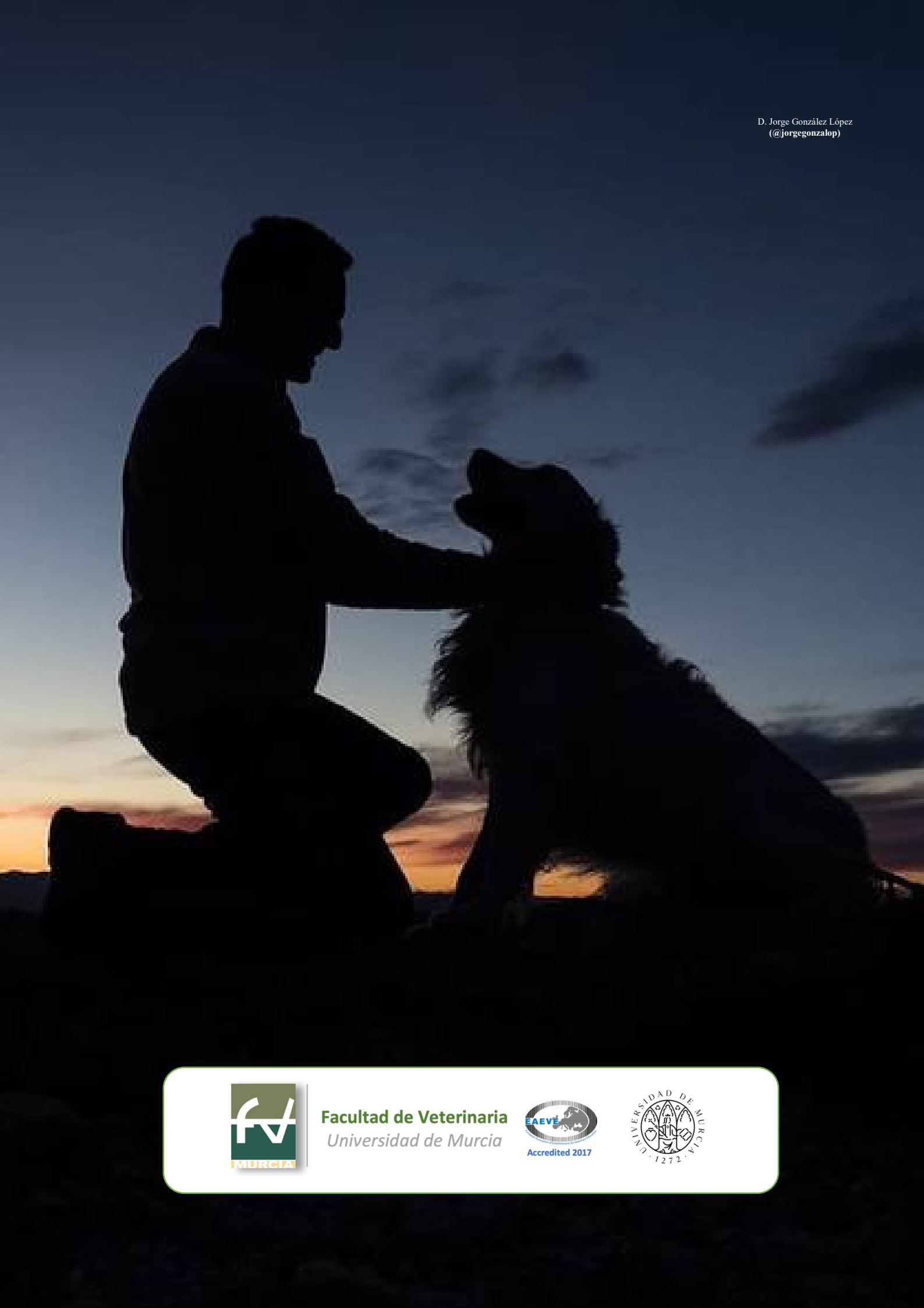
Raw data from the last 3 full academic years		***2022/23***	***2021/22***	***2020/21***	**Mean**
1	n° of FTE academic staff involved in veterinary training	123.2	120.2	115	119.5
2	n° of undergraduate students	517	529	551	532.3
3	n° of FTE veterinarians involved in veterinary training	107	102	96	101.7
4	n° of students graduating annually	109	96	77	94
5	n° of FTE support staff involved in veterinary training	64	56	68	62.7
6	n° of hours of practical (non-clinical) training	920	920	920	920
7	n° of hours of clinical training	855	855	855	855
8	n° of hours of FSQ & VPH training	300	300	300	300
9	n° of hours of extra-mural practical training in FSQ & VPH	90	90	90	90
10	n° of companion animal patients seen intra-murally	4,359	4,037	3,720	4,039
11	n° of ruminant and pig patients seen intra-murally	1,640	1,656	1,653	1,650
12	n° of equine patients seen intra-murally	234	211	196	214
13	n° of rabbit, rodent, bird and exotic patients seen intra-murally	76	101	73	83.3
14	n° of companion animal patients seen extra-murally	78	70	90	79.3
15	n° of individual ruminants and pig patients seen extra-murally	980	945	1013	979.3
16	n° of equine patients seen extra-murally	24	77	133	78.0
17	n° of visits to ruminant and pig herds	70	60	30	53.3
18	n° of visits of poultry and farmed rabbit units	225	240	261	242.0
19	n° of companion animal necropsies	80	69	60	69.7
20	n° of ruminant and pig necropsies	147	193	115	151.7
21	n° of equine necropsies	12	10	6	9.3
22	n° of rabbit, rodent, bird and exotic pet necropsies	137	194	178	169.7
23	n° of FTE specialised veterinarians involved in veterinary training	14	14	14	14.0
24	n° of PhD graduating annually	15	10	7	10.7

