

# Self-Evaluation Report

Integrated Master  
**Veterinary Medicine**

Visitation by the European Association of Establishments  
for Veterinary Education (EAEVE)





## **Self-Evaluation Report**

### **Integrated Master in Veterinary Medicine**

European Association of Establishments for Veterinary Education (EAEVE)  
**2022**

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# INTRODUCTION

The University of Trás-os-Montes and Alto Douro (UTAD) (<http://utad360.utad.pt>) was established as part of a statute in 1986 (Decree-Law n° 60/86), although its history also recognizes a valuable heritage gathered from the Polytechnic Institute of Vila Real, which was created in this city in 1973. Since the beginning, the Institute has assumed a relevant role in contributing to regional development. Thus, in September 1979, the University Institute of Trás-os-Montes and Alto Douro was created, and less than 10 years later, given the universal recognition of its intense activity in the fields of teaching and scientific and technological research, the Government transformed the University Institute into a University.

UTAD is internally structured into Teaching and Research Organic Units (Schools); Research Units; Specialised Services and Structures; Transversal Teaching and Research Units; and Subsidiary Entities. The Teaching and Research Organic Units integrate the School of Agrarian and Veterinary Sciences (ECAV), the School of Human and Social Sciences (ECHS), the School of Sciences and Technology (ECT), and the School of Life and Environmental Sciences (ECVA) of a university nature, and the School of Health Sciences (ESS) of a polytechnic nature. Schools are made up of departments that are grouped by areas of related knowledge, promoting and coordinating courses, aiming at the conferral of academic degrees, as well as other training offers not conferring academic qualification, in areas of corresponding knowledge. An accredited Integrated Quality Management System (SiGQ-UTAD) promotes internal Quality Assurance (QA) policy at all levels.

Currently, UTAD is recognised as an important point of reference in the Portuguese university system, whose fundamental objectives are Teaching, Research, Extension, and Support to the Community, which should constitute a Centre of Excellence for permanent education and the creation, transmission, and diffusion of culture, knowledge, technology and innovation. UTAD has its own space within higher education in Portugal, contributing so that the shortcomings detected concerning training offers of national interest are met by choosing areas that are not yet exhausted in terms of the labour market.

The Integrated Master of Veterinary Medicine (IMVM) is allocated to ECAV, with most of its teaching staff belonging to the Department of Veterinary Sciences (DCV). Created in 1987, the course of Veterinary Medicine was the second at the national level. Its creation was both an opportunity and a great challenge, associated with a young and highly motivated teaching staff that projected the course outdoors at national and international levels. After adapting to the Bologna Process, accreditation by EAEVE was achieved in 2016, an essential achievement for IMVM and the VEE. One of the most important IMVM's strategic goals is to guarantee a high-quality veterinary education and, in close relationship with the Veterinary Teaching Hospital (VTH) which comprises a Wildlife Centre and several diagnostic laboratories, to provide excellent services to the society, as well as in the creation and dissemination of Science.

IMVM's last full visitation from EAEVE was in 2012, with the identification of two major deficiencies that were solved after a considerable effort from VEE, resulting in the improvement of Veterinary Medicine programme quality and Approval status after the EAEVE revisit in 2016. Briefly, there was an increase in the number of clinical practical hours, associated with hands-on veterinary training, as well as the implementation of Biosafety and Biosecurity measures.

The IMVM was also fully accredited by the National Agency for Assessment and Accreditation of Higher Education ([A3ES](#)), in November 2021, for six years.

Since the last visitation, it is highlighted the effort to complement the acquisition of clinical and professional skills in a real-life context, responding to the opinion of both IMVM alumni and stakeholders.

**IMVM is seeking accreditation under the ESEVT SOP 2019 (amended in September 2021).**



**Standard 1.1: The VEE must have as its main objective the provision, in agreement with the EU Directives and ESG recommendations, of adequate, ethical, research-based, evidence-based veterinary training that enables the new graduate to perform as a veterinarian capable of entering all commonly recognised branches of the veterinary profession and to be aware of the importance of lifelong learning.**

In UTAD's Strategic Plan for 2021-2025, important Axis of change are identified: Internationalization, Greater Proximity to Business Environment and Digital Transition, with Sustainability referred to as the most structuring Axis.

UTAD is a university aligned with the United Nations 2030 Agenda and with the causes of the future and the planet, being in the top 100 in 1406 worldwide universities in the Times Higher Education Impact Ranking 2022. This is a natural evolution since the creation of the EcoCampus and is also in line with the historical affinity of the core areas that make up UTAD's DNA. The areas considered to have the greatest strategic impact are: Agrifood, Health, Veterinary Sciences, Sports Sciences, Informatics, Biotechnology and Territory. Among the various institutional strategic objectives, the reinforcing and consolidating the institution's identity and positioning as a leading teaching institution in the so-called core areas such as Veterinary Sciences are highlighted. This commitment reflects the interest of UTAD in Veterinary Medicine education.

#### **UTAD's mission statement and objectives:**

1. To contribute to a better, more developed, free, and fair world, through the value of the knowledge produced and placed at the service of society, in perfect harmony with nature;
2. To provide students with the best global learning experience, training competent professionals, socially conscious, integrated and autonomous human beings, thanks to the quality of their teaching and in the light of the principles of active citizenship, respect for life and nature;
3. To produce and disseminate innovative scientific knowledge, in line with the needs of society and companies, while accelerating economic development and improving people's quality of life, being an important factor of territorial cohesion.

#### **IMVM objectives:**

IMVM has been approved by the European Association for Evaluation of Veterinary Establishments (EAEVE) since 2016 and by the National Agency for Assessment and Accreditation of Higher Education (A3ES) (last accreditation in 2021, for six years). Under Directive n° 2005/36/EU (amended by the Directive 2013/55/EU) and the recommendations for Veterinary Education, the main goal of IMVM is to provide adequate knowledge and professional skills to ensure animal and human health. A graduate in Veterinary Medicine at UTAD should express knowledge and competencies at different levels:

#### **On the intellectual plane:**

Reveal the ability to describe, express and communicate properly with different types of actors (owners, producers, senior technicians, scientists, public and consumers in general) issues that could be considered relatively complex; produce results and perform analysis applying the scientific method and perform structured lifelong learning.

#### **On the professional and academic plane:**

Be able to ask about the methodologies used in their field of work and demonstrate the ability to gather scientific knowledge in their formative area.

**In terms of practical activities:**

Reveal high capacity for analysis and intervention on practical issues in a professional context; making decisions, justifying them based on scientific knowledge within the respective domain; be able to take business initiatives.

The curriculum is an interdisciplinary approach to prepare Veterinarians for various possible ways of their professional life and includes Curricular Units (CU) essential to attain the official goals of the IMVM's Regulation:

- Acquisition of clinical skills in relation to companion animals, exotic species and wild species, sports species, and zootechnical species (livestock farming);
- Acquisition of skills to assist companies: nutrition and feed production business, production of animal medicines, biotechnology and diagnostics;
- Acquisition of skills in the assessment and promotion of animal welfare on farms, transport and slaughter of animals for food;
- Acquisition of skills in food technology including the study of production processes of animal origin food products;
- Acquisition of skills in the context of food safety for meeting obligations in the private or public sector, specifically about the tasks inherent to the function of an Officer Veterinary in terms of audits and the Sanitary Inspection of food of animal origin, thus ensuring food quality, hygiene and safety in the context of One Health;
- Acquisition of skills for carrying out functions concerning National, European and International bodies responsible for regulatory actions on Animal Health and Public Health;
- Acquisition of skills for the performance of teaching initiatives and research in various areas.

The VEE is firmly convinced that its aims are consistent with the highest quality standards, namely EU Directives, and EAEVE standards.

There are some specific professional areas through which the VEE has the potential to be differentiated from others at the National level, most of them determined by its geographic region. One example is the area of Wild Animal Medicine, due to the specific facilities available and the high number and variety of animals received. The Animal Production area has the advantage of having a large number of autochthonous breeds that have their birthplace in the North of Portugal. Research into quality and safety in products of animal origin is also enhanced by the variety of breeds.

IMVM Course Directive Board (CDB) is firmly convinced that its aims are consistent with the highest quality standards for graduate students to perform as a veterinarian capable of entering all commonly recognised branches of the veterinary profession and is also aware of the importance of lifelong learning.

In addition to an adequate curricular plan, the commitment to lifelong learning, and the provision of extracurricular training for students in the various areas of competence of the Veterinary profession also guarantee our goals. Seminars, congresses or training courses, are frequently co-organised with the Association of Veterinary Medicine Students of UTAD (AEMV) (see Area 10) and with the support of the Ongoing and Executive Training Office, a support service that is part of the Education, Training and Pedagogical Innovation Office (GEFIP). It develops its main activity in the area of training, namely continuing pedagogical training for academic staff or professional training. Examples include the Course on Beekeeping, Hunting Health Inspection and Laboratory Animal Science, all with several editions.

The contact between IMVM academic staff and students with former students is an important link with the labour market, and external stakeholders have a relevant participation in curricular or extracurricular events and the offer of traineeships. Alumni are interviewed in surveys, coordinated by the GEFIP, about aspects of their professional life and the relationship between their professional activity and academic training, informing on the employability of graduates and difficulties experienced in the performance of the professional activity. This closeness to the alumni is evidenced by the development of an Alumni UTAD Association, fostering the connection with its former students. In addition, the GEFIP makes the connection between UTAD and employers, listening to their opinions, feedback and criticisms and promoting recent graduate insertion in the job market. This Office also provides programs

and activities with external stakeholders, promotes job fairs and encourages entrepreneurship through the UTAD Business Incubator. Also, in collaboration with the Course Committees, it promotes Curricular Internships in a work context, through the establishment of protocols with external institutions.

Also proof of the institutional commitment to undergraduate training in all the recognised branches of the veterinary profession, is the increasing commitment to Doctoral Programs such as Veterinary Sciences, with the main objective of training researchers, capable of producing knowledge through research activities, from a fundamental or applied perspective, in the various branches of Veterinary Sciences: Clinical, Food Quality and Safety, Animal Health and Biomedical Sciences; and the Doctoral Program in Animal Science, aimed at the knowledge of animal science in any of its domains.

**Standard 1.2: The VEE must be part of a university or a higher education institution providing training recognised as being of an equivalent level and formally recognised as such in the respective country.**

In 2019, UTAD obtained Institutional accreditation from the Portuguese Agency for Assessment and Accreditation of Higher Education (A3ES). IMVM was evaluated by A3ES in 2021 and obtained accreditation for the maximum period (6 years).

- **Name of the Establishment:** University of Trás-os-Montes and Alto Douro (UTAD)/ Integrated Master in Veterinary Medicine (IMVM)
- **Address:** Quinta de Prados, 5000-801, Vila Real, Portugal.
- **Telephone:** (+351) 259 350 000: **Website:** <https://www.utad.pt/en/>
- **Head of the Establishment UTAD:** Rector - Prof. Emídio Gomes
- **President of the School of Agrarian and Veterinary Sciences (ECAV):** Prof. José Luis Mourão
- **Director of Integrated Master of Veterinary Medicine (VEE) responsible for the veterinary curriculum of VEE:** Prof. Adelina Gama (DVM)
- **Veterinary Teaching Hospital (VTH) Director and person(s) responsible for the professional, ethical, and academic affairs of the VTH:** Prof. Filipe Silva (DVM)

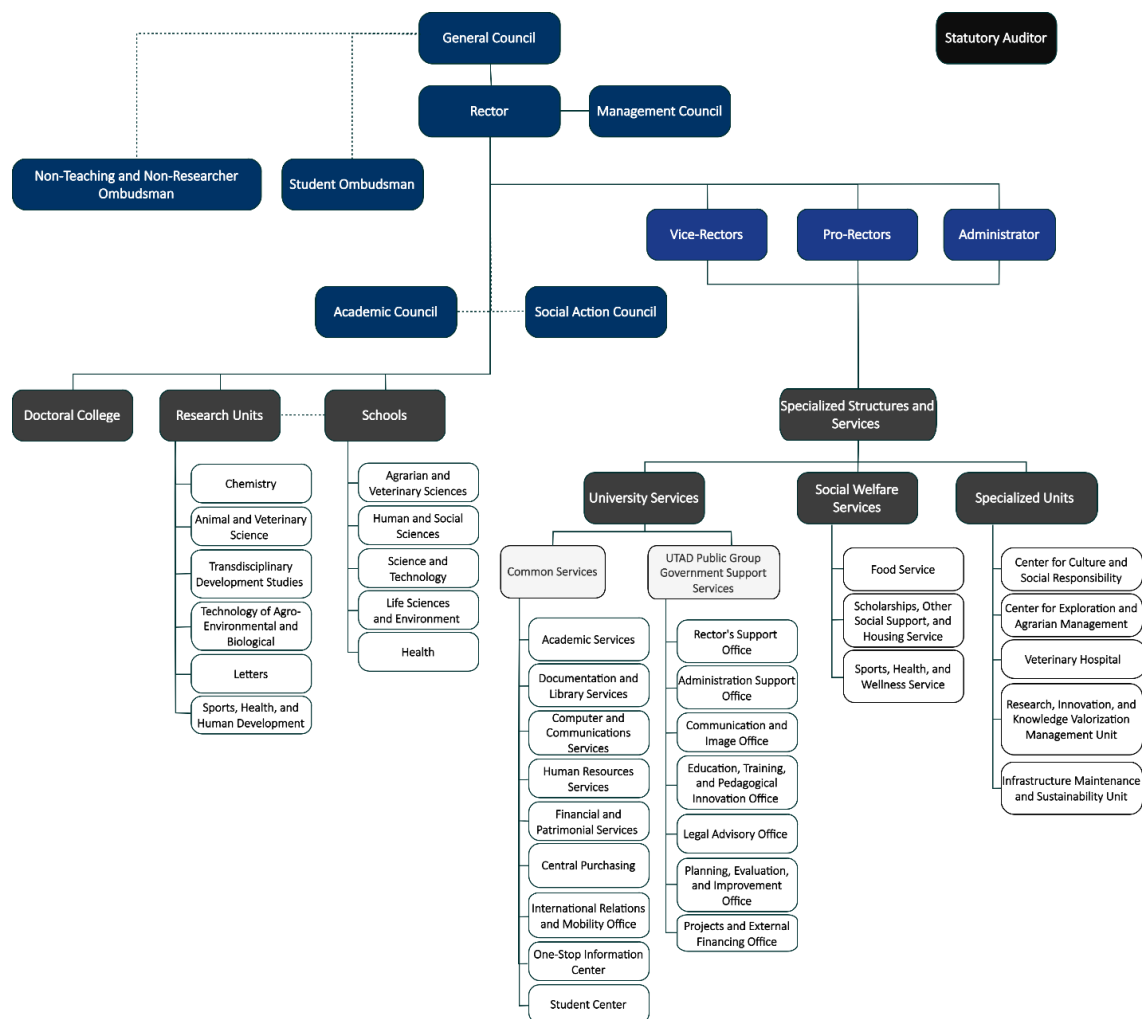
UTAD integrates the following bodies: General Council (CG); Rector; Management Board (CGe); Student Ombudsman; non-teaching and non-research staff Ombudsman and Academic Council (CA). UTAD' structure is illustrated in Figure 1.1.

The CG is composed by 13 members of the academic staff and researchers, four students and one non-teaching staff, elected by their respective colleagues; in addition, seven external personalities of recognised merit are proposed as members by the elected ones. CG is responsible for electing the Rector, evaluate and monitor the actions of the CGe and approve the medium term strategic and action plans for the quadrennium of the Rector's mandate. At present, three IMVM's academic staff members – Professors Maria dos Anjos Pires, Miguel Rodrigues and Luis Ferreira – belong to CG.

The Rector, elected by the CG, leads and represents the University, is the governing body of the University's policy and presides over the CGe. The Rector is assisted by a team of Vice-Rectors and Pro-Rectors freely appointed by him, which constitute the Rectoral team; Prof. Cristina Saraiva, from academic staff of IMVM, is the Pro-Rector for Partnerships and International Relations.

The CGe is composed by the Rector, who presides, by a Vice-Rector appointed by him and by the Administrator, responsible for the administrative, patrimonial and financial management of the University, as well as the management of human resources; a School President also integrates this body, on a rotative way. The Administrator is responsible for the Common Services, whose activity coordinates and supervises, controlling the administrative and financial regularity and ensuring their good management.





**Figure 1.1.** University of Trás-os-Montes and Alto Douro (UTAD)’s structure

The Ombudsman for Students and the Ombudsman for Non-Teaching Workers are responsible for defending the rights of Students and of Non-Teaching workers, respectively.

The CA’s mission is to promote cooperation and coordination between the Scientific Councils (SC) and the Pedagogical Councils (PC) of Schools and Organic Research Units. It is composed by the Rector (who presides), the Presidents of the five schools, the Presidents of the School’s SC and PC, the Directors of the Organic Research Units (including UTAD's Research Centres or Associated Laboratories), a student representative from each School (elected by PC student members), the President of the Academic Association of UTAD. Since 2021, the IMVM academic staff members, Prof. Patrícia Poeta (President of the SC of ECAV) and Prof. José Eduardo Pereira (President of the PC of ECAV) take part of this management body, as well as the Representative of ECAV students (Beatriz Oliveira), an IMVM student. Further information on the composition and competencies of these institutional bodies are described in detail in the Statutes of UTAD.

UTAD is internally structured in: Organic Teaching and Research Units (Schools); Research Units; Specialised Services and Structures; Transversal Teaching and Research Units and Subsidiary entities. As previously described, UTAD has five Schools organised in the following managing bodies (Table 1.1).

**Table 1.1.** Structure of UTAD's School

Management bodies	University nature
School	President Scientific Council Pedagogical Council
Department	Department Director Department Council
Scientific and pedagogical management bodies of study cycles	Course Director Course Committee

The Research & Development (R&D) Units are structures directed toward the continuous performance of research tasks, the transfer of science and technology, the dissemination of culture, and the provision of specialised services. UTAD contains the following R&D Units: Chemistry Centre - Vila Real (CQ-VR); Animal and Veterinary Research Centre (CECAV); Centre for Transdisciplinary Studies for Development (CETRAD); Research Centre in Sports Sciences, Health Sciences, and Human Development (CIDESD); Centre for the Research and Technology of Agro-Environmental and Biological Sciences (CITAB); and Centre for Language Studies (CEL).

The Specialised Services and Structures of the UTAD public group are central and shared support services, specialised in mission areas, to the governance of the university, integrating, as macrostructures, the University Services, the Social Services, and the Specialised Units.

The University Services macrostructure integrates the following units: Common Services (Academic Services, Documentation and Library Services, Computer and Communications Services, Human Resources Services, Financial and Assets Services, Purchasing Central, International Relations and Mobility Office and Integrated Information Desk; and Student Space) and Public Group Government Support Services (Rector's Office; Administration Support Office (GAA); Communication and Image Office (GCI); GEFIP; Legal Advisory Office (GAJ); Planning, Evaluation and Improvement Office (GPAM) and the Projects and External Funding Office (GPFE).

The Social Services macrostructure integrates the Food Service; Scholarship Service, other Social Support and Accommodation; Sport, Health and Welfare services, having implemented an integrated management system covering food quality and safety.

The Specialised Units depend on the Rectoral team and support teaching, research, and the provision of specialised services. The VTH and the Agricultural Management and Exploration Centre (CEGA) are specialised structures. In addition, there is an Infrastructure Maintenance and Sustainability Unit (UMIS), whose mission is to ensure the planning, management and supervision of works, maintenance and conservation of the University's buildings, equipment and outdoor spaces, as well as coordinating the environmental sustainability.

UTAD also comprises the Doctoral College as a Transversal Teaching and Research Unit that coordinates teaching and research activities at the 3<sup>rd</sup> cycle (PhD course) and advanced training.

There are also committees of an advisory nature that are essential for the functioning of the university, such as the Ethics Committee; Biosafety Committee; Animal Welfare Committee (ORBEA) and Commission for Citizenship and Gender Equality.

IMVM is based on the ECAV Organic Unit for Teaching and Research, although it cooperates with other Schools (ECVA, ECHS).

ECAV's management bodies are the President (appointed by the Rector from among the School's teachers and researchers, following consultation with the Department Directors), the SC and the PC. ECAV has four Departments that are grouped by related areas of knowledge: Agronomy; Veterinary Sciences; Forest Sciences and Landscape Architecture and Animal Science.

The governance model of ECAV is defined in UTAD's Statutes. SC and PC bodies are composed of elected School representatives. The SC is composed of 11 representatives, including nine representatives of academic staff/researchers of different departments of ECAV and two representatives of the research centres (CECAV and CITAB). These members are elected by all the Academics and Career Researchers of ECAV, with a PhD degree, working on a full-time basis, with contracts of at least one year. SC is headed by the President, elected among the elected representatives, who nominates a Vice President and a Secretary.

The SC competences include the assessment of the scientific activity plan of ECAV, the pronouncements on the creation, modification and/or extinction of departments and research units, as well as regarding the creation of courses, and approval of ECAV course study plans. At this moment, eight of the elements of SC belong to the academic staff of IMVM, including the President.

The PC is composed of 18 members, including nine representatives of the academic staff of ECAV (including representatives of each Department) and nine student representatives (including representatives of ECAV courses). Both teachers' and students' representatives are elected by their pairs. PC is headed by the President, elected among the teachers' representatives, who nominates a Vice President and a Secretary. PC competences include the decision of pedagogical guidelines as well as teaching and evaluation methods, the analysis and disclosure of survey results on the pedagogical performance of academic staff addressed to students, to assess complaints related to pedagogical flaws and propose the necessary measures for rectification, the nomination of course directors and ensure the constitution of course committees, the pronouncement on the creation of courses and the study plans of courses offered by ECAV and on the academic calendar and the examinations timetable, among others. At this moment four elements of PC belong to IMVM academic staff including the President, and three students are also IMVM students.

The Departments are organic sub-units aimed at carrying out the tasks of teaching, research, sharing science and technology, disseminating culture and providing specialised services, constituting the organizational base of ECAV. Most of the academic staff involved in IMVM teaching belong to the Veterinary Sciences Department (DCV), which currently includes 41 members, of which 36 of them are Doctors in Veterinary Medicine (DVM), four are Zootechnic Engineers and one is Biologist. Academic staff from other departments, such as the Department of Animal Science and other Departments from the School of Life and Environmental Sciences teach specific CU, for example, of Basic Sciences subjects.

The most important bodies for pedagogical management of the IMVM are the Course Director (CD) and the Course Committee (CC). According to the UTAD's statutes, the IMVM's Director (an academic of the dominant scientific area, i.e., the one with the highest number of ECTS) is appointed by the PC, under the proposal of the Director of DCV (the department to which the dominant scientific area is allocated). IMVM's CD competences include: to ensure the normal functioning of the course and ensure its quality; to collaborate with the department directors involved in the course in the distribution of teaching services; to prepare proposals for the organization or alteration of the respective course; to pronounce on the accreditation processes; regularly listen to the teachers and students of the course with a view to its proper functioning; to prepare self-assessment reports and all procedures related to course accreditation; to propose the constitution of juries for academic evaluation; to promote the dissemination of the course, the integration of new students in the academic environment and interacting with student associations; to propose two or more academics for the constitution of the CC, among the academic staff of the course, one of whom must belong to one of the non-anchor departments. At present, CC is composed of the CD (Prof. Adelina Gama), who presides, a Vice Director (Prof. João Requiça) and three professors who teach in the course (two from DCV, Prof. Maria da Conceição Fontes and Prof. Maria João Pires, and one from the Department of Animal Sciences, Prof. Bruno Colaço), appointed by the PC, on the proposal of the CD, that constitutes the CDB, as well as two students elected by their colleagues. The Committee collaborates with the CD in the tasks assigned to him; promotes curriculum coordination; comment on proposals for organization or alteration of study plans, on the teaching service needs and in the preparation or submission of the course regulations to the competent authorities.

***Learning and teaching IMVM decision-making process:*** The Course Annual Report (RAC) is prepared annually by the CC, in which the weaknesses and bottlenecks experienced by the different participants of the course (students and teachers) are identified. This report is based on the information from the Curricular Unit Reports (RUC) prepared by the Regents of each Curricular Unit (CU); student's pedagogical surveys (QP); success and dropout reports and any other type of relevant information. This report is analysed by the Course Analysis Committee (CAC) composed by the President of the PC, two members of the PC (a teacher and a student), the CD and the two students that belong to the CC. CAC is responsible for validating the improvement actions proposed by the CC, identifying constraints,



proposing changes and preparing and monitoring the Course Improvement Plan (PMC) in aspects related to teaching and learning (Appendix 6.1.1).

**Decision process related to the need to investment in structures, equipment or any type of expense related to IMVM:** RAC also reports weaknesses and bottlenecks related to these subjects, bringing this information to the PC. The Department Director is also informed of these constraints through the UTAD's formal information system (GesDoc), and also during DCV Council meetings. The ECAV's PC and the DCV Director communicate concerns and bottlenecks to the ECAV's President, who can decide on small investments.

**Decision process related to define a cohesive study programme in compliance with the ESEVT:** The decision-making process of the IMVM study program at UTAD is described in Standard 3.3.

**Decision process related to the implementation of IMVM's strategic plan:** The definition of the IMVM's Strategic Plan is in line with ECAV's Strategic Plan, which is aligned with UTAD's Strategic Plan. Its preparation is in charge of the CC, which takes into account the RAC, surveys obtained from stakeholders, alumni, as well as information resulting from reflections from the DCV Council meetings and other relevant ones. IMVM's Strategic Plan is presented on Standard 1.3.

**Description of formal collaborations with other VEE establishments:** In order to allow the students to attend external activities (clinical, research or others), VEE has several agreements with other VEE establishments. Arising from the Erasmus program, VEE has agreements with 26 VEE Establishments from 14 countries. VEE also has agreements with 17 Brazilian VEEs, standing out is the collaboration with the University of São Paulo and University of Brasília, and Faculty of Veterinary Medicine of Kagoshima University in Japan (Appendix 6.1.2). Through the Almeida Garrett student mobility program, exchanges with other public Portuguese VEEs, such as Lisbon and Porto, have been carried out.