ESEVT Indicators

Name of the Establishment:	Facultad de Veterinaria, Universidad de Murcia, Spain
Date of the form filling:	December 01, 2023

		Values			
	Calculated Indicators from raw data	**Establishment**	**Median[1]**	**Minimal[2]**	**Balance[3]**
I1	n° of FTE academic staff involved in veterinary training / n° of undergraduate students	0.22	0.15	0.13	0.10
I2	n° of FTE veterinarians involved in veterinary training / n° of students graduating annually	1.08	0.84	0.63	0.45
I3	n° of FTE support staff involved in veterinary training / n° of students graduating annually	0.67	0.88	0.54	0.13
I4	n° of hours of practical (non-clinical) training	920	953.50	700.59	219.41
I5	n° of hours of clinical training	855	941.58	704.80	150.20
I6	n° of hours of FSQ & VPH training	300	293.50	191.80	108.20
I7	n° of hours of extra-mural practical training in FSQ & VPH	90	75.00	31.80	58.20
I8	n° of companion animal patients seen intra-murally / n° of students graduating annually	42.96	62.31	43.58	-0.61
I9	n° of ruminant and pig patients seen intra-murally / n° of students graduating annually	17.55	2.49	0.89	16.66
I10	n° of equine patients seen intra-murally / n° of students graduating annually	2.27	4.16	1.53	0.74
I11	n° of rabbit, rodent, bird and exotic seen intra-murally / n° of students graduating annually	0.89	3.11	1.16	-0.27
I12	n° of companion animal patients seen extra-murally / n° of students graduating annually	0.84	5.06	0.43	0.41
I13	n° of individual ruminants and pig patients seen extra-murally / n° of students graduating annually	10.42	16.26	8.85	1.57
I14	n° of equine patients seen extra-murally / n° of students graduating annually	0.83	1.80	0.62	0.21
I15	n° of visits to ruminant and pig herds / n° of students graduating annually	0.57	1.29	0.54	0.03
I16	n° of visits of poultry and farmed rabbit units / n° of students graduating annually	2.57	0.11	0.04	2.53
I17	n° of companion animal necropsies / n° of students graduating annually	0.74	2.11	1.40	-0.66
I18	n° of ruminant and pig necropsies / n° of students graduating annually	1.61	1.36	0.90	0.71
I19	n° of equine necropsies / n° of students graduating annually	0.10	0.18	0.10	-0.00
I20	n° of rabbit, rodent, bird and exotic pet necropsies / n° of students graduating annually	1.80	2.65	0.88	0.92
I21*	n° of FTE specialised veterinarians involved in veterinary training / n° of students graduating annually	0.15	0.27	0.06	0.09
I22*	n° of PhD graduating annually / n° of students graduating annually	0.11	0.15	0.07	0.04

[1]Median values defined by data from Establishments with Accreditation/Approval status in May 2019 [2]Recommended minimal values calculated as the 20th percentile of data from Establishments with Accreditation/Approval status in May 2019 [3]A negative balance indicates that the Indicator is below the recommended minimal value *Indicators used only for statistical purpose.



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