**Standard 1.3: The VEE must have a strategic plan, which includes a SWOT analysis of its current activities, a list of objectives, and an operating plan with a timeframe and indicators for its implementation.**

The IMVM's Strategic Plan (Appendix 6.1.3) represents the vision for continuing a trajectory of innovation and impact at the Academy, setting the road map for the future four years, stating the IMVM's goals, how success will be measured and the initiatives to achieve the goals. This plan was developed in close alignment with the ECAV and the UTAD's Strategic Plans. The document includes: an introductory note, a context analysis, a SWOT analysis, the Mission, Vision and Values, the Strategic objectives, the Action plan and the operating plan with a timeframe for its implementation.

## **IMVM's SWOT analysis**

### **Strengths**

1. The geographical location of UTAD, near a rural area, allows frequent interaction with both domestic and wild animals, and with farms (some dedicated to the autochthonous breeds);
2. The multidisciplinary of the IMVM allows the student to acquire skills in diverse professional activities;
3. High-qualified, experienced and dynamic academic staff. Good teaching/learning environment based on a close relationship between teachers and students;
4. High-quality and motivated students, most enrolled in the course program as their 1<sup>st</sup> choice. Dynamic involvement of the students in research activities and in the co-organization of technical and scientific events, through the Veterinary Medicine Students Association;
5. Adequate facilities and equipment to ensure quality educational offer in veterinary medicine, including a VTH, a Wildlife Rehabilitation Centre and zootechnical facilities;
6. Existence of two research centres at UTAD rated as Very Good by Foundation for Science and Technology (FCT) that include most academic staff, associated with excellent facilities (bioterium and well-equipped laboratories) suitable to support research in Veterinary and Animal Sciences;

7. Good support services for students, such as Central Library and the Social Services of UTAD, including residences, canteens and a health unit with medical and nursing consultations;
8. Existence of a Biosafety Commission and the Biosafety Unit of IMVM (BU-IMVM);
9. Existence of an Integrated Quality Management System (SiGQ-UTAD) and a Work Committee for the Implementation of SiGQ-IMVM;
10. International recognition after approval by The European Association of Establishments for Veterinary Education (EAEVE), on November 23<sup>th</sup>, 2016.

### ***Weaknesses***

1. Lack of management autonomy; IMVM depends on the university's regulations and decisions;
2. Teaching overload in some areas of teaching, associated with high amount of time/resources spent in bureaucratic activities, limits the time available for extension activities and scientific production;
3. Despite recent opening positions for Associate and Assistant Professors, there is still a suboptimal number of teachers;
4. Difficulty in retention of clinical staff of the VTH;
5. Difficulty in promoting specialization of the clinical staff;
6. Teacher evaluation system inadequate to the relevant clinical working at the VTH.

### ***Opportunities***

1. In a political, economic and social context, IMVM can contribute to local and regional development, within the scope of its fields of activity;
2. Recognition of the IMVM quality of teaching by stakeholders allows students to develop practical trainings in a real work environment, giving them opportunities for future integration into the labour market;
3. Partnerships with the Hospitalar Centre of Trás-os Montes and Alto Douro, the National Health Institute Dr. Ricardo Jorge and the School of Nursing of UTAD, with the objective of creating a collaborative network in the field of One Health;
4. IMVM teachers' participation in decision-making institutional bodies, such as the University CG and the Rector's Team;
5. The organization of scientific events promoted by the Veterinary Medicine Students Association in collaboration with IMVM teachers allows the updating of knowledge and a close relationship between teachers/ students and extramural researchers and professionals;
6. A continuous implementation of training will allow an update of scientific knowledge, ensuring a lifelong learning system;
7. The enrollment of IMVM teachers in Residency Programs will increase the number of European Specialists;
8. The existence of mobility programs, with the exchange of students and teachers between VEE and national/foreign Universities, can stimulate interinstitutional collaboration in teaching and research;
9. The plan of Recovery and Resilience of Portugal (PRR).

### ***Threats***

1. Dependence on public funding, in times of serious financial constraint, with consequences for the allocation of human and material resources;
2. The decrease in the birth rate in Portugal will translate, in the medium term, into a decrease in the number of students entering Higher Education;
3. The budgetary reduction of the FCT and the consequent reduction in research funding;
4. The dependence on private economic operators to carry out practical classes in a real work environment;
5. The natural attractiveness of institutions located on the coast, including new private veterinary schools.

**Standard 1.4: The VEE must have a policy and associated written procedures for the assurance of the quality and standards of its programmes and awards. It must also commit itself explicitly to the development of a culture which recognises the importance of quality, and quality assurance, within their VEE. To achieve this, the VEE must develop and implement a strategy for the continuous enhancement of quality. The development and implementation of the VEEs strategy must include a role for students and other stakeholders, both internal and external, and the strategy must have a formal status and be publicly available.**

UTAD's commitment to quality management and quality assurance has been a strategic objective for several years, gradually evolving to promote a culture of quality across the different organizational processes, and contributing to excellence in all areas of activity. Currently, the scope of its Integrated Quality Management System (SiGQ-UTAD) comprises teaching and learning, research, collaboration with society, internationalization covering schools, services and specialised structures of UTAD.

Following an external audit of the Internal System of Quality Assurance in 2019, the A3ES certified the SiGQ-UTAD for six years, the highest possible outcome, therefore certifying the institution's compliance with the reference framework for internal Quality Assurance systems in Portuguese higher education institutions, in consonance with the European Standards and Guidelines (ESG 2015) and the applicable legal requirements.

#### **Quality assurance alignment - Institutional level**

UTAD's Quality Policy, aligned with the institutional strategy, in sharing the mission, vision, and values of the University is published on the website and showcased within the campus, providing clear guidelines for achieving the goal of global quality:

- Promote a culture of quality transversal to the various axis of the institutional mission and support services;
- To encourage the involvement of the whole academic community in a strategy of differentiation by quality;
- Promote the relationship with students and other stakeholders, developing solutions in line with their needs and expectations to increase their level of satisfaction;
- To foster commitment between the organization and the employees, promoting participative internal communication, management by objectives, and the continuous training of all employees, as a basis for growth and innovation;
- To recognize suppliers and other relevant stakeholders as important partners, privileging those who respect compatible quality standards;
- To foster the sustainable management of resources, the well-being of people, and the social responsibility of the organization;
- To keep active and in constant improvement, the SiGQ-UTAD, integrates the NP EN ISO 9001:2015, Standard, with the Standards for Agency for Assessment and Accreditation of Higher Education and with other standards adopted nationally and internationally;
- To ensure full compliance with applicable laws and regulations.

The SiGQ-UTAD ensures continuous improvement of all dimensions of the institutional mission, promoting and monitoring the implementation of quality management systems in its various forms, through participatory and monitored actions of all stakeholders, partners, and interested parties.

The principles of operation and organization of SiGQ-UTAD, as well as the constitution and competencies of the Quality Monitoring Commission, which includes student representation, are based on the Regulation of the Integrated Quality Management System.

In order to guarantee quality standards embedded in all activities and in all units, SiGQ-UTAD is supported by the Strategic Plan, the Integrated Quality Management System Manual; Annual Activities Plan and Evaluation and Accountability Frameworks (QUAR); Activities and Financial Reports; SiGQ-UTAD System Review Report and UTAD Processes map and list.



The planning, implementation, and evolution of SiGQ-UTAD are based on a continuous improvement methodology, in which the actions of the cycle Plan, Do, Check, and Act (PDCA) are inherent to a global vision of the performance of all processes that structure the system. The processes were elaborated upon according to a vision of organisational transversely, which allows better control of the system's integration, ensuring effectiveness and efficiency in the development and monitoring of all UTAD's organizational activities.

SiGQ-UTAD processes are classified into:

- Overall management processes that define the strategic directions to be applied by core and support processes; include planning, monitoring, evaluation, analysis, and improvement activities;
- Nuclear processes that support the achievement of UTAD's missions;
- Support processes that support the implementation of the global and core management processes, ensuring the availability of the necessary resources, in compliance with European and/or international standards, benchmarks, and applicable legal requirements.

SiGQ-UTAD is structured according to the processes map represented in Figure 1.2.

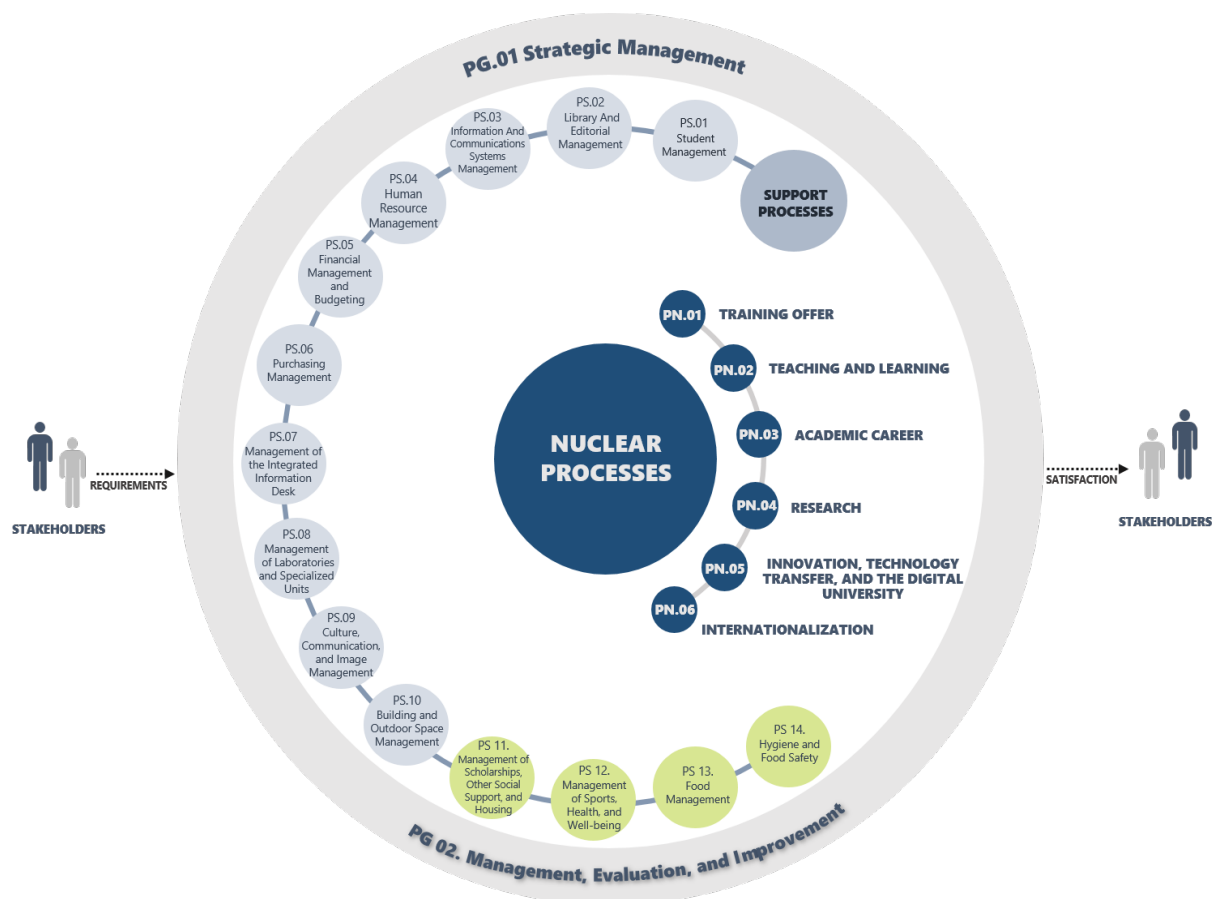


Figure 1.2. SiGQ-UTAD processes map

The GPAM supports the implementation and monitoring of the different management systems (Figure 1.3) adopted by the institution.



**Figure 1.3.** Implementation and monitoring of the different management systems

### **Quality assurance alignment – ECAV and VEE level**

VEE complies with the principles defined by the university, actively engaging with the established quality procedures.

In each School, exists a School Quality Commission (CQE), which includes students, that carries out the implementation of the SiGQ-UTAD. CQE competencies include:

- Implementation and dissemination of the Quality Policy at School;
- Promotion, coordination and guarantee of the implementation of the SiGQ-UTAD in the School;
- Monitoring and recording of the School's activities, based on defined indicators and targets;
- Develop the Activity Plan and Activity Report, proposing improvement actions to GPAM;
- Monitoring the implementation of the School's improvement and corrective actions;
- Collaborate on other quality matters.

The belief that Quality aspects are fundamental for the continuous improvement of the IMVM, both in terms of training and in relation to aspects related to Research and the provision of services abroad, led the DCV, in line with the IMVM's CC, VTH and CEGA Directive Boards, to create the "Work Committee for the Implementation of SiGQ-IMVM", composed by elements of the aforementioned boards and by the President of ECAV. This group has the mission of establishing Quality Procedures considered indispensable and/or specific to the IMVM. This work is being carried out in collaboration with the GPAM, with the aim of being integrated into SiGQ-UTAD.

**Standard 1.5: The VEE must provide evidence that it interacts with its stakeholders and the wider society. Such public information must be clear, objective and readily accessible; the information must include up-to-date information about the study programme, views and employment destinations of past students as well as the profile of the current student population.**

Interinstitutional and community collaboration is a mission of UTAD. This collaboration is evidenced by UTAD's participation in various organizations:

- Council of Rectors of Portuguese Universities;
- International networks, such as European University Association, Tordesilhas Group, Compostela Group of Universities and Mediterranean Universities Union;
- Network of Southwest Europe and Council of Rectors of Southwest Europe, which includes North and Central Portugal, Galicia, Castilla and León and Asturias;
- Iberian Network of Cross-Border Cooperation Entities;
- Permanent Committee of the CCDR-N Regional Council;
- Trás-os-Montes Science and Technology Park, Regia Douro Park and network of Science and Technology Parks in the North (Portusparque);
- National innovation networks, such as COTEC, Inovar and GAPI;
- Thematic networks and national clusters such as PortugalFoods, ADVID, Forestis, Associação Indústria da Madeira.

It also participates in different regional networks/associations: Empreendouro with CCDR-N; Douro Museum; Environment-LPG; Agriculture-IDARN; Forest-Pinus; Meat Technology- TecMeat; Vila Real Science Centre; Animal Protection - CIARA; Tourism - AETUR). Participates in competence centres, innovation projects and knowledge transfer (PDR, SIAC, Interreg, Co-promotion).

UTAD is present at events held in the region, in order to consolidate its involvement with the community and the development of the territory. To provide specialised services, a services and skills catalogue was developed. The registration of industrial property, namely national and international patents, derived from projects is also an important point of UTAD's collaboration with the community.

In the events organised by the Academic Staff and the AEMV, there are often moments of reflection/discussion between stakeholders (including employers, practitioners and Alumni), academic staff, and students on the specific and present requirements of the veterinary profession. This is an important source of information to define the Strategic Plan of the VEE. As important, is the organization of events in collaboration with different organizations such as the Portuguese Veterinarians Order (OMV), the Veterinarians Syndicate (SMV) and the Portuguese Society of Veterinary Sciences (SPCV) which, among its various functions, stands out for the defense of the general interests of the profession, its social function, its dignity and its prestige. Some members of the VEE Staff are part of the governing bodies of these professional organizations, such as the Portuguese Association of Veterinarians Specialists in Companion Animals, the Portuguese Buiatrics Association and the World Small Animal Veterinary Association (WSAVA). This closer collaboration helps the IMVM's CC in the identification of relevant "constraints" of the course and on specific measures to improve the study plan.

UTAD as a public institution has to show clear information on its teaching and research activities. UTAD vision, objectives and Strategic Plan are available on its website. The IMVM program, entry requirements and acquired skills are also easily available for the public on the UTAD webpage. Among the communication tools used are the institutional website, the News page, the Events page, the UTAD Magazine, the UTAD-TV, Universidade FM Radio, social networks (Facebook, Instagram, Twitter) and the internal email network.

External communication is also based on the dissemination of press releases made by the Communication and Image Office (GCI). In addition to electronic media, the University also invests in resources that are also distributed in printed form, such as the UTAD Magazine and the leaflet "UTAD in Numbers".

The GCI develops initiatives to approach and attract new audiences, through events for the dissemination and promotion of scientific culture, including the presence of VEE in Secondary Schools and vocational fairs, the Open Day, UTAD Júnior, the Science and Technology Week and guided tours on the UTAD campus.

In addition to the described forms included in the Institutional communication plan, there is also frequent contact with Alumni and Stakeholders which are important ways of disseminating IMVM information and receiving feedback on the improvement of the IMVM course. Information about the occupational situation of the graduates and profile of the current student population is available online at UTAD or DGES website. The current student population of IMVM is made up mostly of Portuguese (97%) and female (77%) students, with 84% of the students attending the course aged between 18 and 24 years old. Regarding the region of origin, most students come from the North region of Portugal, namely from the districts of Porto, Aveiro, Braga and Vila Real.

On UTAD website it is possible to download all the information about IMVM national accreditation status and IMVM EAEVE status.

**Standard 1.6: The VEE must monitor and periodically review its activities, both quantitative and qualitative, to ensure that they achieve the objectives set for them and respond to the needs of students and society. The VEE must make public how this analysis of information has been utilised in the further development of its activities and provide evidence as to the involvement of both students and staff in the provision, analysis and implementation of such data.**

The governance and commitment to actions to improve the quality of the IMVM are naturally aligned with the University's strategy (Standards 1.3 and 1.4). Specific course management bodies such as the IMVM CC, and the DCV Council, which meets every month or as necessary, are responsible for reflecting on aspects of interest to the course (for example, Biosafety, Quality aspects, Curriculum plan, among others), are responsible for developing and updating strategic recommendations. The Course and Department Director deliver the result of these reflections superiorly, as well as to students and staff.

**Standard 1.7: The VEE must undergo external review through the ESEVT on a cyclical basis. Evidence must be provided of such external evaluation with the assurance that the progress made since the last ESEVT evaluation was linked to a continuous quality assurance process.**

The last ESEVT's full visit took place in 2012, with the identification of two major deficiencies that were found corrected in the revisit in 2016, where the VEE was granted an Approval status.

- 1. On UTAD's Strategic Plan for 2011-2014 there was no specific mention of the Veterinary Medicine course.*

**A:** In the 2021-2025 Strategic Plan, the Veterinary Sciences is considered a core area.
- 2. It is essential that there is central veterinary control of the IMVM course. A radical solution like the creation of a Veterinary Science School was suggested.*

**A:** Although the Veterinary Science School was not created, Veterinary Medicine is one of the core areas of ECAV and there was an increase in the representation of IMVM academic staff in the VEE management bodies. On the other hand, the VTH is a specialised structure that does not depend on the ECAV but on the Rector, which allows greater autonomy in decision-making processes.
- 3. The Veterinary Sciences Department has a minority representation in the administration of the School and is not represented at all on the Academic Council of the University.*

**A:** At present, Veterinary Sciences Department staff has a good representation in the administration institutional bodies described above.
- 4. The allocation of funding for the IMVM course is inextricably linked with the organisation of UTAD. The implementation of the suggestion that the Veterinary Sciences Department should be elevated to the status of a School would enable a more direct and transparent budgetary pathway.*

**A:** The number of students, teachers and classes is taken into account in the distribution of the School's budget, so the DCV has the highest budget in ECAV. Also, the VTH has a budget management that does not depend on the ECAV.
- 5. Frozen anatomy specimens are kept in ordinary household freezers in the dissection hall. Dog carcasses for dissection by students are preserved using a low percentage formaldehyde solution. As exposure to formaldehyde is a significant consideration for human health, the use should be abandoned*

**A:** This situation was solved soon after the visitation in 2012, with the use of formaldehyde abandoned.
- 6. Concerning Animal Nutrition, additional curricular hours be assigned to expand training of the students in this particular subject.*

**A:** Clinical Nutrition, previously an elective subject is now a core subject, placed in the 9<sup>th</sup> semester. In addition, Physiology I (3<sup>rd</sup> semester) includes essential basic knowledge for the understanding of the subjects related with Animal Nutrition.

7. *As regards larger species, little practical training is delivered in pigs and dairy cattle. Moreover, visits to an external pig farm should be obligatory in order to expose the students to the organization and management of a modern pig production plant. Given that some electives in the Animal Production area seem of little appeal for the students, additional electives should be offered. Pig production should be the first choice, and some subjects related to nutrition of dairy cattle and pigs should also be considered.*
- A:** An effort has been done in order to increase the visits to external swine and dairy farms, at the extramural practical classes of several CU, such as Herd Health, Medicine and Surgery of Ruminants and Reproductive Medicine.
8. *The amount and organization of clinical work at IMVM must be urgently reviewed to compensate for insufficient hands-on clinical training provided to all students. It should be mandatory for all 5<sup>th</sup> year students to rotate through the emergency services, also during Saturday afternoons and on week-ends.*
- A:** Soon after the 2012 visit, a curricular adjustment was implemented (in 2015/2016) to increase the hands-on clinical training through clinical rotations in the 4<sup>th</sup> (two intramural Traineeship at the VTH, including emergency services) and 5<sup>th</sup> (two extramural Traineeship) curricular years. These alterations were already described in the 2016 EAEVE Revisit Report.
9. *IMVM should develop a system to register the exact amount of clinical exposure each student gets, possibly by introducing a student' records book.*
- A:** Students record the clinical cases observed during the traineeships on an online platform.
10. *An electronic system should be rapidly installed that will allow clinical histories and financial information to be stored together.*
- A:** The QVet application is in use at the VTH, and allows the access for students to consult the clinical cases information.
11. *The size of training groups, which is mainly larger than desirable, and the fragmented time schedule applied to most parts of clinical training (see also par 5.1.3 of this report) do not allow sufficient hands-on clinical training provision for all students. This finding was exacerbated by the absence of any available system to check the hands-on experience accumulated by the individual student or group of students. The insufficient hand-on clinical training was ruled as a Major Deficiency at IMVM.*
- A:** In clinical practical training, there was a reduction in students group size to 6 or 7 students per group in the curricular year since 2013/2014.
12. *Practical training in meat inspection and audit of food hygiene self-control was found to be difficult to perform within the current structure with 2 hours set aside for each practical section. Students miss-out on other teaching while away on doing these activities.*
- A:** Since the academic year 2019/20, Food Hygiene classes have consecutive 4 hours of practical training, occupying all morning. Also, new laboratory facilities are available since 2013/2014.
13. *The Faculty should consider offering a larger variety of electives and selecting the new topics in view of implementing a future tracking system.*
- A:** The creation and implementation of new elective subjects was considered; however, given the number in academic staff, the solution adopted was to offer a large variety of seminars and workshops to the students. Nevertheless, Medicine and Surgery of Exotic and Wild animals is now a compulsory CU.
14. *The pig farm, although functional, needs to be renovated. There is no dairy cattle farm, and the old facility (useless at the moment) is expected to undergo a radical change.*
- A:** The farms were subjected to interventions in order to improve the animal conditions.
15. *The Team felt that there was insufficient awareness and maybe also insufficient teaching of biosafety and biosecurity.*
- A:** Since 2012 the biosecurity/biosafety awareness and related protocols and regulations have clearly improved to a very professional level.
16. *In Anatomy, whole corpses are scarce, and totally lacking for equine and food producing animals.*



**A:** Nowadays the practical classes of anatomy include corpses of all production species (bovines, small ruminants, pigs, poultry and rabbits), equine and companion animals. They also use parts of carcasses and viscera from slaughterhouses (see Area 5).

17. *It is recommended not to increase, and possibly reduce, the number of students admitted per year.*

**A:** Between 2018/19 and 2020/21, there was a small reduction in the number of admitted students.

18. *Current block on the promotion of Assistant Professors to higher positions and opening of new budgeted positions*

**A:** The Rectory made an effort to increase the number of vacancies for academic staff promotion, opening since 2012 two positions for Full Professors and seven for Associated Professors. Vacancies for two new Assistant Professors, one for the clinical area (DCV) and the other for Anatomy (Department of Animal Science) were also opened.

### **Comments on Area 1**

The increase in the decision-making power of the IMVM-specific bodies regarding IMVM issues would be fundamental for its rapid adaptation to current requirements.

Recruitment procedures will soon be open for the international selection of two Assistant Professors within the area of Clinical Sciences, as well as five for the internal promotion of academic staff (see Area 9).

### **Suggestions for improvement in Area 1**

Certification of the VTH and laboratories services according to ISO 9001:2015 requirements.



**Standard 2.1: Finances must be demonstrably adequate to sustain the requirements for the VEE to meet its mission and to achieve its objectives for education, research and services. The description must include both expenditures (separated into personnel costs, operating costs, maintenance costs and equipment) and revenues (separated into public funding, tuition fees, services, research grants and other sources).**

UTAD is a collective entity with legal personality under public law, with statutory, scientific, cultural, pedagogic, administrative, financial and patrimonial autonomy. However, as a public institution, UTAD depends mainly on funding from the State Budget.

The Portuguese Government defines annually in the State Budget the total amount of the public financing for UTAD. This funding represents about 2/3 of UTAD's budget. The remaining funding is obtained from tuition fees paid by the students, research grants, R&D projects, provision of services to the community and other sources.

Public revenues from the State Budget only guarantee payment of salaries. The other source of revenues are used to cover all expenses other than the payment of salaries (operating costs, maintenance costs and equipment).

Each year, UTAD undertakes a well-structured planning and budgeting which is closely linked to the strategic objectives and aligned to UTAD mission and goals. The Rector with the Management Council promotes meetings with members of the Rectorate, presidents of the organic units (Schools), Department Directors, Heads of Services and others to define the budget. UTAD budget is approved by the General Council.

The UTAD budget is managed centrally, with the Rector and the Administrator responsible for the payment of salaries, general maintenance expenses, operating costs, maintenance costs and some equipment. The five schools, the Veterinary Teaching Hospital (VTH) and the Agricultural Management and Exploration Centre (CEGA) do not have financial autonomy, but manage a budget allocated to them for current expenses, generally related to teaching activities. The research centres based at UTAD have their own budget whose funds come from the public Portuguese Foundation for Science and Technology (FCT).

UTAD has a transparent approach to finance and the Rector and Administrator receive a monthly report on the financial situation through an Income and Expenditure report which details the current and year to date budget as well as the full and estimated annual budget. This systematic approach, shows the financial situation of the University and Schools, is a very useful tool to control income and expenditure.

Each school receives an operating fund of 50,000€ for current expenditures, which is increased according to the pressing needs. In 2021, this reinforcement represented an additional budget of 30,000€ in ECAV. This school, where the IMVM is based, distributes the funds among four departments, considering the following parameters: n° of students in anchor courses (16%); n° of active curricular units (34%) and n° of FTE teaching staff (50%).

In 2021, UTAD began implementing an Investment Plan for Teaching, has allocated an additional amount of 125,000€ to ECAV for the acquisition of equipment and improvement of facilities. In addition to this investment, the Agricultural Sciences Auditorium will be renewed, to the value of 144,112€.

% of margin paid as overhead to the official authority overseeing the VEE on revenues from services and research grants: Not applicable.

**National Tuition Fees:** Tuition fees for domestic students are set by the Portuguese government. The government is implementing a policy of progressive reduction of tuition fees from the 2019/2020 academic year. Tuition fees have been reduced annually, with the universities being compensated through funds from the state budget:

- 2018/2019 – 1,019.00€
- 2019/2020 – 871.52€
- 2020/2021 – 697.00€
- 2021/2022 – 697.00€.

International Tuition Fees are proposed by the Rector and approved by the General Council (CG) of UTAD. In 2019, they were reduced to 1,500€ with the aim of increasing the attraction of international students:

- 2018/2019 – 3,000€
- 2019/20 – 1,500€
- 2020/2021 – 1,500€
- 2021/2022 – 1,500€

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

Area of expenditure	2019	2020	2021	Mean
Personnel	36 838,289.70€	38 607,750.63€	37 709,247.56€	37 718,429.30€
Operating costs	10 306,552.73€	7 019,177.41€	8 582,242.91€	8 635,991.02€
Maintenance costs	1 459,162.88€	1 889,556.10€	626,836.52€	1 325,185.17€
Equipment	378,288.64€	2 043,351.35€	2 481,199.74€	1 634,279.91€
<b>Total expenditure</b>	<b>48 982,293.95€</b>	<b>4 559,835.49€</b>	<b>49 399,526.73€</b>	<b>49 313,885.39€</b>

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

Revenues source	2019	2020	2021	Mean
State Budget	31 245,175.00€	32 679,730.00€	33 831,166.00€	32 585,357.00€
Tuition fee	7 882,827.26€	6 719,077.70€	7 002,669.99€	7 201,524.98€
I&D	7 213,986.61€	9 556,683.66€	8 320,165.33€	8 363,611.87€
Goods and Services	2 039,579.25€	2 309,829.93€	2 838,462.20€	2 395,957.13€
Other sources	306,920.39€	664,535.47€	102,086.15€	357,847.34€
Investment Goods		408,300.00€		408,300.00€
Subsidies			15,000.00€	15,000.00€
<b>Total</b>	<b>48 688,488.51€</b>	<b>52 338,156.76€</b>	<b>52 109,549.67€</b>	<b>51 045,398.31€</b>

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

Academic year	Total expenditures	Total revenues	Balance *
2019	48 982,293.95€	48 688,488.51€	-293,805.44€
2020	49 559,835.49€	52 338,156.76€	2 778,321.27€
2021	49 399,526.73€	52 109,549.67€	2 710,022.94€

All utilities are paid by the UTAD and are therefore included in the expenditure tables shown above. There is no accounting of expenses per School.

**Standard 2.2: Clinical and field services must function as instructional resources. Instructional integrity of these resources must take priority over financial self-sufficiency of clinical services operations. The VEE must have sufficient autonomy in order to use the resources to implement its strategic plan and to meet the ESEVT Standards.**

In June/July of each year, the VTH budget for the following calendar year is established, based on expected expenses and income. The budget proposal is drawn up at a meeting of the VTH's clinical board after hearing the VTH's strategic council. In a meeting between the UTAD's Administrator and the VTH's director and manager, the final budget for the following calendar year is negotiated. Each calendar year, several meetings are held between the VTH's director and manager and the UTAD's Administrator to assess compliance with the budget. If necessary, changes are made and additional funding sources are proposed.

**Table 2.2.1.** Degree of autonomy of the VTH on the financial process

	2022	2021	2020	2019
<b>VTH income</b>	431,809.18€ *	257,170.97€	113,630.12€	331,945.84€
<b>State budget transfers</b>	443,851.19€ *	570,013.37€	491,584.52€	578,381.61€
<b>Total</b>	875,660.37€ *	827,184.34€	605,214.64€	910,327.45€

\* expected

Once the annual budget has been reviewed and approved, a distribution across the various activities, budget lines is proposed by the Management Board, and discussed and approved by the General Council, the body responsible for approving all strategic decisions. The monthly accounts are communicated to the Head of Administration, who, after a thorough review by the Management Board, approves them and releases the financial part of the budget to be used in the following month.

**Standard 2.3: Resources allocation must be regularly reviewed to ensure that available resources meet the requirements.**

UTAD is currently in the process of completion of the investments using as devised in the Strategic Plan for 2021-2025. These investments are supported by the institution budget, national and international funded projects and fundraising.

The Food Allianz (2,588,234.87€) and the Environment Funds assigning support to wildlife rehabilitation centres in the national network of recovery centres for fauna to support environmental policies in the area of sustainable development (151,129.56€) will support the ongoing and planned major investments:

- Renewal and expansion of the compound feed manufacturing unit and respective equipment (920,000.00€, Food Allianz);
- Renewal of Nutrition animal laboratory and acquisition of equipment (682 300€, Food Allianz);
- Renewal and expansion of the animal facilities (211,300€, Food Allianz);
- Extension of the Wildlife Rehabilitation Centre (CRAS) (Environmental Funds);
- Acquisition of equipment for the laboratory of Technology, Food Safety and Quality (climatization chamber, 2 ultrasound baths, ELISA plate reader and packaging machine) (34,528€, Food Allianz);
- Acquisition of 2 Laminar flow chambers biosafety level 2 (18,922€, Food Allianz);
- Implantation and construction of a new refrigerated and frozen chest freezer attached to the VTH necropsy room (57,000€, Food Allianz).

Others resources includes:

- Relocation of part of the VTH in three new classrooms and improvement of VTH isolation units have been concluded (59,655€);
- Building of a new Kennel (50,000€);
- Other works of requalification of spaces and infrastructures (73,800€);
- The acquisition of several units of modern equipment for the VTH have been completed in 2022 (CT scan, X-ray, ultrasounds, endoscope);
- Adaptation of existing infrastructures to new educational spaces and equipment, including the Skills Lab equipped with animal models;
- Improvement of new educational spaces, including the Museum of Animal Anatomy.

In the coming years, UTAD does not expect significant changes in the government's budget policy. However, it expects an increase in its own revenues, which will be reflected in a positive variation of total revenues and will support the maintenance of investment, which results in an increase of total expenditure.

UTAD was approved as a candidate to the Portuguese Recovery and Resilience Plan (PRR) Investment Impulse Young STEAM and Adults. Under PRR, and aligned with the work developed under the initiatives "University without Walls" (EUA-European University Association) and "Skills 4 post-Covid - Skills for the Future" ("Labour Market Relevance and Outcomes - LMRO", OECD and European Commission), it is aimed the support of reforms and investments that contribute to increasing the participation of young people in higher education, the graduation of the population and the increase of research and development in Portugal, reinforcing the goal of convergence with Europe over the next decade.

Under the PRR, UTAD has participated as co-promoter in 2 Mobilising Agendas and 1 Green Agenda for Business Innovation, one of which is the "VIIAFOOD - Platform for Commercial Enhancement, Industrialisation and Innovation for the Agro-Food Sector". The total incentive applied for these projects amounts to 385 M€, with a planned allocation for UTAD of 9.5 M€.

An expression of interest was also made to the Portuguese Roadmap for Research Infrastructures of Strategic Interest (RNIE), to reinforce UTAD's research units within the scope of One Health, both in the Laboratories and in the VTH (OneHealth4All).

**Table 2.3.1.** Prospected expenditures and revenues for the next 3 academic years

Academic year	Total expenditures	Total revenues	Balance *	Variation
2022	50 546,732.52€	52 321,533.27€	1 774,800.75€	0.1%
2023	51 810,400.84€	53 629,571.60€	1 819,170.77€	2.50%
2024	53 105,660.86€	54 970,310.89€	1 864,650.03€	2.50%

Venues and expenditures are expected to increase by around 2.5% per year, with, and revenues reflecting the recent improvement of facilities and equipment and human resources that triggered increasing demand for our services by society.

A report on the course's needs is conducted annually, in meetings, analyzing the students' answers in Pedagogical Surveys (QP), the teachers' analysis in the Curricular Unit Reports (RUC) and the Course Direction in the Annual Course Annual Reports (RAC). The entities that receive the students in internships are also heard and given feedback about the student's performance. These meetings occur at different hierarchic levels, first with Director of Department and the President of the School,

The investment is decided according to the needs of the School and the VTH, which are presented to the Rector's Office and the Management Board for evaluation and authorisation of expenditure, taking into consideration the available budget and the alignment with UTAD's Strategic Plan.

The Management Board's decisions are communicated to the bodies involved, and the Rector communicates the main decisions in meetings that he holds regularly with the Course Director, Department Director, the Departmental Council and the governing bodies of the School and the Veterinary Hospital, as well as in meetings with students.

UTAD's accounts are public and subject to verification by the statutory auditor and a positive opinion from the External Auditors.

The overall financial process is audited on a regular basis (annually or whenever superiorly decided) by several public entities.

## Comments on Area 2

The limited public funding is a challenge faced by the University in general, as well to veterinary education. Therefore, the VEE has strived to diversify its funding to mitigate this, with increased external funding through projects and Clinical Services.

The continued investment in VTH in view of increasing levels of competition is largely due to the dedication of the Rector. Revenues from clinical services are an important income stream that contributes to covering the costs of veterinary education. The biggest threat facing many other schools is the recruitment of highly trained and experienced clinical staff hired as Senior Technicians.



The University Centre was renovated and delivered to the academic association in 2021 and it is a space that enhances the interaction between teachers, students, researchers and employees, as well as the promotion of cultural activities.

### **Suggestions for improvement on Area 2**

Increase the number of places for Students Residences.

The VTH continually reviews its revenue generation capabilities and accordingly strives to diversify its funding through increased external funding and promotion of valorisation of specialised services in companion animals and equine.

The Rector and the ECAV are aware that in order to continue to attract students and maintain the high quality of veterinary education, the investment in infrastructures, equipment and human resources must continue.



**Standard 3.1: The curriculum must be designed, resourced and managed to ensure all graduates have achieved the graduate attributes expected to be fully compliant with the EU Directive 2005/36/EC (as amended by directive 2013/55/EU) and its Annex V.4.1. The curriculum must include the subjects (input) and must allow the acquisition of the Day One Competences (output) listed in Annex 2. This concerns Basic Sciences, Clinical Sciences in companion animals (including equine and exotic pets), Clinical Sciences in food-producing animals (including Animal Production and Herd Health Management), Food Safety and Quality, and Professional Knowledge.**

The overall goal of the IMVM is to develop students' competences along a 5.5-year study programme, in a way that Day One graduates have acquired the knowledge, attributes and technical skills required to practice Veterinary Medicine at the expected level.

To ensure a high level of veterinary education, the IMVM curriculum is designed, resourced and managed to ensure that all graduates have achieved the attributes expected to be fully compliant with the European Directive n° 2005/36/EC (as amended by Directive n° 2013/55/EU) and its Annex V.4.1, including Basic subjects (including inorganic and organic chemistry, and physics), Basic Sciences, Clinical Sciences in both companion, equine and food-producing animals, Food Safety and Quality and Professional Knowledge, allowing the acquisition of Day One Competences (D1C) (SOP 2019's Annex 2, as approved by ECCVT on January 17<sup>th</sup> 2019). To guarantee the IMVM's intended learning outcomes, a list of D1C was created in 2016. This list has been revised, taking into account the updated ESEVT D1C, and approved by the Scientific Council (SC) in 2022, asserting the competences that graduates should acquire until the graduation (Appendix 6.3.1).

Several VEE bodies are involved in the management of the IMVM's curriculum. The IMVM Course Committee (CC), Pedagogical Council (PC), and SC closely monitor the regular functioning of the course, allowing the achievement of the established learning outcomes. The Regent of each Curricular Unit (CU) is responsible for CU Reports (RUC). In fact, RUC and IMVM Course Annual Report (RAC) at the course level, are essential elements to maintain academic standards with regard to Learning and Teaching in Veterinary Medicine and for the University's Quality Assurance and Quality Enhancement process.

To ensure the practical training of undergraduate students, an online logbook was implemented in 2015, which allows the record of clinical activities undertaken by the students in Clinical Rotations (CR), including the number of hours of contact. These activities are validated by the academic staff and evaluated at the CU of *Traineeship II* and *III*.

After the adaptation to the Bologna process, and considering the Portuguese legislation (Decree Law n° 74/2006, March 24<sup>th</sup>), all Portuguese curricula of Veterinary Medicine were adapted to 330 ECTS and 11 semesters (5.5 years). The 2015 IMVM curriculum ([National Deliberation \(ND\) n° 2306/2015 - Diário da República \(DR\), 2ª série, n° 43, March 3<sup>rd</sup>](#)) was applied in the academic year 2015/2016 through 2021/2022; it was designed according to National and European legislations, and also by taking into account the recommendations after evaluation by National and European agencies. Next year (2022/2023), some improvement alterations will be implemented ([ND n° 14938/2022 - DR, 2ª série, n° 146, July 27<sup>th</sup>](#)) (Appendix 6.3.2; see Comments).

In Portugal, all studies in Higher Education (HE) are regulated by the Ministry of Science, Technology and Higher Education (MSTHE). The Ministry stands above the General Directorate of HE (DGES), which is a MSTHE operational executive service with administrative autonomy. HE courses must have a previous accreditation by the Agency for Assessment and Accreditation of HE (A3ES) and be registered at DGES.

A3ES was created by the Portuguese government following the development of quality assurance systems, by Decree-Law n° 369/2007, November 5<sup>th</sup>, to promote and ensure the quality of HE. This Agency is a private law foundation, recognised as of public utility, being a full member of the European

Association for Quality Assurance in HE (ENQUA), CHEA International Quality Group and listed in the European Quality Assurance Register for HE (EQAR). The Agency is independent in its decisions, which must take into account the National regulations. Following the legal framework for the assessment of HE (Law n° 38/2007, August 16<sup>th</sup>), the external assessment of study programmes must be carried out periodically. A3ES evaluation is mandatory and paid. The IMVM-UTAD course has been recently accredited by A3ES (September 2021) for 6 years ([ACEF/2021/0406392](#)).

The VEE has the autonomy to propose curricular changes, which are proposed by the IMVM Course Directive Board (CDB) and presented to the different Department Councils related to the core subjects, followed by the SC and PC, for approval. After approval, the process is evaluated by the university Academic Council (CA) and ultimately approved by the Rector. According to A3ES Deliberation n° 8545/2012 (replaced by Deliberation n° 2392/2013), when the proposed alterations are punctual and less than 15%, these can be directly registered at DGES (Appendix 6.3.3); if surpass 15%, the process has to be resubmitted for A3ES approval (being considered as a new course proposal) and subsequently registered at DGES.

Besides national constraints, the proposals for curricular alterations should consider the UTAD's Rectoral order n° 69/2021, December 9<sup>th</sup> on the "Standards for the change of accredited courses and the proposal of new courses" approved by the CA.

With the Bologna process, a major curricular revision took place, conducive to an Integrated Master format applied in 2008/2009. This implied a curricular reorganization, with the involvement of all CU Regents to establish CU programmes avoiding overlaps, redundancies and omissions. Nevertheless, the VEE has a series of processes/bodies responsible for the evaluation and revision of the IMVM's curriculum, allowing the identification of omissions, overlaps and/or other problems. These processes (summarised in Appendix 6.3.4) take into account students, academic staff and stakeholders and graduates' feedback, and occur at distinct levels:

- Every CU has a teacher responsible for its preparation and daily monitoring and coordination;
- The CDB is responsible for the evaluation of the curricular programme process, ensuring that IMVM objectives are accomplished. It coordinates the CU syllabus and proposes changes to the curriculum;
- The SC ensures the overall quality of education, establishes the curriculum, approves the syllabus of the various CU, and proposes teacher's academic load; and the PC oversees the pedagogic quality of training, pronounces itself about educational guidelines and methods of teaching and students' assessment, promotes inquiries to assess the functioning of study programmes, CU and teachers' pedagogic performance, and proposes the academic calendar, schedule and timetable of classes and exams.

Students have an active role in this multilevel process, helping in the identification of overlaps or redundancies, thus taking part in the Quality Assurance (QA) system. They are present on the IMVM CC (two students) and the PC (three students), being decisive for curricular monitoring. In addition, students' representatives of each CU/ academic year are fully involved in improving the teaching and learning process and directly communicate students' concerns and suggestions to the CC.

The direct feedback from Stakeholders after supervision of undergraduate students in extramural training or by surveys, is highly valuable, as it may identify omissions in the veterinary training or other issues curriculum-related. These processes are included in the QA system and should be considered as opportunities to reflect on the IMVM curriculum and to allow a more effective management.

Following the identification of omissions, overlapping and/or other problems, the CDB holds meetings with the teachers of the subjects in question for discussion, with an adjustment of the subjects' programme.

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

Academic Years	A	B	C	D	E	F	G	H
Year 1	312	8	14	244	99	0	4	681
Year 2	280.5	0	0	266	135.5	0	0	682
Year 3	407	2	11	198	43	110	0	771
Year 4	333.5	20	47	37.5	8	445	0	891
Year 5	276	11	55	181	48	234	15	820
Year 6	0	0	0	0	0	0	480	480
<b>Total</b>	1601	41	127	926.5	33.5	789	499	4325

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

**Table 3.1.2.** Curriculum hours taken by each student

Subjects	A	B	C	D	E	F	G	H
<b>Basic subjects</b>								
<i>Medical physics</i>	14		10	21				45
<i>Chemistry (inorganic and organic sections)</i>	4							4
<i>Animal biology, zoology and cell biology</i>	14		2	6.5				22.5
<i>Feed plant biology and toxic plants</i>	10			6.5				16.5
<i>Biomedical statistics</i>	14			21				35
<i>Specific veterinary subjects</i>								
<b>Basic Sciences</b>								
<i>Anatomy, histology and embryology</i>	142			84	112			338
<i>Physiology</i>	48			31.5	31.5			111
<i>Biochemistry</i>	54			56				110
<i>General and molecular genetics</i>	60			56				116
<i>Pharmacology, pharmacy and pharmacotherapy</i>	30		4	6		24		64
<i>Pathology</i>	30			56				86
<i>Toxicology</i>	14			22		6		42
<i>Parasitology</i>	30			42				72
<i>Microbiology</i>	30			42				72
<i>Immunology</i>	15			21				36
<i>Epidemiology</i>	15			21				36
<i>Information literacy and data management</i>	28	2						30
<i>Professional ethics and communication</i>	24	8	4			4		40
<i>Animal health economics and practice management</i>	33		2	2				37
<i>Animal ethology</i>	8			3	2			13
<i>Animal welfare</i>	13			3	6			22
<i>Animal nutrition</i>	44			42				86
<b>Clinical Sciences</b>								
<i>Obstetrics, reproduction and reproductive disorders</i>	44		6	20	20	48		138
<i>Diagnostic pathology</i>	58		8	18		42		126
<i>Medicine</i>	227	13	45	12.5	0	225.5		525
<i>Surgery</i>	87	5	24		0	111.5		227.5
<i>Anesthesiology</i>	30			14	8	8		60
<i>Clinical practical training in common animal species</i>						216		216
<i>Preventive medicine</i>	8	3	6	7		14	7	45
<i>Diagnostic imaging</i>	30			15	7	8		60
<i>Therapy in common animal species</i>	15		3	18		12		48

<i>Propaedeutics of common animal species</i>	90			38	14	38		180
<b>Animal Production</b>								
<i>Animal Production, including breeding, husbandry and economics</i>	80.5			59.5	83			223
<i>Herd health management</i>	28			12		16		56
<b>Food Safety and Quality, Veterinary Public Health and One Health Concept</b>								
<i>Veterinary legislation including official controls and regulatory veterinary services, forensic veterinary medicine and certification</i>	47.5	4	20	72	44	0	2	189.5
<i>Control of food, feed and animal by-products</i>	10			8				18
<i>Zoonoses</i>	32	6	10	13	2	16		79
<i>Food hygiene and food microbiology</i>	20			24	4	0	6	54
<i>Food technology</i>	28			40				68

**Table 3.1.3.** Practical rotations under academic staff supervision (excluding EPT)

Types	List of practical rotations (Disciplines/ Species)	Duration (weeks)	Year of programme
<b>Intramural clinics (VTH)</b>	Companion Animals: . clinics/ hospitalization . surgery . diagnostic imaging . clinical pathology . necropsies	6	4/5
	Farm Animals and Equines . clinics (intramural farm facilities)/ hospitalization . surgery of equine and ruminants . diagnostic imaging . reproduction . clinical pathology . necropsies	3	4/5
	Wild and Exotic Animals . clinics/ hospitalization . surgery . diagnostic imaging . clinical pathology . necropsies	2	4
<b>Ambulatory clinics</b>	Farm Animals Preventive Medicine	2	4
<b>Herd health management</b>	Intra/ extramural activities . small ruminants . dairy cattle . swine	4	4/5
<b>Extramural clinics</b>	Companion Animals . clinics/ hospitalization . surgery . diagnostic imaging . clinical pathology . shelter medicine	3	5
	Farm Animals and Equines . clinics . surgery of equine and ruminants . reproduction Preventive Medicine	3	5
<b>FSQ &amp; VPH</b>	Hygiene and Food Safety Veterinary Inspection I: ruminants, swine Veterinary Inspection II: poultry, rabbit, fish Technology Animal Products Veterinary Public Health	2	5



**Table 3.1.4.** Curriculum hours taken as electives for each student

Subjects	A	B	C	D	E	F	G	H
<b>Basic Sciences</b>								
Animal Teratology	24.5							24.5
Clinical Anatomy	24.5							24.5
Laboratory Animal Science	24.5							24.5
Laboratory, Exotic and Wild Animals Physiology	24.5							24.5
Microbiological and Parasitological Laboratory Analysis	24.5							24.5
Nutrition and Feeding of Exotic Animals	24.5							24.5
<b>Clinical Sciences</b>								
Clinical Pathology	24.5							24.5
Diagnostic Cytology	24.5							24.5
Emergency and Critical Care	24.5							24.5
Geriatrics and Oncology	24.5							24.5
Pathology of Exotic, Wild and Laboratory Animals	24.5							24.5
Veterinary Dentistry	24.5							24.5
Veterinary Legal Medicine	24.5							24.5
<b>Animal Production</b>								
Apiculture	24.5							24.5
Aquiculture	24.5							24.5
Sustainable Management of Animal Effluents	24.5							24.5
<b>Food Safety and Quality, Veterinary Public Health and One Health Concept</b>								
Introduction to Food Quality and Safety	24.5							24.5
Quality Systems in Food Sector	24.5							24.5

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

The implementation of the CR in the IMVM's curriculum (4<sup>th</sup> and 5<sup>th</sup> years) occurred in the academic year 2015/16. Students are progressively prepared for CR since Year 1, with the introduction to basic knowledge on the management, restraint and handling of farm and companion animals, as well as on animal behavior (subjects of *Exognosis and Ethology and Animal Welfare*). The subject *Introduction to Veterinary Medicine, Ethics and Professional Deontology* introduces the first concepts of biosafety and biosecurity, social competences and the concept of Evidence-Based Medicine.

During 2<sup>nd</sup> and 3<sup>rd</sup> years, several CU prepare students for CR: the traineeship in *Animal Science (Traineeship I)* will reinforce the skills in farm animals' management techniques, nutrition, restraint, behavior and welfare; basic knowledge on biological sample collection (blood, stool, swabs, others) will be taught in *Parasitology, Microbiology, Medical Semiology II*; practical training in necropsy and forensic medicine techniques will be introduced in *Anatomical Pathology I* and *Veterinary Forensic Medicine*; health status monitoring and physical examinations in healthy animals, both in small and large animals, as well as professional communication skills are focused in *Medical Semiology I*; clinical pathology laboratory work, with interpretation of laboratory diagnostic tests and subsequent clinical case discussion is included in practical classes of *Medical Semiology II* subject; knowledge on routes of drugs administration and pharmacological therapy applied to the most common animal species (*Pharmacology I* and *Pharmacology II*) through practical classes with healthy animals (small and large animals); basic knowledge and skills in anesthesia, surgical instruments and surgical procedures, using cadavers or animal models (*Introduction to Surgery and Anesthesia*); basic knowledge in imaging techniques in small and large animals, with an approach to clinical cases diagnosis (*Imagiology*); basic practical



training in *Animal Reproduction*, namely with regard to the study of the reproductive performance of domestic species and basic reproductive procedures.

During the 4<sup>th</sup> year (outset of CR), several clinical subjects focus on student preparation for practical training. Problem-solving teaching strategies are frequently used, especially in diagnostics oriented to decision-making in the area of animal medicine and surgery (both small and large animals), through clinical exercises. The subjects *Infectious Diseases* and *Parasitic Diseases* include laboratory and clinical case-solving practicals oriented to the diagnosis and treatment of these specific diseases. Also, these and other CU (such as *Epidemiology and Public Health*) disclose a “One Health” approach across the course programme, highlighting its importance in the clinical setting.

In addition, at the beginning of CR, meetings with students resume and review important practical related aspects, such as the dress code, biosafety and biosecurity best attitudes, policy on social network use, and access to clinical records. In the first practical class of a given CU, all the biosafety best attitudes are revised, including the use of individual protection equipment. Only students properly equipped are allowed to participate in practical classes.

Another important aspect in the preparation of the students for the CR is the attendance of biosecurity and biosafety seminars, organised by the Biosafety Unit of IMVM (BU-IMVM), which focus on the knowledge, promotion and encouragement of biosafety and biosecurity environments, practices and attitudes.

Also, students frequently apply, from the early beginning of the course, to voluntary internships at the Veterinary Teaching Hospital (VTH) before CR, which progressively prepares them for clinical training.

### **Intramural**

Students in the 4<sup>th</sup> year perform a CR in the VTH every 5 weeks (total of 3 weeks per semester, 6 weeks per academic year, per student) (Appendix 6.3.5). These CR are called Hospital Service Week (SSH). During their rotations, students must complete a minimum number of hours (91 hours per semester) in addition to fulfilling one week of 24/7 per semester (two weeks per year). During the rotation weeks, students are divided in three rotation groups (6/7 students per group) which are freed up, in turns, of all practical classes, with full time dedication to rotate through different services at the VTH and ambulatory clinical services: (i) Companion Animals (2-3 students per area); (ii) Farm Animals and Equines (2-3 students per area); and (iii) Exotics and Wild Animals (2-3 students per area) (Table 3.1.3).

Students on duty 24/7 are responsible for following up on emergency cases within the hospital, and outpatient appointments. This implies an active participation in the VTH clinical activities allowing the observation of a higher and diversified number of clinical cases and their follow up.

During the CR, students show up in the VTH at 8:00h Monday and throughout the week they are distributed by different services as described above, without interfering with other ongoing practical classes. All clinical activity undertaken by students in CR is registered in a personal registration documents (Appendix 6.3.6) that is validated for each event by the academic staff or veterinary technician/practitioner of the VTH service who supervises the student. This registry is uploaded in a logbook available in the intranet [online database](#) (Appendix 6.3.7) for further evaluation by teachers of the clinical core courses.

Students have to write clinical reports of the cases that they followed in the VTH and have to present them orally before an evaluation panel of three teachers in the subjects *Traineeship II* and *Traineeship III*.

### **Extramural**

The extramural training (*Traineeships IV* and *Traineeships V*) has been implemented in 2015/2016 for students in the 5<sup>th</sup> year.

The 5<sup>th</sup>-year students follow the same rotation schedule mentioned for 4<sup>th</sup>-year students, i.e. the timetable of each semester follows a rotation of 12 weeks of classes and 3 weeks of clinical practice (6 weeks per academic year, per student). After 4 weeks of regular classes, students have a week of extramural practice where the students accompany an external teacher who receives our students at their

working places (veterinary hospitals, livestock farms, ambulatory clinics, shelters) (see Area 4), providing them the opportunity to experience ‘real-life’ veterinary practice that complements and supports their professional knowledge and skills.

During these rotations, students are allocated to each one of the areas:

- Companion Animals: 4 students are distributed in shifts (8:00h to 16:00h and 16:00h to 24:00h); in each shift there are two students. Furthermore, they can do nights (24:00h to 8:00h) and weekends (Porto district);
- Farm Animals and Equine Medicine: one student per teacher (municipalities of Barcelos and Braga);
- Preventive and Reproductive Medicine: two students per teacher (municipality of Vila do Conde);
- Preventive Medicine: 2 students per teacher (municipality of Vila Real);
- Shelter Medicine: 3 students follow the entire routine of the Municipal Centre for the Official Collection of Companion Animals in Coimbra).

During this CR, students must complete a minimum of 77 hours per semester. The hours performed by each student are validated by the external teachers and coordinated by the Regent of the CU. All the information about the clinical rotations, including schedule, biosecurity rules, and responsibilities, is published, being available to students at Teaching Support Information System (SIDE). In addition, at the beginning of each semester, a meeting with the students takes place to describe the CR procedures. An online table is issued at the beginning of each semester to enable students to plan extramural placements with the external teachers in good time.

At the end of the week of extramural training, students are evaluated by the teacher who accompanied them, by completing an evaluation report previously sent by email to each teacher by the responsible for the extramural traineeship. Furthermore, at the end of CR, the students must present a report with a description of all activities/procedures performed during the extramural traineeship. This report is then discussed orally with a panel of teachers from different areas during *Traineeships IV* and *Traineeships V* assessments.

Classes in cattle slaughterhouses (real work environment) were carried out with groups of 5-7 students and a teacher. The exception concerns classes in an industrial pig slaughterhouse where classes are held with groups of 10-14 students accompanied by a teacher.

Classes in industrial poultry and rabbit slaughterhouses and eggs packaging centres (only in 2018/2019, due to the COVID-19 pandemics) (real work environment) were carried out with groups of 10-14 students and two teachers. Slaughterhouse visits occur every day from 7 am to 1 pm, due to labour shifts at the abattoirs.

Classes in Fishing Dock (only in 2018/2019 and 2020/2021) and canning industry (only in 2018/2019) (real work environment) were carried out with groups of 10-14 students and two teachers. Fishing Dock visits occur Wednesday or Friday from 14:00h to 20:00h, due to labour shifts in this place.

These extramural practical classes are performed within 80-200 Km of Vila Real. Four teachers are involved in classroom teaching, continuing education programs and research on this subject.

Classes in canteens, fisheries, fishmonger's shops and food markets (both in 2018/2019 and 2020/2021) were carried out with groups of 5-7 students and a teacher, and are made inside Vila Real town.

In the last three academic years, a list of Elective CU (each one corresponding to 2 ECTS) was offered for each semester of the 3<sup>rd</sup> and 5<sup>th</sup> years of the curricular plan, complementing the core subjects. Electives pertain to different scientific areas, and allow students to increase their knowledge in alternative areas. Students were obliged to select Electives for a total of 8 ECTS, without any binding restriction on the scientific area. Thus, Table 3.1.4 cannot be filled with the curriculum hours taken as electives per subareas as they vary between students, the key point being that each student takes 4 elective subjects in a total of 8 ECTS.

Before the beginning of the 3<sup>rd</sup> and 5<sup>th</sup> semesters, a survey is conducted among students enrolled in these years to indicate the Electives CU in their order of preference for that specific semester.

Although students are free to select the CU of their preference, according to university rules, Electives will only be activated if a minimum number of ten students applies to the Elective in SIDE platform; given the CU typology are lectures, allowing the selection by a high number of students, they usually follow the Elective of their interest. The functioning rules of each Elective are defined by the teacher in charge, according to the university Pedagogical rules and stated on the CU Form (FUC) performed before each semester.

In addition to the Electives offered specifically in the IMVM course, students may also apply to additional Electives, officially approved and offered by other Course Programmes at the UTAD. The approved extracurricular Electives will be included as a supplement to the Academic Record. In addition, several lifelong learning courses are organised annually by the VEE, frequently in cooperation with the Students Association, in various fields of Veterinary Sciences, which are open to IMVM students. The courses, seminars and workshops provided by the VEE in the last academic years are shown in the Table 10.1.4 (Area 10).

The evaluation procedure depends on the subject. With regard to practical/clinical activities, and in order to ascertain the acquisition of D1C by all undergraduate students, the CU Regents define the specific competences acquired after passing a specific compulsory subject, in accordance to the ESEVT D1C.

To ensure the practical/clinical training, an online logbook previously mentioned is used to record clinical activities undertaken by the students in CR, including the number of hours of contact, both at the intramural setting (VTH), at the ambulatory clinics and extramurally. This procedure allows us to ascertain the achievement of the clinical skills defined as D1C. These activities are validated by the academic staff who supervise and witness the student performing the skills (see Area 8). In addition, as described in Area 8, most clinical CU have a practical evaluation (through the semester or at the final exam). These practical examinations further help with the assessment of students' acquisition of skills.

In intramural rotations, the students also record their activity in a specific form, which must be signed by the academic staff.

**Standard 3.2: Each study programme provided by the VEE must be competency-based and designed so that it meets the objectives set for it, including the intended learning outcomes. The qualification resulting from a programme must be clearly specified and communicated and must refer to the correct level of the national qualifications framework for higher education and, consequently, to the Framework for Qualifications of the European Higher Education Area.**

Following the 2012 EAEVE visitation, the IMVM programme has undergone curricular change, which was applied in 2015/2016; in the next academic year, additional alterations are being implemented. Thus, the IMVM's programme monitoring and revision is an ongoing and permanent process, allowing its constant and dynamic improvement. The adoption of a competency-based approach ensures that veterinary graduates acquire the knowledge, skills and attributes required for a self-confident and successful professional.

The assessment of programme outcomes is achieved by several instruments, in which the students have a pivotal role, gathered at multiple times/levels, all engaged in the internal QA system; internal stakeholders include students and faculty members while external stakeholders include graduates, employers, and extramural training providers. The QA process monitors the learning process, the consequences of curricular changes as well as the necessity of implementing improvements/adjustments, ensuring a dynamic curriculum, which answers to a modern and demanding society. The QA processes for the curriculum monitoring include qualitative and quantitative data obtained from: evaluation results (performance data); internal student surveys (at the end of each semester); individual student feedback to CU/year student representatives, PC student representatives or CDB; recent graduate surveys, and Student's Ombudsman (anonymous student feedback). CU/year student representatives also give feedback to CBD. Additionally, feedback from external stakeholders, such as employers, alumni and placement providers for extramural training is also gathered. End-point data is particularly valuable as a summative indicator of how well the programme, taken as a whole, is

achieving its goals. These data are considered for the IMVM course improvement, namely to ensure that changes in specific CU are aligned with IMVM programme goals. Student feedback is received at various levels of the QA process, analysed by CDB and PC, and consequent actions (short or long term) are considered in a ‘you said, we did’ approach.

Updated, clear, accurate, and objective information on the IMVM study programme (such as selection criteria for the enrolment in the programme, its intended learning outcomes, the teaching/learning and assessment procedures, the pass rates and the learning opportunities available to their students as well as graduate employment information) is accessible online to prospective and current students as well as for graduates, other stakeholders and the public. The qualification awarded is also clearly specified and communicated, referring to the level of the national qualifications framework for higher education and, consequently, to the Framework for Qualifications of the European Higher Education Area.

The IMVM’s curriculum aims to deliver independent, resourceful professionals, who can critically think of different and new ways to solve a problem. The VEE promotes the presence of an academic environment conducive to learning, in several ways: the establishment of a supportive learning culture (promoting the integration and connection of students, for example through the Tutoring/Mentoring Program); to address the students’ needs (by direct contact student-teacher/student–CDB or indirectly through the students representatives or the Students Association), with the promotion of a free exchange of ideas, thoughts and skills (including the development of problem-solving and critical thinking skills) among the teachers and students to achieve the intended learning outcomes; the employment of innovative learning methodologies (such as online interaction, with special emphasis during to COVID-19 pandemic); a fair and transparent (and never punitive) assessment, among others.

It is important that students feel safe in their learning environment, with no physical intimidation and emotional frustration, being free to interact during the learning process, namely when acquiring new skills. Feedback, motivation and focus on individual students facilitate the learning and teaching process. At the beginning of the semester, each teacher defines a weekly schedule for student attendance. All of these factors contribute to an atmosphere conducive to learning.

The IMVM’s curriculum has been designed to encourage students critical thinking and independent learning, enabling them to pursue an autonomous lifelong learning career. Although lifelong learning is a deliberate and voluntary action, VEE motivates students to self-learning and to continue their learning as professionals. Along the programme, students are encouraged to use technology, to further reading on the subjects, as well as to apply to seminars/courses that may increase their learning, namely in less devoted scientific areas.

Throughout the course, several seminars, workshops and conferences are promoted, organised both by students and teachers, with different thematic, chosen according to the suggestions of both, with the aim of promoting knowledge, but also habits of continuous learning throughout life.

**Standard 3.3: Programme learning outcomes must: ensure the effective alignment of all content, teaching, learning and assessment activities of the degree programme to form a cohesive framework; include a description of Day One Competences form the basis for explicit statements of the objectives and learning outcomes of individual units of study be communicated to staff and students; and be regularly reviewed, managed and updated to ensure they remain relevant, adequate and are effectively achieved.**

The primary educational goal of the IMVM-UTAD programme is to provide training of excellence in veterinary medicine, preparing students for a productive and successful career within the veterinary medical profession, by providing students with entry-level knowledge and skills. VEE defined intended learning outcomes in several main areas: basic science and clinical knowledge, communication skills, clinical skills, ethics, problem solving, critical thinking and life-long learning skills, professionalism and Public, environmental, and animal population health. With the input from academic staff, specific veterinary competencies were established for the IMVM entry-level graduate; throughout the 5 years of the course programme, students are provided multiple learning and assessment

opportunities to acquire these competencies, enabling students to meet the requirements of national and European accreditation bodies, ESG.

The content of the IMVM-UTAD learning outcomes program has its teaching, learning and assessment activities supervised by the SC and PC. Students have the opportunity to contribute to this improvement through the Pedagogical Surveys (QP) and as student representatives in the different School committees.

IMVM's D1C are in agreement with EAEVE SOP 2019's Annex 2 and with the EU legislation, namely: Directive n° 2005/36/EC amended by Directive n° 2013/55/EU (on the recognition of professional qualifications). D1C of each CU is described in each FUC, explained to students in the first class of the semester and supervised by the CDB. It is also at the FUC where the objectives and learning outcomes and the evaluation system are described. This FUC is reviewed every semester. The CU report, prepared at the end of each semester by the CU Regent, also aims to make a SWOT analysis of the unit. After this report and the analysis of the student survey, every year, the CU Regent has the opportunity to improve the contents, learning and evaluation of the FUC, with the contributions of the students.

The staff who are directly involved in the learning process also contribute to improving the functionality of the CU, participating in the formulation of schedules, organization, SIDE and Moodle platforms.

The assurance that the contents are aligned, that the assessment points are adequate, as well as the FUC contents, are directly supervised by the CBD.

The IMVM's curriculum is organised with the aim that the student achieves all the skills established by European and Portuguese standards for the veterinary profession D1C. Throughout the course, from the first year onwards, all CU contents are built with this final objective.

To guarantee the acquisition of Day One Competences (D1C) since the beginning of the course, each student receives a Skills Book in a format of booklet (Appendices 6.3.8 and 6.3.9) to register the acquired clinical competencies under supervision. These practical skills are validated and evaluated by the academic staff of the Small Animal Clinic, Farm Animal Clinic and Equine Clinic CU and by the veterinarians of the VTH (Appendix 6.3.10). Our students are assisted in this by the practicing arm of the veterinary profession, which provides Extramural Practical Training (EPT), so they can practice applying these competences in the workplace. The newly-graduated veterinarian should be able to apply relevant knowledge and have the confidence and ability to transfer what has been learned to a variety of different contexts.

The IMVM's curriculum has evolved over time to integrate the evolution of knowledge in this area, to accommodate EU Directives and Standards and Guidelines for QA, ESG recommendations for the teaching/learning of Veterinary Medicine, and also the recommendations resulting from the processes of national (National Council for the Evaluation of Higher Education and A3ES) and international assessments (EAEVE, in 2012 and 2015). Therefore, apart from monitoring the curriculum, our Institution made some major curricular revisions, which resulted in several curricular adjustments. The current curriculum of the IMVM was implemented in the academic year of 2015/2016 and resulted from the adaptation of a previous plan (approved in 2008) based on the Bologna process, under national legislation.

The Study Plan, implemented in 2015/2016, includes a distribution of contents suitable for the acquisition of all the competences of the veterinary profession. The advantages of this new syllabus include: significant increase in clinical sciences (with increase in hands-on practice) and increased in extramural practical training.

Veterinary training will ensure that the professional has acquired competences through:

- **Basic Sciences:** Medical Physics, Inorganic and Organic Chemistry (included on Biochemistry), Animal Biology and Zoology, and Cell Biology (included on Histology); Feed Plant Biology and Toxic Plants (subject included on Agriculture, Ecology and Environmental Management) and Biomedical Statistics;
- **Veterinary Basic Sciences:** Anatomy, Histology and Embryology; Physiology; Biochemistry; Genetics; Pharmacology; Pharmacy; Toxicology; Microbiology; Parasitology; Immunology; Epidemiology and Professional Ethics;

- **Clinical and Sanitary Skills:** Pathology (including Anatomical Pathology); Clinical Medicine and Surgery; Preventive Medicine; Diagnostic Imaging; Reproduction and Reproductive Disorders; Veterinary State Medicine and Public Health; Legislation and Forensic Medicine and Therapeutics and Propaedeutics;
- **Food Technology, Hygiene and Safety:** Animal nutrition; Inspection and control of animal foodstuffs or foodstuffs of animal origin and Food hygiene and Technology - Practical work (including practical work in places where slaughtering and processing of foodstuffs takes place);
- **Training in the communication of knowledge:** conclusions and findings, both oral and written, by the preparation of practical or technical works in different subjects along the course, review and research.

The course programme learning outcomes are reviewed regularly by the CDB. Each CU Regent sets the intended learning outcomes for that specific course unit and publishes it online each academic year through SIDE, in agreement with the programme course learning outcomes. Appendix 2 presents the full list of the programme learning outcomes, mapped to ESEVT competences. In addition, further information such as student effort hours, programmatic content, teaching and learning strategies, assessment, and learning resources are published in the FUC and discussed with the students in the first class. Before the beginning of each academic year, curricular information is updated and published online. The outcomes assessment data, student pedagogical survey (QP) feedback at the end of the semester and RUC data provided by the teacher in charge provide insights into the instructional quality and effectiveness of the curriculum. This data is gathered at the RAC and analysed by the Course Analysis Committee (CAC), to support curriculum monitoring and to ensure programme learning outcomes are being met. The process is coordinated by SiGQ and PC.

**Standard 3.4: The VEE 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. The committee(s) must:**

IMVM's curriculum has progressed according to the evolution of knowledge in veterinary area, to accommodate EU Directives and Standards and Guidelines for QA in European Higher Education Area recommendations (ESG, 2015) for the teaching/learning of Veterinary Medicine, and also the recommendations from National (A3ES, in 2016 and 2021) and European (EAEVE, in 2012 and 2015) assessments. As stated previously (see Standard 3.1) the IMVM course was evaluated in 2021 by the National Agency (A3ES), being fully accredited for 6 years.

Nevertheless, the curriculum is permanently assessed (Standard 3.1) and adjusted whenever changes are necessary. In the next academic year (2022/2023), several minor changes will be introduced in the curricular plan, to accommodate recent EAEVE guidelines, as well as recent suggestions from students and external stakeholders, ensuring the acquisition of the competences required for professional practice by the graduates.

The minor modifications and improvements to the curriculum are discussed through meetings of the CDB, and have to be approved by the Department of Veterinary Sciences (DCV). The proposed alterations are then submitted to the PC and SC for approval. The proposal must then be approved by the AC and finally by the Rector. Externally, the proposed alterations are submitted to A3ES: if the alterations made are minimal (Standard 3.1), they are registered at DGES and subsequently published in the official government journal (*Diário da República*). These alterations are communicated to teachers and students through meetings and are publicly available on the official website.

Detailed information on UTAD QA procedures can be found in Appendix 4. Annual monitoring and the production of Annual Monitoring Reports (at CU and Course level) are essential elements of the QA process. A flowchart outlining the IMVM monitoring process is available at Appendix 6.1.1.



**Standard 3.5: External Practical Training (EPT) is compulsory training activities organised outside the VEE, the student being under the direct supervision of a non-academic person (e.g. a practitioner). EPT cannot replace the core intramural training nor the extramural training under the close supervision of academic staff (e.g. ambulatory clinics, herd health management, practical training in FSQ and VPH). Since the veterinary degree is a professional qualification with Day One Competences, EPT must complement and strengthen the academic education inter alia by enhancing student's professional knowledge.**

In the 11<sup>th</sup> semester, students perform EPT, through a curricular traineeship that accounts for 30 ECTS (CU Master thesis). CDB is responsible for the coordination of the procedures related to EPT.

Students are free to choose the traineeship placement(s), supervisor(s), as well as the scientific area. Each student contacts the supervisor(s) and presents an application to the Academic Services (SA-UTAD), in a specific form. A work plan is also submitted, with a timetable, signed by the student and the supervisor(s), as well as acceptance declarations of the supervisor and co-supervisor (if applicable), according to the university regulations. Documents are initially verified by the AS and submitted for further verification by CDB and subsequent SC approval. The AS notify the student of the application approval or if there are alterations/corrections to perform in order to be approved. In this case, the student must re-submit the documents for final approval. When students are incapable of finding an EPT placement, CDB can help with placement definition.

The Teaching, Formation and Pedagogical Innovation Office (GEFIP), in coordination with the CBD, collaborates in managing the agreements and officializing the EPT before the beginning of the activities. Until June 15<sup>th</sup>, students submit a form to GEFIP indicating the placement(s), the name and contact of the local supervisor(s), and the period(s) of the traineeship. Most EPT placements have already a collaborative protocol with the university; and when students select new entities, a protocol must be established through GEFIP, after proposal evaluation. A list of the external entities with an active agreement with the university is available on the SIDE platform. To date, UTAD has promoted a high number of agreements with external entities (Appendix 6.3.11).

Supervision is performed by a PhD degree or a specialist whose merit in the scientific area of the curricular traineeship is recognised by SC. At least one of the supervisors has to belong to the VEE academic staff. Further information on the supervision is available in the University Regulation n° 658/2016, on Master Degree. At the end of the traineeship, students have to prepare a master thesis/report (written document) which is publicly presented and discussed. This procedure is also centrally regimented.

If interested, students might also carry out voluntary extracurricular practical training across the programme years, especially in the summer holidays. However, this training is independent and not managed by the VEE.

The student can select the subject of EPT among all the subjects related to the study programme. The total duration is a minimum of 480 hours, organised as agreed by the student and the external entity.

**Table 3.5.1.** Curriculum days of External Practical Training (EPT) for each student

Fields of practice	Minimum duration (weeks)	Semester of programme
Production animals (pre-clinical)	480 practical hours minimum  (Final Curricular Traineeship)	11
Companion animals (pre-clinical)		
Production animals (clinical)		
Companion animals (clinical)		
FSQ & VPH		
Other (specify)		

**Standard 3.6: The EPT providers must have an agreement with the VEE and the student (in order to state their respective rights and duties, including insurance matters), provide a standardised evaluation of the performance of the student during their EPT and be allowed to provide feedback to the VEE on the EPT programme.**

As stated above, GEFIP is in charge of managing the agreements and officializing the EPT before the beginning of the external activities (Appendix 6.3.12). Health insurance is guaranteed to the students by the university.

At the end of the placement, feedback is provided by the traineeship provider, evaluating the student's performance along the placement.

Prof. Maria João Pires, from the DCV, is responsible for the extramural activities' supervision.

**Standard 3.7: Students must take responsibility for their own learning during EPT. This includes preparing properly before each placement, keeping a proper record of their experience during EPT by using a logbook provided by the VEE and evaluating the EPT.**

During EPT, students should record their experience, resulting in a final thesis.

Whenever there is a problem with the EPT placement, students communicate (officially and/or anonymously) to the VEE directly to the CDB (by e-mail, phone or direct contact), or indirectly through the academic supervisor/responsible. The CDB analyses the complaint(s), and mediates and solves the conflicts.

### **Comments on Area 3**

The IMVM's curriculum, implemented in 2015/2016, includes a distribution of contents suitable for the acquisition of all the competences of the veterinary profession, with a progressive increase in clinical training throughout the academic years. Nevertheless, given that extramural training was mandatory only in the 5<sup>th</sup> year, the curricular plan suffered minor adjustments, such as the introduction of EPT from the first year. This alteration will start in the next academic year (2022/23), allowing the student to contact with the real work environment earlier, thus complementing the intramural training.

The establishment of CR periods in 2015/2016, following the recommendation of EAEVE in 2012, in which the students complete hands-on practical training, improved students' training.

The Skills Lab is available for the students, enabling the skills training in models. Although in some CU, models were already used (such as *Introduction to Surgery* and *Animal Reproduction*), the establishment of this lab allows the combination of all these and new models, resulting in the acquisition of competences in a more robust way.

The implementation of a personal Skills Book by the students allows the validation of the acquired clinical competencies. It is given to the students at the beginning of the first year and it must be filled to allow for the final approval in the IMVM. It should be delivered to the CDB for verification purposes at the end of the 5<sup>th</sup> year. For further information please consult the specific regulation.

Besides the core curriculum, VEE also organizes short courses, seminars, and workshops, often jointly with the Students Association, both for students and veterinary professionals, usually in a post-labour schedule, encouraging lifelong learning.

### **Suggestions for improvement in Area 3**

The implementation of a new IMVM's curricular plan is presently under internal discussion, according to questions raised by both internal and external stakeholders. For this new curriculum design, a collaborative multidisciplinary process will be implemented, incorporating the input of both the academic staff (including the results from the previous working group), students and external stakeholders.

Increase the number of protocols with farms/external premises where our students can develop external practical training.

For better management of the IMVM's curriculum, a Scientific Area Coordinator responsible for the coordination of each scientific area would allow a better temporal sequence and interaction between the subjects taught in the IMVM course. This process could be accompanied by the introduction of a teacher year representative figure, improving both the horizontal (between CU of the same year/semester) and vertical (between CU within the same scientific/technical areas) integration of teaching.

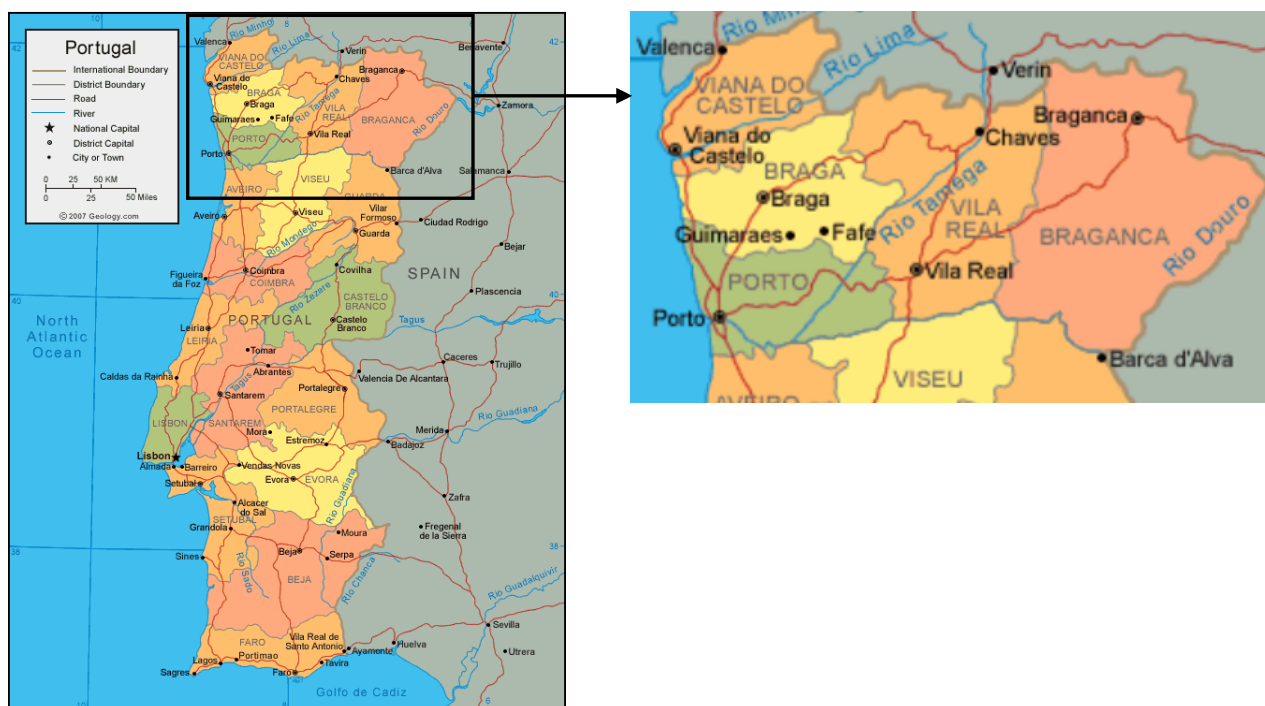
The implementation of a smartphone application to be used as a personal logbook by the students.

Increase the number of lifelong learning courses, considering stakeholders' feedback and suggestions.



**Standard 4.1: All aspects of the physical facilities must provide an environment conducive to learning, including internet access.**

UTAD is located in the interior North of mainland Portugal, in the region of Trás-os-Montes and Alto Douro. The UTAD campus, located in Quinta de Prados, is situated in the extreme South of the city of Vila Real, the district capital with the same name, just 15 km North of the Douro river (Figure 4.1).



**Figure. 4.1** UTAD location, in the North of Portugal and adjacent Spanish regions

The city is served by two highways that intersect here (A4: Porto/Bragança, and A24: Viseu/Chaves/ border), and that enhance not only its proximity to the neighboring Spanish regions (Galicia, 60 km to the North, and Castile and Leon 100 km to the East), but also to the coast (90 km to the West).

UTAD is an institution oriented towards the creation, transmission and diffusion of culture, knowledge and science. Located in a developing region, it promotes entrepreneurship, in close relationship with the community, its bodies, institutions and business fabric, deepens scientific knowledge, develops technology and seeks to respond to global, national and regional problems.

A virtual visit of the Campus is available [here](#). Installed on an EcoCampus that integrates one of the largest Botanical Gardens in Europe, UTAD has modern facilities, internet access throughout the entire facilities campus, libraries, student computer cluster, laboratories, online services, sports equipment and offers multiple opportunities in the cultural field, accessible to its students, teachers, researchers and others workers, as well as the wider community. It has Social Services that strive for excellence, allowing access to scholarships, modern university residences, bars, canteens, restaurants, computer rooms, and support in the areas of medicine, psychology and nutrition. Three of the five bus lines of the city bus (Urbanos) have a bus stop at UTAD. Access from the student's residences and canteens and cafeterias outside the campus can easily be made by foot (15 minutes).

## Physical facilities

Veterinary teaching and the clinical activities are delivered on the UTAD campus and also in extramural facilities (Appendices 3 and 6.4.1). Students of the IMVM use various facilities, divided into eight main areas:

- 4.1.1. Veterinary Teaching Hospital (VTH)
- 4.1.2. Agricultural Management and Exploration Centre (CEGA)
- 4.1.3. Teaching Complex of ECAV - Pole I
- 4.1.4. Teaching Complex of ECAV - Pole II
- 4.1.5. Teaching Complex of ECVA - Pole I
- 4.1.6. University Centre of the AAUTAD
- 4.1.7. Teaching Complex and Bioterium of Laboratory Complex
- 4.1.8. Extramural facilities

### ***4.1.1. Veterinary Teaching Hospital***

The VTH opened in 1992, having undergone remodeling and expansion works in its facilities, being re-inaugurated on May 8<sup>th</sup>, 2009. The initial VTH building with 2 687 m<sup>2</sup> built in 1992, underwent expansion (and refurbishment) works to almost double (another 2 441 m<sup>2</sup>), thus making a total of 5 128 m<sup>2</sup>. VTH has also an outdoor animal walk area surrounding the main building and a car parking area with a considerable number of spaces (Figure 1, Appendix 6.4.2). The main building houses facilities dedicated to consultations, diagnostic and hospitalization of companion animals (including exotic pets), horses and production animals.

The VTH also includes the Wildlife Rehabilitation Centre (CRAS) located in an independent complex at the bottom of the forest on the left side of the VTH. This is used for the treatment and rehabilitation of native wild fauna, as well as for research work in the field of wildlife conservation (Figures 2 and 3, Appendix 6.4.2). This centre has been operating in its current facilities since July 2009. Created to provide the best conditions for reception, treatment and rehabilitation of animals that arrive injured, debilitated or, although clinically healthy, are not able to be returned to Nature. An octagonal-shaped circular flight tunnel surrounds the housing facilities, complemented by a straight flight tunnel, and molting chambers complex outside the main building. In 2021, a new building was rehabilitated, adding five new straight tunnels to bird recuperation. All the main diagnostic and surgical procedures are performed in VTH main building.

### ***4.1.2. Agricultural Management and Exploration Centre***

CEGA is a specialised structure that aims the agricultural and livestock management of the university campus. It is in charge of the management and housing of the animals of UTAD's livestock. It includes facilities for horses, dairy cattle, sheep and goats, poultry, rabbits and pigs (Figures 4 to 10, Appendix 6.4.2). It also accommodates beehives. The distance between the CEGA and the VTH is around 200 m.

### ***4.1.3. Teaching Complex of ECAV - Pole I***

The Teaching Complex of ECAV - Pole I (Figure 1, Appendix 3) is a building consisting of 3 floors that houses one of the main auditoriums (Auditorium of Agrarian Sciences) used for theoretical classes, seminars and other events organised by IMVM with a capacity for 250 students, other classrooms for theoretical classes with a capacity between 20 and 83 students, classrooms for practical classes and several laboratories, including the Laboratory of Agriculture and Environment, Laboratory of Medical Microbiology, Laboratory of Parasitology, Laboratory of Anatomy, Laboratory of Beekeeping, Laboratory of Physiology, Laboratory of Animal Breeding, Laboratory of Nutrition and Feeding and the Laboratory of Fish Farming. The Museum of Animal Anatomy is also located in this teaching complex. Teaching Complex of ECAV - Pole I also includes a bar/canteen, the ECAV secretariat and the ECAV support office, as well as the headquarters of the Animal and Veterinary

Research Centre (CECAV). The distance between the Teaching Complex of ECAV (Pole I) and the VTH is 100 m.

#### **4.1.4. Teaching Complex of ECAV - Pole II**

The Teaching Complex of ECAV - Pole II (Figure 1, Appendix 3) is a building consisting of 4 floors that houses another of the main auditoriums used for theoretical classes (Auditorium of Forest Sciences) with a capacity for 110 students. The distance between the Teaching Complex of ECAV (Pole II) and the VTH is 470 m.

#### **4.1.5. Teaching Complex of ECVA - Pole I**

The Teaching Complex of ECVA (Figure 1, Appendix 3) is a building consisting of 3 floors that houses the Auditorium of the Great Hall (“*Aula Magna*”) with a capacity for 500 people, rooms for practical laboratory classes and several laboratories, including the Biochemistry Laboratory. This building is also the headquarters of the Centre for the Research and Technology of Agro-Environmental and Biological Sciences (CITAB), which includes some IMVM teachers. The distance between the Teaching Complex of ECVA (Pole I) and the VTH is 400 m.

#### **4.1.6. University Centre of the AAUTAD**

The University Centre of the AAUTAD resulted from the remodeling of the former facilities where the Social Services auditorium was located, which is currently the headquarters of AAUTAD and where another of the main auditoriums for theoretical classes with capacity for 120 students is situated. This is a recreational space centered on students that enhances the interaction between professors, students, researchers and employees, as well as the promotion of cultural activities.

#### **4.1.7. Teaching Complex of the Laboratory Complex**

The Laboratory Complex is a building consisting of 5 floors that houses rooms for theoretical classes and several laboratories equipped with cutting-edge technology, including the Laboratory of Genetic, Laboratory of Histology and Anatomical Pathology, the Laboratory of Technology, Quality and Food Safety, and the Bioterium. This facility also allocates a cafeteria/canteen. The distance between the Laboratory Complex and the VTH is 270 meters. Whenever necessary, other facilities are used for classes, especially theoretical classes.

#### **4.1.8. Extramural facilities**

The extramural facilities (Table 4.1 and Figures 3 to 5, Appendix 3) allow training periods that are an integral part of the curriculum, but which are taken outside the VEE. These include several distributed sites that complement the VEE resources, including: slaughterhouses, food processing units; eggs classification centre; docks; local markets; meat distribution establishments; local restaurants and UTAD canteens, shelters, private veterinary hospitals, and others.

During *Traineeship IV* and *V*, each group is divided into small groups of 1-4 students per teacher (academic staff). Since 2021-2022, teaching team includes four additional teachers which is equivalent to five more facilities where the students can develop clinical training and professional communication.

### **Internet access**

The Computer and Communications Services of UTAD (SIC-UTAD) are responsible for providing support in the areas of technology and communications facilities, information systems and computer applications, in addition to promoting and providing advanced services in the areas of technology and information and communication systems to the academic community (see Area 6).

In face of the COVID-19 pandemic situation, the “Eduroam” wireless infrastructure in the classrooms was reinforced due to the need to use online resources in the teaching of CUs. Due to the pandemic, the Moodle and Zoom-Colibri platforms proved to be very useful in the distance learning-teaching process. In practical classes with a clinical scope, it is possible to use high-definition mobile cameras, allowing students who are not in the classroom to watch and follow the class in real-time.

**Table 4.1.** Extramural facilities (see Appendix 3)

Extramural facilities	Identification	Location	Distance from campus	DVM in charge	Nature of the work
<b>Slaughterhouses</b>	Matadouro Industrial do Cachão	Cachão	80 km	Official Veterinarian	Cattle, Small ruminants, Swine
	Matadouro Seara, SA	Vila Nova de Farnalição	104 km	Official Veterinarian	Swine
	PEC Nordeste	Penafiel	60 km	Official Veterinarian	Cattle, Small ruminants, Swine
	Litoral Coelho, SA	Tocha	189 km	Official Veterinarian	Rabbit
	Avicasal	S. Pedro do Sul	93 km	Official Veterinarian	Poultry
	Crizaves	Tondela	117 km	Official Veterinarian	Poultry
<b>Food processing units</b>	Savibel	Reigoso	73 km	Official Veterinarian	Poultry
	Matadouro Aleu (closed in 2020)	Vila Real	2 km	Official Veterinarian	Swine
	A Poveira, SA	Póvoa de Varzim	127 km	na	Canned food
	Ramirez & Cª Filhos, SA	Matosinhos	101 km	na	Canned food
<b>Eggs classification centre</b>	Nutroton	Tondela	122 km	na	Eggs classification and packaging
	Casa do Aído	S. Pedro do Sul	95 km	na	Eggs classification and packaging
<b>Docks</b>	Docapesca	Matosinhos	81 km	Official Veterinarian	Fish inspection
	Contínente Vila Real	Vila Real	3.6 km	na	Food inspection
<b>Local markets</b>	Jumbo Vila Real	Vila Real	1 km	na	Food inspection
	Mercado Municipal Vila Real	Vila Real	1 km	na	Food inspection
<b>Meat distribution establishments</b>	PEC Nordeste	Penafiel	60 km	Official Veterinarian	Meat cutting and packaging
	Veterinary Hospital Montenegro	Porto	94.2 km	Luis Montenegro	Companion animals
<b>Extramural training</b>	CROA Coimbra	Coimbra	178 km	Mariana Portugal	Shelter Medicine
	Cooperativa Agrícola de Vila Real	Vila Real	2.9 km	Juan García Díez	Farm animals and Equines Preventive Medicine
	Ambulatory clinic	Barcelos	125 km	Ana Paula Peixoto	Farm animals (mainly dairy cattle); Preventive Medicine
	Cooperativa Agrícola do Alto Cávado	Braga	105 km	Jorge Bernardes	Farm animals (cattle, small ruminants, swine) and Equines Preventive Medicine
	Ambulatory clinic	Vila do Conde	115 km	Isabel Maia	Preventive and Reproductive Medicine (mainly dairy cattle)
	Cooperativa Agrícola Leiteira do Concelho da Póvoa de Varzim	Amorim	120 km	Eduardo Torres	Farm animals (cattle, small ruminants, swine) and Equines; Preventive Medicine
<b>Extramural training (since 2021/2022)</b>	Breed Veterinary Hospital - Paredes	Paredes	115 km	Juliana Moreira	Companion animals
	Breed Veterinary Hospital- Amarante	Freixo de Cima	48.8 km	Juliana Moreira	Companion animals
	Ambulatory clinic	Penafiel	60.4 km	Inês Reis	Equines
	Ambulatory clinic	Viseu	90.9 km	Diogo Themudo	Equines



## **Strategy and programme for maintaining and upgrading its buildings and equipment**

The strategy for decisions on upgrading or proposing new buildings is managed by the Rector, by proposals from the ECAV's President or the VTH's Director, after listening to the different bodies of the institution and taking into consideration the opinions of all involved (students, teaching and non-teaching staff and stakeholders). Proposals are largely focused on current needs and horizon scanning.

The maintenance of hospital equipment is done through a public tender for specialised companies. The current contract is with the company Opertec and includes regular inspections and equipment repairs. The Rector validates the acquisition of new equipment, upon a proposal from the VTH's Direction. This direction has autonomy for the purchase of small equipment, but the acquisition of larger equipment is always a joint decision, as recently happened with the acquisition of a new CT and ultrasound scans. Needs are prioritised according to teaching, clinical, and research activities. The funds come from UTAD or research projects managed by the VTH or by individual teachers/researchers.

Upgrading and maintaining buildings decisions are discussed with the Rectory and the approved decisions are implemented by the Financial and Patrimonial Services and the Purchasing Centre of the VEE, with the technical contribution from the Infrastructure Maintenance and Sustainability Unit (UMIS) which are centralised service providers covering all areas of the University. In terms of routine or condition-based maintenance, the UMIS team has a cyclical schedule for many aspects (e.g. painting, roof gutter maintenance and care, cleaning and sanitizing, HVAC maintenance, etc.) and any reactive maintenance required out with the standard cycles (including urgent maintenance) can be requested via the UMIS maintenance request system (by phone, email or VEE's intranet). In cases where upgrading of buildings is likely to represent a significant new capital cost, the ECAV is required to submit a New Project Request to the Rectory, for approval. Flowcharts for the acquisition of goods, services or contracts by general funds are represented in Appendix 6.4.3.

## **Facilities must comply with all relevant legislation**

VTH is licensed by the General Directorate for Food and Veterinary Medicine (DGAV) the national entity that inspects and licenses veterinary medical care centres, with the operating authorization number PT 1 0021 HS (Regulation n° 521/2014 - *Diário da República*, 2.ª série, n° 222, November 17<sup>th</sup>). In this way, the VTH meets the national practice standards for its operation to the public. The VTH's director undertakes the role of clinical director, formalised by the Portuguese Veterinarians Order (OMV), the national organism that oversees and authorizes the veterinary medical profession. All the clinicians working at the VTH have a professional card issued by the OMV.

CRAS is an integral part of the National Network of Fauna Recovery Centres, credited with the number 2012 PT 06/CR, which in turn is jointly coordinated by the Institute for the Conservation of Nature and Forests (ICNF) and DGAV, regulated by Ordinance n° 1112/2009, September 28<sup>th</sup>.

Legislative compliance for the physical facilities is generally managed by centralised departments within the VEE. For example, building compliance works are managed by the UMIS, which manages all aspects of this from architecture, local authority planning, and building warrants through to managing physical maintenance or works via their list of approved building contractors. Currently, UTAD holds the ISO NP 14001 (Environmental Management System) and ISO NP 5001 (Energy Management) certifications.

Legislative compliance from a health, safety and environmental aspect is managed by the VEE's Planning, Evaluation and Improvement Office with the operational support from UMIS, with the global policy being set by the Pro-Rectory for Planning, Territory and Patrimony and the Pro-Rectory for Health and Welfare. Currently, UTAD holds the ISO NP 14001 (Environmental Management System) and ISO NP 5001 (Energy Management) certifications.

The Social Services of the University of Trás-os-Montes and Alto Douro (SAS-UTAD), are a structure of UTAD dedicated to ensuring the functions of social action and support for academic experience. The purpose of SAS-UTAD is to implement the social policy, through the provision of support, benefits and services included therein, to promote equal opportunities for success and attendance in a higher education course and for the comprehensive training of students. Within the scope of its attributions, it is incumbent upon SA-UTAD, namely: a) Allocate scholarships and subsidies; b)

Promote access to food in canteens and cafeterias; c) Promote access to accommodation; d) Promote access to health services; e) Support sports and cultural activities; f) Develop other activities that, by their nature, fit into the general purposes of social support in higher education. Psychology Specialised Services Unit USEP-ECHS is a community support unit to provide specialised services of a psychological nature, without neglecting scientific research, training and teaching activities, articulating with experimental support structures, namely, the Psychology Laboratory and the Testoteca, allocated to the Department of Education and Psychology.

The compliance of the infrastructures to EU animal welfare and care standards are assured by the DGAV. At the institution, the Animal Welfare Committee (ORBEA) promotes periodic consultive visits to the facilities.

**Standard 4.2: Lecture theatres, teaching laboratories, tutorial rooms, clinical facilities and other teaching spaces must be adequate in number, size and equipped for the instructional purposes and must be well maintained. The facilities must be adapted for the number of students enrolled. Students must have ready access to adequate and sufficient study, self-learning, recreation, locker, sanitary and food service facilities. Offices, teaching preparation and research laboratories must be sufficient for the needs of the academic and support staff.**

The VEE has a set of classrooms for teaching theoretical (Table 4.2), theoretical-practical and practical classes, which, according to the needs, are allocated to the different CUs of the IMVM.

The classrooms for lectures are equipped with multimedia projectors, but in case of need, there are also some portable projectors as a compliment. Some of the rooms have an image and sound system for hybrid teaching, as used during the pandemic crisis. Laboratories have the equipment needed for the practical classes. In some cases, the equipment available for teaching purposes is complemented, whenever necessary, with equipment from the research laboratories. These research laboratories receive students during practical training or for preparation of their Master's thesis. The Laboratory of Biostatistics and Animal Breeding is equipped with computers.

**Table 4.2.** Premises for lecturing (usually used for the IMVM)

Hall	Number of places	Hall identification	Building
1	250	Auditorium AS	ECAV - Pole I
2	120	Auditorium	University Centre AAUTAD
3	110	Auditorium Forest Sciences	ECAV - Pole II
4	71	N2.01	ECAV - Pole I
5	60	N1.01	ECAV - Pole I
6	83	N1.75	ECAV - Pole I
7	77	N2.07	ECAV - Pole I
8	20	N2.02	ECAV - Pole I
9	44	N1.21	ECAV - Pole I
10	52	N1.14	ECAV - Pole I
11	38	N1.05	ECAV - Pole I
12	30	N1.23	ECAV - Pole I
13	21	N1.20	ECAV - Pole I
14	22	HV1.14	VTH

Group work, seminars and tutorials are carried out in several classrooms that can be requested. In each building there is a dedicated study room for students, and there is also an additional classroom in the University Centre - AAUTAD. The Central Library also has several study rooms for group work.

Practical work is carried out in classrooms, rooms and laboratories (Tables 4.3 and 4.4). Laboratories and rooms for clinical practices are fully equipped with different equipment. Biosafety/Biosecurity is a priority, so laboratories are compliant and properly signposted according to the National and European legislation. Students have to observe the biosafety/biosecurity rules and wear the personal protective equipment (PPE) on each practice. The practical classes of the clinical CU take

place at VTH, in a clinical context. In the year 2022, three classrooms were built, two for small animals and one to large animals.

**Table 4.3.** Premises for practical work (usually used for the IMVM)

Hall	Number of places	Hall identification		Building
1	18	N0.05 Lab	Anatomy	ECAV - Pole I
2	18	N1.16	Biostatistics and Animal Breeding	
3	18	N1.34	Anatomical Pathology	
4	20	N2.04	Animal Physiology	
5	18	N2.11	Parasitology and Parasitic diseases	
6	18	N2.21	Medical Microbiology and Infectious Diseases	
7	20	N2.02	Histology and General Pathology	
8	18	N2.36	Animal Physiology	
9	18	N2.78	Nutrition	
10	20	Pav.I D	Medical Semiology II/Immunology	
11	10	Pav.I D Lab	Medical Semiology II/Immunology	
12	20	Pav.II E	Pharmacology/ Toxicology	
13	10	Pav.II E Lab	Pharmacology/ Toxicology	
14	12	C.0.04	Food Technology/ Food Inspection	Lab. Complex (LC)
15	20	Lab. A1.05	Biochemistry	ECVA
16	20	Lab1 A2.11	Genetics	LC
17	54	C1.01	Toxicology/ Public Health	
18	54	C1.04	Veterinary Legislation	
19	20	Necropsy room	Anatomic Pathology	VTH
20	30	HV0.56	Cadaver training room - Surgery	

**Table 4.4.** Premises for clinical work and student training in the VTH

Species	Premises	Number
Companion Animals	Consulting rooms	4
	Surgical theater	3
	Emergency and observation rooms	1
	Cadaver training rooms	1
	X-ray room	1
	Hospitalization rooms	3
	Ultrasound room	1
Equine and Farm Animals	Consulting rooms	1
	Surgical theater	2
	X-ray room	1
	Hospitalization rooms	3
Multispecies	Necropsy room	1
	CT-room	1
	Clinical pathology Laboratory	1
Wild Animals	CRAS	2

The Skills Lab (LabCC) is located at Pav. II E in the VTH Annex Building. LabCC is a teaching structure of the Department of Veterinary Sciences (DCV) of UTAD, aiming to promote learning and training of practical skills for IMVM students, allowing better preparation for the real clinical environment, based on the assumption that the acquisition of clinical skills before contact with animals is mandatory (see Area 6).

All the main campus buildings have at least one study room for students to carry out their studies and self-learning. There are also study rooms in the central library.

The Museum of Animal Anatomy has a collection of skeletons and anatomical pieces prepared in the Laboratory of Anatomy. It includes a collection of skeletons from several domestic, exotic, and wild species, namely a varied number of reptiles, birds of prey, herbivores, carnivores, and primates.

Also presents several joint preparations and anatomical models. The students visit the museum during the different CU of Anatomy and may request the space or anatomical specimens to do specific works.

VEE has a canteen and a Restaurant on campus and a second canteen in the Residencial Além-Rio about a 10-15 minutes walk from Campus. In addition, all buildings have a cafeteria where students can take a meal. Also, in all buildings there are vending machines.

Locker rooms are available for students in ECAV - Pole I and VTH. They are managed by the Association of Veterinary Medicine Students (AEMV). With regard to the accommodation, students on call have a rest room available on VTH.

Installed on an EcoCampus, UTAD integrates one of the largest Botanical Gardens in Europe, which is a major leisure space. Students have access to sports and recreational facilities, namely a football field, an athletics track, a pavilion and tennis courts. There are theater groups and academic music groups. The AEMV is very active and organizes numerous recreational and cultural events.

All buildings are equipped with the appropriate number of sanitary facilities, complying with the national law. There are showers in the CRAS building and the main building of VTH, both for students and staff.

The staff offices are distributed by the various buildings allocated to the IMVM, namely VTH' main and support buildings, ECAV - Pole I and Laboratory Complex. Each office can accommodate from one to four people.

The main research laboratories integrated with the IMVM are the Lab. of Clinical Pathology, Lab. of Histology and Anatomical Pathology, Lab. of Medical Microbiology, Lab. of Parasitology, Lab. of Technology, Quality and Food Safety Laboratory (LTeQSA) and Bioterium.

**Laboratory of Clinical Pathology:** This laboratory is located on the ground floor of the VTH building (63.30 m<sup>2</sup>), providing support for the handling of VTH's clinical cases. Two academics with specific skills in Clinical Pathology work in this laboratory under a rotation scheme, having the responsibility of guaranteeing the quality and validation of the results. This laboratory also has a clinical analysis technician responsible for the routine work and receives samples mostly from clinicians of the VTH. In terms of organization, the laboratory is organised into two areas: the ordinary period (from 9:00 to 17:30h, Monday to Friday, 365 days/year), and the after-hours period (from 17:30h, nights, holidays and weekends), analyses are performed by the veterinary on duty (Figure 1, Appendix 6.4.2).

**Necropsy room:** Located on the ground floor of the VTH building (69.49 m<sup>2</sup>), provides support for all the animals that died at the VTH, and also for veterinarians, mainly from Northern Portugal. It also receives large animal cadavers from the associated explorations. It has a dressing room for the placement of protective equipment, a semi-clean area, a dirty area (necropsy room), a washing room (9.36 m<sup>2</sup>), a refrigerated chamber and an incineration unit. Necropsies are performed by the teachers of the histopathology area, namely clinical necropsies and forensic necropsies (Figure 1, Appendix 6.4.2).

**Laboratory of Medical Microbiology:** This laboratory is located on the second floor of ECAV - Pole I and comprises two main microbiology laboratories (approx. 330.0 m<sup>2</sup> in total) and the Lab. of Water Environmental Microbiology. Its team comprises four veterinary teaching staff (two of them are European Veterinary Microbiology College diplomates) with specific skills in microbiology and two assistant technician. This laboratory offers veterinary microbiology diagnostic testing and research services to VTH, government organizations, private sector, and individuals (Figure 11, Appendix 6.4.2).

**Laboratory of Parasitology:** This laboratory is located on the second floor of ECAV - Pole I), and the team comprises two teachers with specific skills in parasitology (one of whom is a European Veterinary Parasitology College diplomate) and one assistant technician. The Laboratory of Parasitology performs parasitological analyses required by the VTH as well as by other veterinary medical centres (Figure 12, Appendix 6.4.2).

**Laboratory of Histology and Anatomical Pathology (LHAP):** Currently located in the first floor of the LC building; used for pathology diagnosis supporting VTH and private veterinarians. Eight veterinary teaching staff with specific skills in pathology and 3 support staff constitute the laboratory team. Histopathological diagnosis, cytology observations and necropsy service are assured by a weekly scale, in which participate 7 pathologists. Histochemical-specific techniques and immunohistochemistry are also routinely performed (Figures 13 to 14, Appendix 6.4.2).

**Food processing unit:** This laboratory is located in the first floor of the LC and is used for laboratory classes. There is a small pilot plant for meat products (equipment for mixing, stuffing, cooking, smoking and drying) in the multipurpose LTeQSA. In this unit, it is possible to prepare several types of meat products (except brine-injected and emulsified). Regularly, during the practical classes, the students prepare cooked and dry cured products. The lack of a continuous pasteurizer for milk is the main problem. There are practical classes with yogurt, cheese and butter processing, prepared with milk heated by discontinuous pasteurization in a water bath, or with milk acquired already pasteurised.

**Bioterium:** Currently located in the LC building, this laboratory was designed for the housing of laboratory animals (rabbits, rats, mice and fish, the latter only for nutritional studies) and is prepared for specific manipulations (e.g. surgery, necropsy, experimental procedures and behavioral testing) (Figure 15, Appendix 6.4.2).

**Standard 4.3: The livestock facilities, animal housing, core clinical teaching facilities and equipment used by the VEE for teaching purposes must: be sufficient in capacity and adapted for the number of students enrolled in order to allow safe hands-on training for all students; be of a high standard, well maintained and fit for the purpose; promote best husbandry, welfare and management practices; ensure relevant biosecurity and bio-containment**

**Premises for healthy animals**

At the VEE, there are several facilities for rearing and maintaining animals for teaching purposes (Tables 4.5 and 4.6), distributed in two infrastructures: VTH (dogs and equines) and the CEGA (farm animals and equines).

**Table 4.5.** Housing for healthy animals in VTH

Species	Capacity	Comments
Dogs *	8 dogs	Indoor kennel (150 m <sup>2</sup> ) used for maintaining dogs; the space is organised with 8 cages of 12.0 m <sup>2</sup>
Horses	8 adult and 4 foals	3 open paddocks (one with 3800 m <sup>2</sup> and two with 5000 m <sup>2</sup> ) for 4 mares and 4 foals. Three pens with 10.7 m <sup>2</sup> , and two with 4.3 m <sup>2</sup> inside VTH (housing one mare and three stallions).

\* A new modular kennel is under construction outside the VTH, for housing 10 dogs. It includes an external area for walking

**Table 4.6.** Housing for healthy animals in CEGA

Species	Number of legal authorised livestock units	Comments
Small ruminants	120	Nearly 450 m <sup>2</sup> is used for sheep and goats. This shed is complemented with structures for handling, bath and feet treatment.
Pigs	31 breeders	Fattening unit: 5 rooms each with 3 pens for 12 animals; Weaning unit: Three rooms each with three pens for 12 animals; Gestation unit: one room and some pens for gestating sows, gilts and boars (30 animals); Farrowing unit: three rooms with three maternities each; Social facilities: lab, quarantine, nursery, warehouses and locker rooms.
Bovines	50	Milking room with 6 places (46 m <sup>2</sup> ), milk storage room (12 m <sup>2</sup> ), young calves' room (5 calves); 292 m <sup>2</sup> - free stall for 30 cows (24 in lactation and 6 dry); Nearly 312 m <sup>2</sup> is used for heifers, cows, male calves.
Poultry	400	Broilers: 60 m <sup>2</sup> production room, room for 16 small pilots units each for 20 animals, unit of digestibility studies in broilers or rabbits (40 cages), and small room for feed. Laying Hens: one room for 400 hens in colony system, one room for processing and classification of eggs.
Horses	3	Raised in extensive system
Rabbits	60	One room for rabbits (does and fattening animals).

## Premises for research animals

Animal research facilities are distributed by the Bioterium and the facilities of the Department of Animal Science (Tables 4.6 and 4.7).

**Table 4.7.** Housing for healthy animals in the Bioterium

Species	Capacity	Comments
Laboratory rodents and rabbits	Maximum: 18 rabbits; 1500 mice; until 600 rats	VEE animal facilities have the required conditions to maintain animals under conventional conditions (rats, mice and rabbits). Has also available specific equipment for washing and sterilizing cages, grids, and bottles. It also includes a surgery room and procedures rooms. This infrastructure has available Individually Ventilated Cages (IVCs) to maintain SPF rats and mice. There are common guidelines for working in the animal facilities.
Salmonid fish Trout and Salmon	250 trout 2000 salmon fry	In the scarps, next to the campus, an experimental fish farm is located that contains several tanks (30) of various capacities for carrying out nutrition trials. There is also a building (100 m <sup>2</sup> ) with several tanks and faeces collection systems for fish digestibility studies.

**Table 4.8.** Housing for healthy animals in the Department of Animal Science

Unit	Species	Comments
Experimental unit for feeding and digestibility studies	Ruminants and small ruminants	Nutritional studies, digestibility studies and performance studies (DFI, ADG and FCR).
Multivalent unit	Small ruminants, rabbit, broilers (carcass unit)	6 rooms: study carcass unit (two rooms); 1 room (unit of honey processing); the other rooms will be renovated (see comments) for fish production unit for tilapia (2 rooms) and small insect production facility ( <i>Tenebrio molitor</i> ).
Lab Apis	Bees	35 hives and laboratory facilities

## Premises for hospitalised animals

All the hospitalised animals are housed in VTH, with the exception of wildlife, who are accommodated in CRAS (Table 4.9).

**Table 4.9.** Premises for hospitalised animals

Specie	Number	Comments
Dogs	52 boxes	14 ICI, 24 general, 12 isolation room
Cats	16 boxes	10 cat's room, 6 isolation
Horses, Farm animals	20	General boxes, maternity, 4 isolation
Exotic pets	28 boxes	18 regular boxes, 9 terrarium
Wild animals	13 molting chambers, 6 isolations rooms (12 boxes), 7 flight tunnels	CRAS

## Premises for clinical activities and diagnostic services

The VTH is organised into four clinical areas: Companion Animals, Equine, Farm Animals, and Exotic and Wild animals. It offers a relevant number of clinical services for companion and large animals, including a mobile clinic service for large animals and a 24-hour Emergency Service for small animals and horses.

Companion animal service: functionally divided into three sectors: inpatient, internal medicine and surgery, each coordinated by a senior veterinary technician. The specialised clinical services are at the responsibility of a veterinary academic, assisted by the clinical staff, and includes Cardiology,

Dermatology, Dentistry and Oral Surgery, Reproductive Medicine, Neurology, Oncology, Diagnostic Imaging, General Surgery, Traumatology and Orthopedics, among others. In the physical space of the VTH building, there are also the following units: Pharmacy and Medicines Storage (supervised by a Pharmacist), the Clinical Pathology Laboratory, and the Necropsy Service (the previous two are also responsibility of a veterinary teacher). The Small Animal Surgery Service includes consultations and surgery procedures of soft tissue surgery, orthopedics, ophthalmology, dentistry and interventional radiology procedures. Students take part in surgeries. The level of participation depends on the procedure difficulty and the skills of the student. Anaesthesia Service is in charge of the whole procedure, from pre-anesthetic examination to recovery. At the small animal and exotic animal area, there are three anesthetic units, and another one at the large animal area.

Exotic and Wild Animals Service: includes consultation and also surgical procedures. Activities are performed in the VTH. Students attend the consultation and help in the surgical procedures. This service divides its action between the veterinary hospital (inpatient and exotic animal clinic) and the CRAS where the wild species are housed.

Equine and Farm Animals Medicine: share the same staff and the same facilities. The clinical practical training is conducted on an ambulatory basis as part of the on-call service. Students participate in this practical training under the supervision of a veterinary practitioner or a teacher. During the practical training, the students take part in the service as normal clinical practice and also on-call.

Any intervention carried out by the students is overseen by the VTH's professionals and teachers. A brief description of the premises for clinical activities in the VTH is shown on Table 4.10. The Table 4.11 summarizes the specific equipment, beyond the basic material which is available in all the hospital facilities.

**Table 4.10.** Facilities for clinical activities

Facilities	Area (m <sup>2</sup> )	Species	Comments
Reception and waiting room	36.80	Multispecies	Common to all VTH
Vaccination room	9.35	Small animals	Computer and basic material. Vaccinations and prophylaxis
Consultation room 1	13.36	Small animals	Computer and basic material. All types of medical consultations
Consultation room 2	14.68	Small animals	Computer and basic material. All types of medical consultations
Consultation room 3	12.04	Small animals	Computer and basic material. All types of medical consultations
Ultrasound and ophthalmology room	12.04	Small animals	Ultrasound scan, ophthalmoscope
Emergency room	21.19	Small animals	Operating table, crash cart, portable anesthesia machine, defibrillator
Surgery preparation room	20.90	Small animal	Anesthetic vaporizer, capnograph, pulse oximeter
Operation room 1	20.66	Small animal	Endoscopy and dentistry room
Operation room 2	28.00	Small animal	Inhalation anesthesia machine
Operation room 3	24.15	Small animal	Inhalation anesthesia machine
Induction and anesthesia room	11.84	Large animal	Internal video camera
Operating room horses	52.78	Large animals	Inhalation anesthesia machine, large animals table
Ambulatory surgery room	37.32	Large animals	Includes a trunk
Sterilization room and material storage	na	Multispecies	Several materials
X-ray room 1 - small animals	18.95+9.54	Small animal	X-ray
X ray room 2 - large animals	37.19	Large animal	X-ray
X ray command and interpretation room	9.54	Multispecies	Computer, revelation machine
CT room small animals	21.62	Multispecies	Computed tomography scan



CT commands and interpretation room	10.15	Multispecies	Computer
Hospitalization small animals - UCI	32.29	Small animal	14 boxes, oxygen concentrator, 3 tables
Hospitalization - Dogs	30.54	Small animal	24 boxes, bathtub. Two large boxes for giant breed dogs
Hospitalization - Cats	5.88	Small animal	10 boxes, pheromone diffuser
Infectious wing dogs, cats and exotic	17.28	Small animal	4 alveoli, one for exotic animals, three for small animals, one dressing room
Hospitalization large animals	350	Large animals	20 boxes, 4 in isolations unit
Horses arena	225.0	Horses	Several materials
Clinical pathology laboratory	63.30	Multispecies	Haematological and biochemical studies
Necropsy room	69.49	Multispecies	Three stainless steel tables for small animals and an electric hydraulic stainless-steel table and a hoist for large animals

**Table 4.11.** Equipment for clinical activities and diagnostic services

Service	Equipment
Ophthalmology	Tonometer and ophthalmoscope
Diagnostic Imaging	Ultrasound, X-ray for small animals, X-ray for horses, CT equipment and ultrasound for large animals
Dermatology	Wood lamp, microscope and otoscope
Surgery	Several mechanically ventilated volatile anesthesia machines and anesthetic monitors, electric scalpels, central surgical suction, surgical drill, surgical microscope; C-arc image intensifier. Anesthesia tower for horses. Internal video system in two operating rooms
Endoscopy	Video endoscopes for the areas of companion animals, large animals and exotic pets, as well as a portable endoscopy system
Cardiology	Electrocardiographs, and holter
Inpatient service	Oxygen concentrator, several infusion and perfusion bombs
CRAS	Two incubation chambers and one vaporizer
Dentistry	Dental unit; dental X-ray generator and image plate scanner
Lab. Clinical Pathology	Hematology, biochemistry and ionogram, proteinogram, blood gas and hemostasis analyzers, optical microscope with incorporated camera and monitor, refractometer
Lab. Parasitology	ini transblot cell, plate spectrophotometer, epifluorescence microscope, vertical electrophoresis pound, stereoscopic magnifiers, microscopes, incubator for culture of faeces, oven for drying material, centrifuges, small autoclave for the sterilization of material, potentiometer and scales
Lab. Microbiology	Vitek <sup>®</sup> , spectrophotometers, biological safety cabinet, ultrasonic sonicator, electrophoresis apparatus, lyophilizer, fluorescence microscope and optic microscope
Lab. Histology and Anatomical Pathology	Manual and a semi-automatic microtome, cryostat, automatic staining machine; automatic slide mounter; automatic vacuum tissue processor, inclusion table, macroscopic station, two hottes, microscopes, immunohistochemistry horizontal chambers, diagnosis and photo room (digital system for acquired images), laminar flow cabinet, CO <sub>2</sub> incubator and inverted microscope

The Necropsy Service supports the VTH and private clinicians. Private veterinary clinicians send samples and cadavers (all species) that are received from and used for teaching purposes at all times. The procedures to be followed in the Necropsy room are for all animal species and students are involved under the supervision of the professor. Forensic necropsies are also an important part of the service workload. The service is part of the five national laboratories indicated by OMV for performing forensic necropsies.

The IMVM has access to an appropriate number of slaughterhouse facilities. There is adequate provision throughout the year to meet the capacity needs of our students/curriculum. There is always a key academic member from veterinary public health with the students leading the teaching session. On these facilities the students have the opportunity to perform the functions associated with the Sanitary Inspection and Auditing responsibilities of an Official Veterinarian. In the facilities related to other food

animal products are also evaluated the structural prerequisites and hygiene and are performed the inspection procedures.

**Standard 4.4: Core clinical teaching facilities must be provided in a veterinary teaching hospital (VTH) with 24/7 emergency services at least for companion animals and equines. Within the VTH, the Establishment must unequivocally demonstrate that standard of education and clinical research are compliant with all ESEVT Substandards, e.g. research-based and evidence-based clinical training supervised by academic staff trained to teach and to assess, availability for staff and students of facilities and patients for performing clinical research and relevant QA procedures.**

The VTH is open 24/7, with a clinical team (veterinarians and veterinary nurses) present at the hospital on a permanent basis. Students' hospital activities are supervised by these teams, during their hospital rotations.

The clinical practical training in farm animals and horses is conducted on an ambulatory basis as part of the on-call service. Horse emergencies are attended in the VTH and on-call. When needed, the VTH has its own horse trailer for emergency transportation. Students participate in practical training under the supervision of a teacher or a VTH practitioner. They are present during the normal clinical service hours and in the after-hours on-call. There is a rest room for students on night duty.

The general and specialist clinics for small animals are: internal medicine, dermatology, reproduction (with assisted reproduction techniques), cardiology, neurology, surgery, dentistry and intensive care. There are also clinical nutrition consultations by appointment (conducted by a European College of Veterinary and Comparative Nutrition diplomate).

Students are in the VTH during the clinical classes (with a teacher), and during the hospital service week, in groups of 6/7, in the different services.

All the practitioners and academics at the VTH are members of the OMV, which regulates the National profession and the ethical code. The majority of clinical teachers belong to a range of professional associations, such as European Societies and Colleges, which ensures that they undergo continuous training and clinical improvement. A significant proportion of the VTH veterinarians are currently pursuing doctoral studies.

**Standard 4.5: The Establishment must ensure that students have access to a broad range of diagnostic and therapeutic facilities, including but not limited to: diagnostic imaging, anaesthesia, clinical pathology, intensive/critical care, surgeries and treatment facilities, ambulatory services, pharmacy and necropsy facilities.**

All students have access to diagnostic and therapeutic facilities under the supervision of the academic in charge of the practice groups, during the curricular time. Also, in the clinical rotations (CR) weeks, they stay in the hospital 24/7. All students are permitted to perform extracurricular internships (one or two weeks) in non-teaching time.

All clinical activity of VTH is recorded in QVET™ hospital management software, although there are also medical records on paper accompanying the animals during hospitalization or records on paper used in the outpatient mobile clinic. All data are then registered into the QVET™.

Students can access data from medical records in several ways: (i) through the veterinarian responsible for the clinical case, during the students' activity in the VTH, (ii) upon request and with written permission by a teacher, and (iii) by intranet access with visualization of the records according clinical case number. Students have access to a cloud (free4vet™) containing the records of the recent cases, without the owner's data to keep confidentiality. Access is made through computer terminals within the VTH.

**Standard 4.6: Appropriate isolation facilities must be provided to meet the need for the isolation and containment of animals with communicable diseases. Such isolation facilities must be properly constructed, ventilated, maintained and operated to provide for animal care and for prevention of spread of infectious agents. They must be adapted to all animal species commonly handled in the VTH.**

The inpatient facilities of the VTH for animals with or suspected of being diagnosed with infectious diseases are designed for this purpose. They have a ventilation and exhaust system of ambient air with their own circuit, a controlled filter system and periodic maintenance carried out by the Technical Services of the University (UMIS).

Animals access and leave these facilities respecting proper circuits and veterinarians, technicians and employees must comply with strict rules for access to these facilities, which include the use of appropriate disposable personal protective equipment (coats, aprons, overalls, masks, gloves). All this disposable material and biological material is then placed in proper containers and sent for destruction by a specialised company for this purpose, as well as all consumables and disposables used in the treatment of these animals.

The facilities for the internment of small animals, with or suspected of infectious diseases, have a small entrance hall where staff put on personal protective equipment (and remove it on exit). It follows a corridor where there is a workbench and storage of medicines and disposable consumables, a refrigerator and a bathtub. This corridor gives access to 4 rooms for the internment of dogs (2 rooms), cats (1 room) and exotic pets (1 room), which contain their own cells to receive the animals.

The large animal infectious disease wing is undergoing recent remodeling. Animals enter through the hospital side door, not having access to the interior of the hospital. Veterinarians and technical staff enter through an antechamber, where they scrub and put on protection clothes. There are 4 boxes for hospitalization.

**Standard: 4.7 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.**

Ambulatory clinics functions on call. The VTH has two vehicles, one 4-wheel drive that carries 5 people and clinical material (surgical, podiatry, ultrasound equipment, etc), and another vehicle (mini-bus) for 9 people. Clinical rotation students accompany veterinarians on their daily outings, and also travel with teachers, visiting farms and herds.

The VTH has several protocols and agreements with farms, equestrian centres, and livestock protection associations, which allow it to increase the number of animals observed. The veterinary medical management of the university's herd is also the responsibility of this service. A supplementary effort is being made to build a scale in shifts, with the 4 veterinarians of the large animal team, awaiting the hiring of a 5<sup>th</sup> element, which will allow uninterrupted operation for 24 hours.

**Standard 4.8: The transport of students, live animals, cadavers, materials from animal origin and other teaching materials must be done in agreement with national and EU standards, to ensure the safety of students and staff and to prevent the spread of infectious agents.**

For ambulatory clinic purposes, VTH has one vehicle (seating 5 students and teacher) equipped with the instruments and equipment needed to attend to the clinical cases. Also, the VTH has available one mini-bus (seating 9) to transport students during clinical practical training. The transportation of students for food inspection practical classes at local facilities is carried out by 2 mini bus (seating 7 students and 1 teacher or 14 students and 2 teachers) from the student's academic association.

Normally all the animals are transported by their owners. The VTH has a horse trailer occasionally used, when the owner doesn't have the capacity to transport the animal.

The transport of cadavers is licensed by DGAV, a national organization that defines, executes and evaluates policies for food safety, animal protection and animal health, plant protection and plant health. Appropriated vehicles with licensed containers transport the small animal cadavers and organs to UTAD. Animals from zoos that require necropsy are transported to UTAD in the zoo's vehicles. Wild animals found dead are brought to UTAD for necropsy in appropriated vehicles of a specialised division of the police (SEPNA - GNR) and national authorities (ICNF). The removal of small animals' cadavers and material of animal origin is made by a specialised firm (Stericycle). The removal of ruminants' cadavers is made by System for the Collection of Animal Corpses on the Farm (SIRCA), a national system that provides this service for ruminant species.

**Standard: 4.9 Operational policies and procedures (including e.g. biosecurity, good laboratory practice and good clinical practice) must be taught and posted for students, staff and visitors and a Biosafety manual must be available. The Establishment must demonstrate a clear commitment for the delivery of biosafety and biosecurity, e.g. by a specific committee structure. The Establishment must have a system of QA to monitor and assure clinical, laboratory and farm services, including a regular monitoring of the feedback from students, staff and clients.**

UTAD established a Biosafety Committee (BC-UTAD) on November 2013 and the Biosafety Unit of IMVM (BU-IMVM) on February 2014. Their mission is advising the UTAD and the IMVM on policies and procedures relevant to biological safety. Together with other commissions, labs and services' directors, these bodies developed the Manual of General Procedures for Safety, Hygiene and Health in the Workplace available to the UTAD community. Additionally, the different IMVM intramural facilities have their own biosafety/biosecurity supervisors, enabling close and direct teaching and overseeing biosafety/biosecurity practices in each sector.

The teachers of the CU with laboratory and clinical components, in their first practical class, present to the students the principles of good practice relative to each area, referring to the [BU-IMVM webpage](#).

The BC-UTAD is a collegiate and multidisciplinary body composed of a chairman and other six or seven members whose activity is governed by a specific regulation. BC-UTAD's mission is to ensure the observance and promotion of high biosafety and biosecurity standards among the structural units of UTAD in the scope of teaching, research or production activities, which may involve exposure to biohazardous material (including viruses, bacteria, fungi, protozoa, other parasites, animals, animal cells and blood) that may have a detrimental impact on human and animal health or create a risk of biological contamination of the environment (One Health concept). BC-UTAD created and regularly revises the Code for Good Biosafety Practices, a guideline for the whole UTAD community and a supporting document for sector manuals.

The BU-IMVM is composed of a chairman and other four members and its activity is regulated by the BC-UTAD. The BU-IMVM promotes and encourages a biosafety and biosecurity environment, as well as oversees practices, attitudes and knowledge in the IMVM. Its action is directed towards the creation and improvement of biosafety/biosecurity and occupational health policies, providing better and safer conditions of study/work to students and to academic and support staffs. Towards that aim, the BU-IMVM created and revised the Biosafety Best Practices IMVM Code (Appendix 6.4.4) available to all the academic community, through the BU-IMVM webpage.

The BU-IMVM regularly conducts and promotes face-to-face and online activities regarding the following:

- Free training sessions for students, academic staff, veterinary technicians, technical and operational assistants. The training includes basic procedures on biosafety/biosecurity, infection control, procedures in case of accidents, risk assessment, and special practices required in the different facilities;

- Periodic meetings (at least twice a year) with Lab directors and biosafety supervisors to assess general needs, individual questions and problems raised by students, academic and technical staff about biosafety and biosecurity;
- Development of safety check-lists for the assessment of the biosafety/biosecurity irregularities (regarding practices, facilities and equipment) in the teaching and research laboratories associated to the IMVM considered as Biosafety Level 2;
- Development of safety check-lists for the assessment of the biosafety/biosecurity irregularities (regarding practices, facilities and equipment) in animal facilities associated to the IMVM;
- Visits to the animal facilities, as well as to the teaching and research laboratories that handle microorganisms, parasites, cultures, tissues and organic fluids considered as Biosafety Level 2 associated with the IMVM to monitor (safety audits) and assess the needs of improvements in biosafety/ biosecurity; these visits can also be made upon request;
- Check the needs regarding biosafety warning signs and their placement in the veterinary hospital, necropsy room and anatomy, microbiology, parasitology, histopathology, clinical pathology, toxicology/pharmacology, food safety and technology laboratories and in animal facilities.

VEE clinical, laboratory and farm services are subjected to public screening and monitoring by students, staff and clients through queries that are rapidly available through QR-Code access. The posters with the QR-Codes to evaluate the services or for submitting compliments, suggestions or complaints by the interested parts are located at visible places of the VEE and others, including department and school secretariats (Appendix 6.4.5).

#### **Comments on Area 4**

The animal production facilities are under renovation under the cover of the project Food Allianz. The following are planned: (i) in the CEGA's swine unit, install an automatic feeding stations for gestation sows and for fattening pigs to implement studies in feeding/nutrition and performance parameters, remodel of farrowing pens, remodel of weaning rooms and install; (ii) create compound feed plant for animals with 450 m<sup>2</sup> for feed production (milling, mixer, pelleting, extrusion and expanding equipment) and (iii) refurbish the fish production unit and insect production unit.

Adaptation of the room for cytostatic drugs administration with acquisition of a new laminar flow chamber.

Three large classrooms, two for small animals and one for large animals were recently built in the VTH, however additional spaces are necessary.

Theoretical and practical training sessions (hands-on) on basic life support and firefighting (level II criteria) are taking place for academic staff, veterinary technicians, technical and operational assistants and will be carried out on a regular basis.

#### **Suggestions for improvement in Area 4**

Although the facilities of the Laboratory of Anatomy are currently sufficient, there is a medium-term need for their improvement in order to allow students' free access to this Laboratory outside of class periods (facilitating the self-study) and also increase the production of alternative models to the use of cadavers through the building of new and fully adapted anatomical preparation rooms (plastination and 3D printing).

In order to further improve the VTH's performance, and consequently the training of the VEE students, we are planning in the short term, structural improvement on the VTH in order to improve its operation and increase some of its features. In the medium term we plan to build a new hospital for companion animals and exotic and wild animals, leaving the current hospital for production animals and horses in the current facilities (after adaptation works). The spaces freed up by the transfer will be used for the expansion of the Skill Labs, for the installation of teaching rooms and training of advanced techniques for students (Hard Skills), for the creation of the Postgraduate Clinical Training Centre (for Veterinarians and Human Doctors).

There are plans to hire more human resources, to carry out the functional division of the Equine Medicine and Production Animal Medicine service

Establishment of protocols between UTAD and Small Animal/Equine Hospital Private Groups, aiming at the sharing of resources (equipment and clinical and hospital network) and development of training and research activities.

A multi-annual investment plan will be carried out for the acquisition of equipment identified as a priority.

As the Lab Skills will be improved and enriched with novel workstations and animal mannequins and models, and a new and larger space should be found in the VEE.



## AREA 5 | ANIMAL RESOURCES AND TEACHING MATERIAL OF ANIMAL ORIGIN

**Standard 5.1: The number and variety of healthy and diseased animals, cadavers, and material of animal origin must be adequate for providing the practical and safe hands-on training (in the areas of Basic Sciences, Clinical Sciences, Pathology, Animal Production, Food Safety and Quality) and adapted to the number of students enrolled. Evidence must be provided that these data are regularly recorded and that procedures are in place for correcting any deficiencies.**

The goal of the VEE concerning the use of animals and material of animal origin is to ensure that students acquire the competences included in the curriculum, which comprise “Day One Competences” (D1C), in accordance with ESEVT. The global strategy of the VEE is to obtain correct hands-on preclinical and clinical training competences through the use of an adequate number of animals and animal material, taking always in account the respect for animal welfare.

On the UTAD campus, there are several facilities for maintaining different healthy animal species for teaching purposes (cattle, small ruminants, pigs, poultry, rabbits, equine, fish and dogs). The VTH provides the main source of patients for clinical training of the students in companion animals, equines, exotic animals and farm animals. The Wildlife Rehabilitation Centre (CRAS) allows clinical training in the field of wild animals. Furthermore, some clinical training and practical training in Food Hygiene and Inspection are made outside UTAD, and the VEE has enhanced student clinical training by hiring part-time teachers who work in different areas (companion animals, farm animals, preventive medicine, reproductive medicine, shelter medicine) who receive our students at their working places (veterinary hospitals, livestock farms, ambulatory clinics, shelters).

In addition to complying with national legislation, the VEE recognizes and values the principles of the 3Rs, *Replacement, Reduction and Refinement*. The number of animals is estimated by asking the teachers responsible for Curricular Units (CU) that require live animals about the minimum number needed to attain their general and specific learning objectives and student skills development. The use of animals obeys to the working schedule so that a given animal is not used in two consecutive classes. Whenever possible, the use of live animals is replaced for cadavers, anatomical pieces (for example horse limbs taken from slaughterhouses are used for practicing local anesthesia with diagnostic purposes; also, hooves, heads and udders from slaughterhouses are used for surgery training in ruminants, hoof trimming amputation, eye surgery, dehorning and teats surgery, respectively) and animal models. Cadavers used in surgery classes are later necropsied in Anatomical Pathology classes, and if an exotic animal is necropsied, the skeleton is sent to the Laboratory of Anatomy. Finally, the acquisition of animal models, simulators and other tools was carried out to complete the training of our students. For this purpose, the VEE has recently acquired animal models, i.e. two bovine models (Emma Cow – an advanced simulator for artificial insemination; and a bovine theriogenology model with uterus set) and one-horse model (equine palpation/colic simulator with equine neck venipuncture and intramuscular injection). This kind of training is not expected to replace the hands-on training on live patients, but it is based on an effort to reduce the use of live animals in veterinary training, whenever possible.

The IMVM’s curriculum is a highly integrated study program oriented toward “hands-on clinical training” as required and desirable for the D1C. Students are progressively instructed to work with animals, in which they learn more complex practical skills with the progression of their theoretical knowledge. During the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> years, they are involved principally in animal handling, livestock management and pre-clinical animal work. Clinical practice increases substantially in the last two years (VTH or extramural clinical practice).

As has been explained in Area 3 (Standard 3.1), during the 4<sup>th</sup> and 5<sup>th</sup> years of their studies, a total of 6 weeks of clinical rotation (CR) offers intense clinical experience. To maximize the potential of VTH and of extramural practice classes for practical training, the timetable of each semester of the 4<sup>th</sup> and 5<sup>th</sup> years follows a rotation of 12 weeks of classes, and 3 weeks of clinical practice (6 weeks per academic year, per student). After 4 weeks of regular classes (theoretical and practical), the students



have a week of hospital practice (4<sup>th</sup> year) or extramural practice (5<sup>th</sup> year). Students have active participation in the clinical workup of patients, including problem-oriented diagnostic approach together with diagnostic decision-making, client communication, etc., extended by case presentations and discussion. Students also accompany the ambulatory services on farms where they are involved in curative herd and livestock health care and prophylactic treatments. Students also participate in the procedures in CRAS, including feeding, general management and treatment of wild species, and releasing actions of wild birds. They may also have the opportunity to monitor the delivery of animals by the authorities, or by individuals. In these rotations, students either assist or independently carry out tasks under the guidance of teachers or supervising veterinarians.

In these CR, 4<sup>th</sup> year students are integrated into the daily routines of the VTH with a full-time dedication to different services at the VTH and ambulatory clinical services. During these rotations, students are allocated to each one of the services: Companion Animals; Exotic and Wild Animals; Farm Animals and Equine Medicine; and 24/7 Emergency and Hospitalisation (students are involved in weekend and emergency services with compulsory attendance in the 24-hour emergency service for 7 days).

The 5<sup>th</sup> year student follows the same rotation, but the 5<sup>th</sup> week is dedicated to extramural training, where the student accompanies an external teacher. In these clinical rotations, each student has the possibility of accompanying, in a real-work environment, the clinical activity in different areas: Companion Animals, Farm Animals, Equine Medicine, Preventive Medicine, Reproductive Medicine and Shelter Medicine.

At the end of the clinical rotations, all clinical activity undertaken by students is registered in a personal document that is validated for each event by the teacher or the practitioner who supervises the student. This registry is uploaded to an online database (logbook) for further evaluation by professors of the clinical core CU.

Besides the training in these clinical rotations, several other CU develop their practical classes in a strict hospital context or in ambulatory clinical services (*Parasitic Diseases I, Parasitic Diseases II, Infectious Disease I, Infectious Disease II, Small Animal Surgery I, Small Animal Surgery II, Medicine and Surgery of Ruminants, Equine Medicine and Surgery, Internal Medicine of Small Animals I, Internal Medicine of Small Animals II, Introduction to Small Animal Specialities I, Introduction to Small Animal Specialities II, Poultry, Rabbit and Swine Medicine, Reproductive Medicine I and Reproductive Medicine II*).

In *Infectious Diseases, Poultry, Rabbit and Swine Medicine, Medicine and Surgery of Ruminants, Preventive Veterinary Medicine and Hygiene and Reproductive Medicine* CU, students are taken abroad to visit farms of small ruminants, cattle, pigs, poultry and rabbits using a 9-seater van, allowing students contact with common population medicine issues including mastitis control, fertility disorders, dairy/beef production issues, nutritional advice. They also visit the livestock farm of UTAD, where they participate in prophylaxis, reproductive management, hoof management and general medicine.

In addition to the training provided within the IMVM's curriculum, students may register for a voluntary internship at the VTH or CRAS.

During CR and practical classes, students are exposed to a variety of cases from general consultations (first opinion) to referral consultations, from acute to chronic cases, from simple cases to emergencies and hospitalizations, and from individual to population medicine. This allows students to be trained both on primary health care and routine procedures common in all veterinary clinics but also in less frequent and more complex cases. Acute cases prevail in emergency and acute consultations carried out at the VTH, extramural practice with external teachers and ambulatory clinics.

The use of animals for educational purposes and research is regulated by the transposition of the Directive n° 2010/63/EU on the Protection of Animals used for Scientific Purposes into Portuguese legislation (Decree-Law n° 113/2013, August 7<sup>th</sup>, amended by Decree-Law n° 1/2019, January 10<sup>th</sup>). Moreover, all procedures using animals must be approved by the institutional Animal Welfare Committee (ORBEA) and, finally, authorised by the General Directorate for Food and Veterinary Medicine (DGAV). Such approval requires the application of the 3R concept of reduction in the number

of animals employed, refinement of the procedures employed, and replacement by alternative methods. UTAD has a Bioterium approved by DGAV.

UTAD has a certificate in Animal Welfare with codes 012005/0102 and 012021/0102, which attests that UTAD has passed the Animal Welfare inspection based on the European Welfare Quality® and AWIN benchmarks, certified by EANOR in the certification process of animal farms milk.

During practical classes with healthy animals, the intensity, duration and frequency with which the techniques are performed are considered in order to avoid “cumulative suffering”. In addition, the animals are used in a rotation system with recording of the use of each animal. Also, with UTAD support, the Association of Veterinary Medicine Students (AEMV) organises volunteer groups to help take care of VEE animals, aiding in their husbandry and welfare.

Specimens used in practical anatomical training (Table 5.1.1) are the following: cadavers (companion animals, ruminants and poultry); head, fore- and hind-limbs (equines); lungs, heart, liver, kidney, spleen, genital organs, digestive tract (ruminants, equines, pigs and companion animals).

Companion animal cadavers are donated from owners. Ruminants (cattle and small ruminants), pigs and poultry cadavers are obtained from animals that die at UTAD Animal Production Facilities. Equine, ruminants and pig specimens are also obtained from slaughterhouses. They are transported to UTAD in a proper vehicle. All the material used is properly stored in a refrigerated chamber or freezers, located in the Laboratory of Anatomy. After use, the material is delivered for incineration in approved facilities. In addition, a complete series of bones, joints and skeletons of several domestic species are available at the Museum of Animal Anatomy.

There are various sources to obtain animal cadavers for anatomical pathology practical classes, namely cadavers from the Necropsy Service of the Histology and Pathology Laboratory for diagnosis purposes (from VTH, CEGA, external veterinary practitioners, forensic cases collected by the competent authorities, within the scope of criminal proceedings or the collection of dead wild animals in the environment) and cadavers of companion animals and equine dead in the hospital donated by VTH clients for teaching and scientific purposes. Cadavers and viscera are either frozen or kept in refrigerated units in the necropsy room. The disposal of cadavers and animal material is carried out by contract companies, according to national legislation. VTH has an incinerator unit awaiting licensing.

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

Species	2020/2021	2019/2020*	2018/2019	Mean
Cattle	5	5	4	4.7
Small ruminants	32	30	22	28.0
Pigs	3	3	3	3.0
Companion animals	22	22	16	20.0
Equine	6	6	5	5.7
Poultry & rabbits	10	10	10	10
Aquatic animals	0	0	0	0
Exotic pets	0	0	0	0

\*The practical classes in the Lab. Anatomy were suspended in part of the second semester of 2019/2020 due to COVID-19.

**Table 5.1.2.** Healthy live animals used for pre-clinical training

Species	2020/2021	2019/2020	2018/2019	Mean
Cattle	70	61	60	63.7
Small ruminants	55	109	122	95.3
Pigs	30	20	0	16.7
Companion animals (dogs)	5	5	5	5
Equine	12	14	11	12.3
Poultry & rabbits	270	330	432	344
Exotic pets	0	0	0	0
Others				
Fish	30	30	30	30

**Table 5.1.3.** Number of patients seen intramurally (in the VTH)

Species	2020/2021	2019/2020*	2018/2019	Mean
Cattle	55	40	48	47.7
Small ruminants	27	33	38	32.7
Pigs	11	0	2	4.3
Companion animals	1,825**	1,442**	2,965**	2,077.3
Equine	92	60	82	78.0
Poultry & rabbits	4	0	0	1.3
Exotic pets	294**	252**	324**	290.0
Others				
Alpaca	4	6	0	3.3
Amphibia***	0	3	0	1.0
Birds***	358	288	255	300.3
Mammalia***	46	49	53	49.3
Reptilia***	0	2	2	1.3

\*Due to the pandemic emergency, in the AY 2019/20 the activities of the VTH were suspended in the 2<sup>nd</sup> semester. \*\*Estimated numbers. Our data system does not distinguish between visits for different conditions and repeats visits for the same condition. \*\*\*Animals seen in CRAS (see Appendix 6.5.1).

**Table 5.1.4.** Number of patients seen extramurally (in the ambulatory clinics)

Species	2020/2021	2019/2020*	2018/2019	Mean
Cattle	98	110	114	107.3
Small ruminants	23	520	471	338.0
Pigs	56	20	54	43.3
Companion animals	19	0	0	6.3
Equine	126	69	69	88.0
Poultry & rabbits**	0	0	0	0.0
Exotic pets	0	0	0	0.0
Others				
Llama	3	0	0	1.0

\*Due to the pandemic emergency, in the AY 2019/20 the activities of the VTH were suspended in the 2<sup>nd</sup> semester. \*\*Due to the production systems used for these species in this area, individual clinical care of these animals is very sporadic.

**Table 5.1.5.** Percentage (%) of first opinion patients used for clinical training

Species	2020/2021	2019/2020	2018/2019	Mean
Cattle	100	100	100	100
Small ruminants	100	100	100	100
Pigs	100	100	100	100
Companion animals	80	80	80	80
Equine	85	85	85	85
Poultry & rabbits	100	100	100	100
Exotic pets	65	80	80	75

**Table 5.1.6.** Cadavers used in necropsy

Species	2020/2021	2019/2020*	2018/2019	Mean
Cattle	5	7	1	4.3
Small ruminants	35	27	84	48.7
Pigs	12	12	14	12.7
Companion animals	84	102	134	106.7
Equine	6	5	8	6.3
Poultry & rabbits	140	95	310	181.7
Exotic pets	17	9	14	13.3
Others				
Fish	5	0	0	1.7
Wild Animals	17	13	26	18.7
Zoo Animals	0	2	1	1.0

\*Due to the pandemic emergency, in the AY 2019/20 the activities of the VTH were suspended in the 2<sup>nd</sup> semester.

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

Species	2020/2021	2019/2020*	2018/2019	Mean
Cattle	13	9	21	14.3
Small ruminants	29	28	16	24.3
Pigs	6	4	9	6.3
Companion animals	0	0	0	0.0
Equine	3	1	5	3.0
Poultry & rabbits	2	4	4	3.3
Exotic pets	0	0	0	0.0

\*Due to the pandemic emergency, in the AY 2019/20 the visits were suspended in the 2<sup>nd</sup> semester.

**Table 5.1.8.** Number of visits in slaughterhouses and related premises for training in Food Safety Quality

Species	2020/2021	2019/2020*	2018/2019	Mean
Ruminant slaughterhouses**	48	42	39	43.0
Pig slaughterhouses***	0	5	5	3.3
Poultry slaughterhouses	0	0	5	1.7
Related premises****				
Rabbit slaughterhouses	0	0	5	1.7
Fishing dock	16	0	5	7.0
Canning factory	0	0	5	1.7
Others*****				
Canteens/ restaurants	26	0	26	17.3
Fish market	0	0	13	4.3
Supermarkets	26	0	13	13.0

Each visit last at least 6 hours. \*Due to the pandemic emergency, in the AY 2019/20 the visits were suspended in the 2<sup>nd</sup> semester. \*\*In slaughterhouses identified as Ruminant slaughterhouses, there is also a pig slaughter line, so it is also possible to carry out a Sanitary Inspection of pigs (5-7 students per teacher). \*\*\*14-18 students and 2 teachers. \*\*\*\*14-18 students and 2 teachers. \*\*\*\*\*5-7 students per teacher (2020/2021, only 4-5 students per teacher).

The Regent for each preclinical and clinical CU designs a teaching programme on the basis of the syllabus contents. The approximate number and variety of animals and animal materials to be used for optimal training is defined. This programming is proposed to the Director of the Agricultural Management and Exploration Centre (CEGA), the teachers responsible for horses and dogs, and VTH Director, who together with the Course Director and the Department Director decide the approximate number and variety of animals and animal materials to be used for optimal training and propose short and medium-term measures to ensure the correct development of practical teaching, always considering the implementation of the 3Rs Principle.

The outcomes of Student Pedagogical Surveys (QP) have proven to be useful tools for gathering information on whether or not the number and variety of animal material used for the carrying out of specific activities is sufficient.

**Standard 5.2: In addition to the training provided in the VEE, experience can include practical training at external sites, provided this training is organised under direct academic supervision and following the same standards as those applied in the VEE.**

All external sites at which students undertake their studies are organised and managed according to framework agreements between each establishment and UTAD, as well as specific agreements with the VEE. Activities for the various CU, in which students are always accompanied by teachers or professional external supervisors, are organised on the basis of available establishments in every academic course.

In *Infectious Diseases, Poultry, Rabbit and Swine Medicine, Medicine and Surgery of Ruminants, Preventive Veterinary Medicine and Hygiene and Reproductive Medicine* CU, students go on field trips to visit farms (small ruminants, cattle, pigs, poultry and rabbit). On these practical trainings, students gain experience of the most common medical problems and types of surgery in farm animals as well as sanitary programs and biosecurity measures. In *Poultry, Rabbit and Swine Medicine* CU, students go to

poultry and farmed rabbit units, intensive farms (150,000 broilers and 1,000-1,500 breeding rabbits) where students come into contact with production systems, animal health, control of productive and health indicators. Also, visit a pig farm, with the aim of allowing students to get in touch with the facilities (multiplication pavilion and fattening pavilion) and relate them to the main diseases at each stage of production. In *Reproductive Medicine II*, students visit the Livestock Exploration of Oura (500 dairy cattle) to contact with reproductive technologies in dairy cattle.

In *Traineeship IV* and *V*, students have the option to choose between companion animals, farm animals, equine medicine, preventive medicine, reproductive medicine and shelter medicine areas, where they can gain experience in ‘real-life’ veterinary practice. At the Coimbra Shelter (*Centro Municipal de Recolha Oficial de Animais de Companhia de Coimbra*), students come into contact with many areas of veterinary care: disease management (preventive healthcare, knowledge of infectious diseases, housing, and disinfection); population control (managing the animal population inside the shelter and also managing outside the shelter by providing neutering programs, especially in community cats); pet behavior; and cruelty and forensics cases.

**Standard 5.3: The VTH must provide nursing care skills and instruction in nursing procedures. Under all situations students must be active participants in the clinical workup of patients, including problem-oriented diagnostic approach together with diagnostic decision-making.**

Nursing care skills are taught to the students and reinforced at various points in the IMVM’s programme by the teachers of the various clinical CU and by clinicians on duty while in practical classes and on CR. Initial skills are trained in the Propaedeutics CU (*Anaesthesia, Imagiology, Introduction to Surgery, Medical Semiology I, Medical Semiology II, Pharmacology I and Pharmacy and Pharmacology II and Therapeutics*) during semesters 5 and 6. Students get experience in handling and restraint, handling treatments, care and monitoring of patients. Students gain and improve nursing skills on later clinical CU, such as *Traineeship II, III, IV* and *V* (clinical rotation).

Nursing staff is also integrated in the clinical in-house daily activity, being also involved in the training and supervision of the students in many practical tasks (e.g. body condition scoring, handling and restraint, IV fluid administration, IV catheter placement, sample collection, ECG tracing, blood pressure measurement, diagnostic interventions, patient preparation for surgical procedures, patient monitoring, feeding and walking the animals).

The group size for the different types of clinical training considers the requirements of the individual CU and spatial conditions.

**Table 5.1.9.** Type and group sizes of clinical training

Type of clinical training	Group sizes
<i>General Propaedeutics</i> *	7/10 students
<i>Clinical CU</i>	5/7 students
<i>Traineeship II and III (intramural)</i>	Small animal medicine and surgery: 2 students in the external clinical consultation service, 3 students in the hospitalization service and 2 students in the surgery service Farm animals and equine medicine and surgery: 6 students Wild and exotic animals: 6 students
<i>Traineeship IV and V (extramural)</i>	1-4 students depending on the field

\* *Anaesthesia, Imagiology, Introduction to Surgery, Medical Semiology I, Pharmacology I and Pharmacy.*

The first student contact with animals takes place during the 1<sup>st</sup> year (1<sup>st</sup> semester), in Ethology and Animal Welfare, in which animal welfare conditions are taught. Nevertheless, the hands-on involvement of students in clinical procedures begins in the 3<sup>rd</sup> year, and later in the 4<sup>th</sup> and 5<sup>th</sup> years, and can be summarised as follows:

- 2<sup>nd</sup> and 3<sup>rd</sup> years: perform animal handling and restraint; evaluate the corporal condition of animals and their feeding regime; evaluate animal welfare conditions; perform a necropsy of various domestic animals and write necropsy reports; collect a real medical history; perform physical examination;

- 4<sup>th</sup> and 5<sup>th</sup> years: hands-on routine activities at VTH, ambulatory clinics and extramural traineeship with external teachers, including performing individual or collective patient histories, performing general and detailed physical examinations, producing lists of clinical diseases, differential diagnoses, diagnostic workup, treatment protocols, and preventive approaches, providing diagnostic procedures such as, blood and urine sample collection, skin scraping, electrocardiogram, cytology, coprological examination, participating in diagnostic and therapeutic procedures, such as in X-rays, computerised tomography and ultrasonography, drug administration, euthanasia, performing different therapeutic procedures such as placement of IV catheters, fluid therapy, drug administration via different routes, wound cleaning, and post-surgical care monitoring, participation in surgery preparation (surgical operating theatre and patient material), evaluating pre-anaesthesia status, participating in the choice of anaesthetic protocol, administering anaesthetics, monitoring anaesthesia, and assisting in the recovery of the anaesthetic patient, performing rectal palpations, assisting in common procedures for diagnosis of gestation in cattle, assisting in equine reproduction procedures, assessing farms' biosecurity measures for various animal species, reviewing prophylaxis and prevention programs on livestock farms, applying sanitary programs.

All these procedures are supervised by teachers, practitioners and veterinary nurses. In CR at VTH, students also participate in three daily transition meetings by the veterinarians in charge of the hospitalization at 8:00h, 16:00h and 24:00h.

At the beginning of clinical training, students are introduced to the code of conduct. This includes protective clothing and biosecurity procedures. Furthermore, at the beginning of each year, all students are reminded (refresher session) of the biosecurity procedures.

Students deepen their critical thinking and understanding of case management in clinical rotation and in the various clinical CU. During CR (4<sup>th</sup> and 5<sup>th</sup> years) students are encouraged to critical clinical thinking and must present a report of clinical cases followed up at VTH or at the extramural traineeship. This report is then discussed orally with a panel of teachers from different areas. These discussions emphasize diagnostic strategies, differential diagnosis, pathogenesis, prophylaxis and treatment of the clinical cases. Furthermore, in CR at VTH students are involved in daily transition meetings at 8:00h, 16:00h and 24:00h. Briefing and debriefing sessions are also run for every surgery. After each consultation, students are invited to present and discuss the clinical case with the clinician and when performing complementary exams, such as ultrasound or X-ray, students assist in imaging procedures and image interpretation. These allow ample opportunity for case discussion and encourage further reading.

In various CU students have to select and present a clinical case, that they have directly assisted or participated in, to other students and teachers. In their preparation of the case, they make a thorough argument based on the literature (evidence-based veterinary medicine) about the diagnostic and therapeutic options, discussing the course of action taken and indicating their level of participation, helping them to deepen their knowledge of the case in question. Furthermore, in some clinical units, students are invited to conduct consultations. They are responsible for taking the clinical history and performing an initial physical examination. Subsequent to this, the students present the case to their teachers and agree on a management plan (analyses and discusses the case they have seen, the pathologies, diagnostic tests and treatment). The student retains direct responsibility for performing many aspects of the plan, assisted by the teacher or staff.

**Standard 5.4: 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 VEE.**

The VTH management software (QVET) stores, validates and processes all dog, cat, exotic species and farm patient records. Surgery and hospitalization records are recorded in the service books. In addition, both large and small animal departments document medical images on PACS systems



(Philips, CURA systems).

Students, for the elaboration of their clinical reports, have access to a cloud (Free4vet™) containing the records of the recent cases, without the owner's data to keep confidentiality.

### **Comments on Area 5**

On the 12<sup>th</sup> of March 2020, UTAD closed according to the National regulations to prevent the spread of COVID-19. Therefore, all clinical practice carried out during the second semester of the academic year 2019/2020 had to be suspended and continued only by video-conference systems (live delivery lectures, pre-record lectures, record or live demonstrations, online case discussion based on real cases). Several UTAD resources, including those of the VTH (for example, the anesthetic equipment), were ceded to Human Healthcare Centres in agreement of the National and Local strategy to combat COVID-19 pandemic. VTH was closed between March to July 2020, with the exception of CRAS, maintaining only telephone assistance to the animal owners. Therefore, VTH clients had to go to private Veterinary Hospitals in the region. After July 2020, VTH opened with some restriction of the availability of services to clients, prioritizing emergency, urgent, and previously scheduled appointments to protect the staff, clients and students (hands-on activities were done in small groups). All this had an important impact on the number of clinical cases for clinical practice (intramural and extramural).

All procedures performed in practical classes where healthy animals are used were submitted for evaluation by ORBEA for the period 2022-2027.

Students already have Skills Book to register all their clinical activities in companion animals, farm animals and equines.

To increase clinical training, UTAD hired four more external teachers, one from the area of companion animals, one from the area of farm animals and two from equine medicine.

New infrastructures have been constructed as a kennel, to house 10 Beagle dogs, with acclimatization and adequate outdoor space.

### **Suggestions for improvement in Area 5**

Continued further development of the Skills Lab and systematic integration of the existing training stations in teaching aiming to improve the level of Day One Competences.

More formal collaborations with livestock facilities in the region for farm animal clinical practical training.

Establishment of additional protocols between UTAD and Small Animal and Equine private veterinary groups to allow further expansion of patient case-load and hands-on experience by the students.



**Standard 6.1: State-of-the-art learning resources must be adequate and available to support veterinary education, research, services and continuing education. When the study programme is provided in several tracks/languages, the learning resources must be available in all used languages. Timely access to learning resources, whether through print, electronic media or other means, must be available to students and staff and, when appropriate, to stakeholders. State-of-the-art procedures for bibliographical search and for access to databases and learning resources must be taught to undergraduate students.**

The strategy of the VEE, outlined on its [Strategic Plan](#) for 2021-2025, relies on the actions of the following core Services for support, development and hosting of learning resources:

- Library and Documentation Service which manages the VEE's Library whose mission is to ensure a successful and proficient collection, processing and diffusion of documents in different formats, contributing to the development and consolidation of different knowledge, learning and research, safeguarding corporate values and culture, promoting the publication and diffusion of audio-visual and scriptural documents, multimedia networks and enhancing partnerships and cooperation through community support;
- Information and Communications Systems Services provides all central IT applications, support and infrastructure for staff and students throughout the University, and hosts the e-learning environment.

The [webpage](#) of [Library and Documentation Service](#) is regularly updated by a dedicated webmaster. Students and staff can get all the information about the library (description and history of the building, opening hours, available trials, library regulations, etc.) and all the necessary information to consult VEE's library system catalogue to access to the available resources and to access some services (e.g. reservation of books, requests for document delivery or interlibrary loans, consultation of the repository).

The acquisition of new books or the order/renewal of journal subscriptions is handled by the Library Director. Teachers and students suggest new publications with interest to the IMVM Course Directive Board, who evaluates the proposals and then initiates the authorization request for its acquisition.

**Standard 6.2: Staff and students must have full access on site to an academic library administered by a qualified librarian, an Information Technology (IT) unit managed by an IT expert, an e-learning platform, and all the relevant human and physical resources necessary for the development of instructional materials by the staff and their use by the students. The relevant electronic information, database and other intranet resources must be easily available for students and staff both in the VEEs core facilities via wireless connection (Wi-Fi) and from outside the VEE through a hosted secured connection, e.g. Virtual Private Network (VPN).**

At the VEE, the traditional library is enhanced by internet services and digital resources. It is worth mentioning the presence of a librarian that provides the best information necessary to the student, in the search or offer of more data on the desired demand, physically or through digital resources, such as platforms dedicated to academic content or literary works. With access to the internet and use of computer resources, it is possible to convert elements from physical and material reality to digital and virtual reality, facilitating access and transfer of information.

As a means of disseminating knowledge and innovation, the VEE has platforms dedicated to distance learning and e-learning. These platforms, which employ computer and audiovisual

technological resources, have as their main objective to promote learning in an innovative, fast, accessible and interactive way to the community.

Platforms for consulting bibliographic information, including the [Scientific Repository](#), [scientific journals repository](#) and [online library](#), are easily accessible by their users (employees, teachers or students). The platforms can be accessed locally through workstations with internet connection or wirelessly through various technological devices (laptop computers, tablets or smartphones). Externally to the VEE, the platforms are accessed through the internet, and some of them are essential to use the VPN with the institutional access configurations.

Other platforms, such as videoconferencing platforms ([Colibri Zoom](#), Microsoft Teams) and platforms used for sharing information are available with internet access with a wired or wireless network connection.

VEE has an internal platform ([intra.utad.pt](#)) for sharing institutional information and documents. Locally, this platform can be accessed via a workstation or wirelessly.

The Library's staff is composed by 10 persons, including four Archive and Documentation Library Technicians, four Technical Assistants, one Senior Technician (postgraduate in Information and Documentation Sciences), especially responsible for the management of the Veterinary Sciences area of the library resources, and the Director (postgraduate in Documentary and Information Sciences, Masters in Management and PhD in Management), working full-time in their normal weekly working hours (36 hours). There are no part-time employees.

Regarding opening hours and days, Central Library is open all year, Monday through Friday from 9:00h to 19:30h. The Library is closed on weekends and during other national and religious holidays. During vacations, the schedule is 9:00h to 17:30h.

The annual budget for the Central Library from 2018 to 2021 was 20,000€. The Library also receives basic financial support from the different schools.

The Central Library was established in December 2000 through the unification of the different departmental libraries and centralizes the bibliographic collection of several Departments. It is housed in a building that occupies a total area of 6 921 m<sup>2</sup> and is divided into different clearly differentiated sections. This facility comprises 700 seats, 3 large reading rooms, 31 individual offices and 8 group rooms. To support the bibliographic research, study and educational activities, UTAD provides its users with 15 workstations with computers and wired internet connection.

UTAD has an exam room with 50 workstations using portable computers, with wireless internet access, with an exclusive internal network for this purpose. Exams are allowed through the Bring Your Own Device (BYOD) infrastructure.

All devices are plugged into safety electrical outlets, and other traditional electrical outlets are still available. In total, around 100 electrical outlets are available for connecting technological devices.

The Central Library has a Support Room for Special Reading. This room has facilities for people with visual and motor impairment to access computer technologies and the Internet. Examples are an electronic reader for quadriplegics, an electronic magnifier, an independent text reader, text scanners and speech content in digital format, talking books and remote service print in Braille.

Authorised users (all students included) can have access from any computer in the university (wireless is available throughout the campus) or from home to the electronic resources' portal of VEE's Library System, regularly updated by a dedicated webmaster, available to all users. It includes databases, free journals, e-magazines, e-books and theses. The VEE provides to the students and academics platforms that allow quick of bibliographic resources, including the library repository ([repositorio.utad.pt](#), [revista.utad.pt](#) and [catalogo.biblioteca.utad.pt](#)), On-line Knowledge Library ([Biblioteca do Conhecimento Online](#), B-On) and [Scopus](#).

The VEE offers to its students the Microsoft Office365 software which allows the creation of text, presentations, content storage, sending and sharing, among others. It also allows the integration of software such as Endnote, Zotero or Mendeley, for the creation, storage and citation of bibliographic references. The VEE also provides to the teachers and students a plagiarism detection and prevention software, the [Urkund](#). This tool helps in the elaboration of academic and scientific texts, promoting the

originality and ethics of their production. This is a useful and essential tool to avoid and detect documents with plagiarism, instilling the good practices of an educational institution.

There are no subsidiary libraries in Veterinary Sciences. Since UTAD has a single campus, all the information is centralised in the Central Library. The VTH has available 24 hours a day, specific books and magazines for clinical subjects, for real time access during hospital practice. Access is regulated by an employee and the material is accessed *in situ*.

IT facilities include a studio dedicated to recording pedagogical and multimedia content, and a space dedicated to online exams. In support of the various requests, a team or a technician is always present in these spaces.

As teaching support platforms, the VEE has platforms dedicated to e-learning. It also has software to support the creation of digital content: Office365, Loom, Educast, among others. For videoconferences, the following services: Colibri Zoom and Microsoft Teams, Moodle, Skype and Cisco Webex are available for all users.

To carry out online tests, the Moodle platform is used with the use of the Safe Exam Browser (SEB). Moodle also has the integration of the Urkund software, integration of the MatLab tool, integration of the Perusall tool and the integration of the H5P tool essential for the creation of interactive pedagogical activities.

The campus is covered by a Wi-Fi 6 network, which allows internet access to all users (staff, faculty and students). UTAD is part of the international consortium Eduroam, allowing its users, with access to the wireless network, to also use it in other National, European and Australian institutions.

The VEE has the Virtual Private Network (VPN) service which allows users of VEE's computer systems to remotely access VEE's resources, under the same conditions as if they were physically connected to the network on the campus. Access is made over an encrypted channel, guaranteeing the security of the transmitted data. This service is part of the international EduVPN Project, developed by GEANT specifically for the academic community. It allows access by any client or operating system: Windows, MacOS, Linux, Android, IOS.

**Standard 6.3: The VEE must provide students with unimpeded access to learning resources, internet and internal study resources, and equipment for the development of procedural skills (e.g. models). The use of these resources must be aligned with the pedagogical environment and learning outcomes within the programme and have mechanisms in place to evaluate the teaching value of changes in learning resources.**

The Central Library's resources amount to 403 932 books and periodicals (updated on December 2021), including 1 384 resources related to Veterinary Sciences. The printed resources can be consulted in an online catalog. Ever since the unification of the libraries, all the books were classified according to UDC (Universal Decimal Classification) catalogues.

The VEE also has a set of protocols with organizations and repositories that allows to offer students and academics a vast set of e-periodicals, e-books, e-theses, as well as several research resources. Below, the most relevant available resources are mentioned:

- On-line Knowledge Library allows to assess to full texts from over 16750 scientific international publications from 16 publishers, through subscriptions negotiated on a national basis with these publishers. In the Medical Sciences area, this service has access to 7715 periodicals, and in agricultural subjects 1374, including 124 specifically on Veterinary Sciences;
- Web of Science is a research platform that grants access to objective content and powerful tools to search, track, measure and collaborate in the sciences, social sciences, arts, and humanities. This intelligent research platform provides access to the world's leading citation databases;
- Association of European Research Libraries is the main research libraries network in Europe. It encompasses more than 400 national, university and other libraries from more than 40 countries;
- Scientific Open Access Repository of Portugal aims to collect, organise and index Open Access scientific content from Portuguese institutional repositories, including journal articles, conference papers and theses;

- [Centre of the National Institute of Statistics in UTAD](#) is available in the 1<sup>st</sup> floor of Central Library. Its mission is to promote and provide a preferred range of services and national statistical information directed to the entire VEE academic community, as well as the community of Vila Real Municipality;
- [PORDATA](#) is a Portuguese public inclusive project service devised for a large number of users who share an interest in discovering more about Portugal;
- [Portuguese Association of Librarians Archivists and Document](#);
- [Network of Collaboration Between Europe & Latin American-Caribbean countries](#);
- [Portuguese Association of Higher Education Publishers](#).

Skills Lab (LabCC) is a teaching structure of the Department of Veterinary Sciences. LabCC aims to promote learning and training of practical skills prior to contact with animals. At the time of submitting this report, LabCC contains working stations used to train (i) application of a muzzle in dogs, (ii) restraint techniques in companion animals, (iii) handling of material used in drug administration, (iv-iv) restraint techniques and administration routes in rats, rabbits and dog, (vii) intravenous administration or fluid therapy, (viii) blood collection, (ix) monitoring in intensive care and anesthesia, (x) suturing, (xi) laparotomy in bovine, (xii) application of Robert-Jones dressing, (xiii) develop surgical dexterity and (xiv) electrocardiogram in companion animals. In the LabCC, three large models are also available, namely, an Equine palpation/colic simulator with neck venipuncture and intramuscular injection, a Bovine theriogenology model with uterus set to train transrectal palpation, and an advanced simulator for artificial insemination and transrectal examination.

In addition, the teaching of many CU is supported by the use of advanced e-learning resources, for example the [Atlas of Anatomical Pathology](#) and the [Atlas of Urinalysis](#).

### **Comments on Area 6**

In 2022, the VEE has allocated a budget of 4,000€ to the IMVM specifically for the acquisition of new bibliographic resources. A set of 27 paper books with online access in different fields of Veterinary Medicine is in the ordering phase.

Discussions are ongoing with B-On for the subscription of more scientific journals not yet available for students and staff.

During 2021/2022, in collaboration with the Department of Informatics of UTAD, a new software for registration of DIC and periods of contact was developed. Its implementation is planned for 2022/2023, being expected to substitute the Skills Book in paper version and the logbook available in the UTAD's intranet.

### **Suggestions for improvement in Area 6**

Extend the opening hours of the Central Library during the week (after dinner) and on the weekend. Continue to invest in updating bibliographic resources, giving priority to titles with digital access (e-books and e-periodicals).

Increase the number of study rooms for students and increase the number of meeting rooms useful for collaborative work, including with supervisors of master thesis.

Improve the capacity of the wireless network, because except for the Central Library and the amphitheaters, the network is still insufficient to allow online access to surveys and large-scale bibliographic consultation in the classes.



**Standard 7.1: The VEE must consistently apply pre-defined and published regulations covering all phases of the student life cycle, e.g. student admission, progression and certification. In relation to enrolment, the VEE must provide accurate and complete information regarding all aspects of the educational programme in all advertisings for prospective national and international students. Formal cooperations with other VEEs must also be clearly advertised.**

UTAD advertises the VEE educational programme, the admission procedures and requirements for national and international students on the [website of the university](#).

The Office of Communication and Image (GCI) is responsible for coordinating the various forms of relationship between the University and society in general and its strategic partners in particular. Since 2001, UTAD organises “The Open Day” which opens its doors to future students in order for them to know the University better, with everything it has to offer: educational programmes, research, cultural and social life, career opportunities and the EcoCampus. Between 2018 and 2021, academics from the Department of Veterinary Sciences (DCV) have proposed different activities and challenges, such as “Cells, tissues and microscopes”, “The secret life of microorganisms in our hands”, “The fight against zoonoses, we all have to be superheroes”, “Criminal investigation in Veterinary Medicine”; “An adventure in a veterinary hospital”, “Monsters and monstrosities”, “The dangerous but fantastic world of parasites”, among others.

“UTAD Junior” is another event organised by UTAD, taking place in July and for one week, in which young people, from 9 to 16 years old, have the opportunity to participate in a wide range of pedagogical, scientific, technological, recreational and cultural activities that make them aware of IMVM characteristics and UTAD’s facilities.

The GCI ensures UTAD’s presence in public and private secondary schools where talks are given to potential future students about the university's educational offer including the IMVM. Visits to UTAD requested by the schools are also organised guaranteeing a close and profitable relationship with them as a promotional strategy.

UTAD also participates in national (Futurália - largest national education and training fair; Qualifica – education, training, youth and employment exhibition; Algarve Education and Training Forum; Passfuturo 2020; EDIN Forum- Education and Innovation Forum 2021 and Agricultural fairs) and international (Salon Européen de l’étudiants – étudier à l’étranger 2021, Paris; Foire de l’Étudiant 2021, Luxembourg; fairs aimed at students in Latin America and Japan; The FIC.A - International Science Festival 2021) fairs and forums. In these events, the university's educational offer is presented and information is given about the curriculum, course aims, academic calendar, admission requirements, enrolment, fees, etc.

UTAD also uses social networks to promote the image of the institution and its educational opportunities, as well as pedagogical and scientific events and to advertise the achievements and prizes of its teachers, researchers and students. Each year, a special issue about the offer of Graduation Courses is published in the major weekly (Expresso) and daily (Público) newspapers in Portugal.

The [International Relations and Mobility Office](#) (GRIM) offers information, support and guidance for incoming and outgoing students. This office is responsible for managing bilateral agreements with other institutions, whether within the scope of the [Erasmus program](#) or the Almeida Garret program, a national mobility program that offers the possibility of carrying out a period of studies (semestral) or internship in institutions belonging to the Council of Rectors of Portuguese Universities (CRUP), and also manages mobility programs with Brazilian universities.

**Standard 7.2: The number of students admitted must be consistent with the resources available at the VEE for staff, buildings, equipment, healthy and diseased animals, and materials of animal origin**

**Table 7.2.1.** Number of new veterinary students admitted by the VEE

Type of Student	2018/2019	2019/2020	2020/2021	Mean
Standard students	95	90	90	91.76
International students	1*	-	-	-
Full Fee Students	-	-	-	-
Total	96	90	90	92

\*The Global Platform for Syrian Students

**Table 7.2.2.** Number of veterinary undergraduate students registered at the VEE

Type of Student	2018/2019	2019/2020	2020/2021	Mean
First-year	113	106	104	107.67
Second-year	99	89	81	89.67
Third-year	107	106	105	106
Fourth-year	94	101	105	100
Fifth-year	68	83	92	81
Total (without final traineeship/EPT)	481	485	487	484,3
Sixth-year (final traineeship/EPT)	80	76	93	83
Total	561	561	580	567.3

**Table 7.2.3.** Number of veterinary students graduating annually

Type of Student	2018/2019	2019/2020	2020/2021	Mean
Standard students	69	65	46	60
Full Fee students	-	-	-	-
Total	69	65	46	60

**Table 7.2.4.** Average (%) duration of veterinary studies

Duration (6 years)	2018/2019	2019/2020	2020/2021	Mean
6+0	56.5	64.6	80.4	67.17
6+1 year	20.3	15.4	8.7	14.8
6+2 years	15.9	13.8	2.2	10.63
6+3 or more years	7.2	6.2	8.7	7.37
Average (years)	6.8	6.7	6.6	6.7

**Table 7.2.5.** Number of postgraduate students registered at the VEE

PhD Students	2018/2019	2019/2020	2020/2021	Mean
Veterinary Sciences	28	33	34	31.67

**Standard 7.3: The selection and progression criteria must be clearly defined, consistent, and defensible, be free of discrimination or bias, and take into account of the fact that students are admitted with a view to their entry to the veterinary profession in due course. The VEE must regularly review and reflect on the selection processes to ensure they are appropriate for students to complete the programme successfully. If the selection processes are decided by another authority, the latter must regularly receive feedback from the VEE. Adequate training (including periodic refresher training) must be provided for those involved in the selection process to ensure applicants are evaluated fairly and consistently.**

The application procedure is fully controlled by the General Directorate of Higher Education (DGES), directly dependent on the Ministry of Science, Technology and Higher Education and because of that, there is not a specific Selection Committee. The national call to enroll in a public higher education institution is made annually and takes place at the end of the school year, following the calendar approved annually. In the national call there are special quotas, namely for applicants that are from the Portuguese islands of Azores and Madeira, Portuguese emigrants or relatives residing with them and applicants with a disability.



In Portugal, students can apply for a higher education programme if they meet the following criteria:

- Hold a secondary education course (minimum 12-year educational track) or legally equivalent qualification;
- Take or have taken in the last two years, the national exams corresponding to the entrance exams required to be admitted in the specific course the student wishes to attend, with a classification equal to or higher than the minimum set for that programme by the higher education institution;
- Comply with the prerequisites required by the institution for the course the student wishes to attend.

National exams are prepared and graded by the National Evaluation Office and approved by the Ministry of Science, Technology and Higher Education. UTAD participates in the selection process by defining:

- *Numerus clausus*/year (82/82/87, respectively in the years under evaluation);
- National entrance exams that candidates must accomplish (Biology/Geology and Physics/Chemistry);
- The weighting applied to the final classification of secondary education (65%) and to the grades obtained on national exams (35%);
- Minimum grades in national exams (10 in 20) and final result (10 in 20) are obtained through the application of the formula used to determine the final admission grade;
- Prerequisite to access the IMVM (Group B - Interpersonal Communication – the absence of psychic, sensory or motor deficiencies that seriously interfere with the functional capacity and interpersonal communication to the point of preventing one's own or someone else's learning).

The classification of the last student enrolled in IMVM was 159.4 (out of 200) in 2018-2019, 171.2 in 2019-2020 and 175.1 in 2020-2021, revealing the high level of the IMVM students. All the information about the admission procedures is advertised on [UTAD](#) and the [General Directorate of Higher Education](#) websites.

### Special application regimes of admission

In addition to the admission procedures for standard students, there are also extra vacancies to special application regimes that are decided by the Rector, annually up to a maximum of 20% of *numerus clausus*. For the IMVM, UTAD opens extra vacancies for the following special application regimes:

- Institution/course transfer - students who have been previously enrolled in an IMVM at another Higher Education Institution or in a different course at UTAD or in another Higher Education Institution may apply for enrolment in the IMVM. Candidates will be selected according to [Regulation n° 669/2016](#) based on their average on the entrance exams required to be admitted in the IMVM and on the curricular units they have accomplished on the course where they come from (8/8/2 vacancies);
- Holders of a higher education degree. Candidates will be selected according to [Regulation n° 659/2016](#) based on their final grade of the higher education course (6/0/1 vacancies);
- Other special regimes: Portuguese Diplomatic Mission Abroad, Portuguese Fellows Abroad and Public Officials in Official Mission Abroad, Officers of the Portuguese Armed Forces, National scholarship holders of Portuguese-speaking African countries, Accredited Diplomatic Mission in Portugal, High-Performance Sports Practitioners, Naturals of East-Timor and their Children. These students are selected by the General Directorate of Higher Education (0/3/1 vacancies).

The application process for the vacancies for the special regimes of institution/course transfer and for holders of a higher education degree is controlled by UTAD, being carried out following Regulations n° 669/2016 and n° 659/2016, respectively. Candidates will be admitted to IMVM, on the proposal of the Course Director (CD) (that is responsible for the evaluation and selection of the candidates, according to the criteria referred to in the aforementioned regulations) and under the

favourable opinion of the SC of the School of Agrarian and Veterinary Sciences (ECAV). Once the process has been completed it must be approved by the ECAV's President.

In admission processes under the responsibility of UTAD, candidates may submit a complaint duly substantiated to the Academic Office whenever they disagree with the results. Complaints are analysed by the Course Directive Board (CDB), which must answer the questions presented, referring to whether the initial decision is maintained or if, on the contrary, the candidate who presented the complaint is right. Decisions on complaints, after being validated by the ECAV's SC and President, are communicated by the Academic Office to claimants via e-mail.

IMVM does not have any full fee-paying student.

In the period under evaluation, an average of 92 new students per year were admitted. To adapt the number of admitted students to the available educational resources, students from the 4<sup>th</sup> and 5<sup>th</sup> years are divided into five groups and each one of these groups is subdivided into three smaller groups, for clinical practical classes to have an adequate ratio of students per clinical case and facilitate the "hands-on" clinical training. Each one of these small groups of students is accompanied by a teacher. The distribution of students per class described above is also applied in several pre-clinical CU of the 3<sup>rd</sup> year.

Some clinical CU of the 4<sup>th</sup> and 5<sup>th</sup> years, have clinical work on livestock farms which reduces the occupation of the VTH facilities. On the other hand, to optimize the use of the VTH facilities and the management of clinical cases, schedules are made in order to avoid the presence of many students at the same time in the VTH.

UTAD has also been strengthening the teaching staff. The number of Veterinary FTEs of the IMVM increased from 47.22 in 2018-2019 to 49.47 in 2020/2021.

The VTH has established protocols with livestock farms and associations of autochthonous breeds, that permit us not only to go to their facilities to have practical classes, but in some cases send their animals for treatment at the VTH, allowing us to increase the number of clinical cases observed by students.

The Rectory stipulated for the next three academic years the opening of 87 vacancies for the admission of new students.

**Standard 7.4: There must be clear policies and procedures on how applicants with disabilities or illnesses are considered and, if appropriate, accommodated in the programme, taking into account the requirement that all students must be capable of meeting the ESEVT Day One Competences by the time they graduate. Description of the policies and procedures dedicated to applicants with disabilities**

UTAD enshrines several special frequency regimes, where students with Special Educational Needs (SEN) are included and has a Regulation of Special Attendance Regimes (Regulation n° 409/2021). According to this regulation, a student with special educational needs is any student who, for reasons of motor, sensory, cognitive, communicative, socio-emotional nature, or any combination of these, presents specific difficulties susceptible to, in conjunction with environmental factors, limit the learning process and activity and participation in the academic context in equity with other colleagues. It should be noted, however, as referred to in Standard 7.3, that the selection process of students for the IMVM requires a prerequisite (Group B – Interpersonal Communication).

This regulation refers to the specific conditions for students, according to their needs, which are fulfilled by the entire Academy. Students with SEN, among other rights, have an exemption from the obligation to register in a minimum number of CU; exemption from prescription; priority in choosing classes, as well as in choosing or assigning places of internship, clinical teaching or equivalent; are entitled to a special examination period in all CU whose nature allows it, being mandatory the registration within the deadlines defined in the school calendar; can be evaluated under the conditions appropriated to their situation, namely having extra time to take the tests.

The Academic Office must inform the CD whenever there are students with SEN and arrange a meeting with the student and the respective CD, in which the support plan to implement must be defined.

The support plan for each student with SEN must: assess the needs and support required; define the support measures to be implemented for each student, namely adaptations to the learning process, including teaching and assessment methodologies, special attendance conditions, pedagogical monitoring and instrumental support; and determine whether the defined supports are applicable throughout the course at UTAD or whether they should be revised at some point, due to possible changes in the clinical scenario presented.

UTAD has a Support Unit for Students with SEN, Rehabilitation and Accessibility Engineering Centre (CERTIC), that supports all students with SEN. It has its resources and its mission is to “develop its activity oriented towards the application of science and technology to improve the quality of life of populations with special needs, namely people with disabilities, the elderly and bedridden, in areas such as access to information technologies, communication, and mobility. This activity is developed in the areas of support for research, training, and provision of services to the community”.

UTAD’s Documentation and Library Services have a unit with resources to support SEN, namely the Special Reading Support Room.

All buildings on the campus are prepared with access for people with reduced mobility as well as accessible parking. UTAD’s Social Services have rooms adapted for students with SEN and special support in their residences and they have priority in the allocation of places in University Residences.

UTAD has a Tutoring/Mentoring Programme (PT-UTAD) (see Standard 7.5) that is also prepared to support students with SEN. The program tutors and mentors receive training to raise awareness and provide adequate support for people with disabilities.

The UTAD’s Social Services maintains a Health Unit where all students, including students with SEN, can go whenever they need (see Standard 7.7).

It should also be noted that UTAD has to respond annually to the General Directorate- for Education and Science Statistics’ survey on SEN in Higher Education Institutions, and our SEN students also have to respond to a questionnaire about the conditions that UTAD offers for their attendance at courses and welfare.

**Standard 7.5: The basis for decisions on progression (including academic progression and professional fitness to practise) must be explicit and readily available to the students. The VEE must provide evidence that it has mechanisms in place to identify and provide remediation and appropriate support (including termination) for students who are not performing adequately. The VEE must have mechanisms in place to monitor attrition and progression and be able to respond and amend admission selection criteria (if permitted by national or university law) and student support if required.**

According to the Pedagogical Regulation of UTAD (Regulation nº 419/2021), students may enroll, annually, in a set of compulsory and/or optional CU up to a maximum of 78 ECTS per year, not exceeding 42 ECTS per semester, except for the year in which they join a course for the first time. Students entering in the IMVM for the first time can only enroll, in 1<sup>st</sup> year, CU with a maximum of 60 ECTS and a minimum of 30 ECTS. Students regularly enrolled in the last curricular year of the course may be allowed to exceed the limits of 78 ECTS per year and 42 ECTS per semester, provided that they are enrolled in all the CU that integrate the course, being the enrolment subject to the fees that will be set for that purpose. Students are obliged to enroll in all the CU they have overdue, giving them preference over the CU of the most advanced year in which they enroll. A student is considered enrolled in a specific curricular year of the course as long as he or she does not have an overdue number of CU corresponding to more than 18 ECTS, considering what is foreseen in the study plan adopted for that curricular year.

Students to be approved in a CU must meet the specific requirements of that CU, which have to be in accordance with the UTAD’s Pedagogical Regulation, and obtain a final classification equal or greater than 10 (on a 20-point scale) in a continuous evaluation or final exam.

UTAD, as mentioned and explained in Standard 1.2, has a system for evaluating the performance of the teaching-learning process, which allows the evaluation of the system as a whole, proposing improvement actions and monitoring.

In order to support students in their learning process, namely those who have greater difficulties, the IMVM's curriculum includes hours of tutorial guidance in each CU where students in individual or group sessions (theoretical or practical) with the teacher can prepare a work or present questions and doubts about the topics related with the subject. Furthermore, all teachers are required to publish at the FUC, at SIDE, opening hours for students who need individualised support.

As mentioned above, IMVM has implemented the PT-UTAD, where each student is assigned a Tutor and a Mentor at the beginning of the first year of the course, whose mission is to guide and help students in solving their problems. This program's main objectives are to support the academic integration of students in higher education, and identify and intervene early in situations of academic failure and, in this way, reduce academic dropout and/or failure. The Tutor is a teacher whose main responsibility is to provide academic/pedagogical support and the Mentor is a student attending the 2<sup>nd</sup> or 3<sup>rd</sup> years of the IMVM, who helps the student in a full integration into academic and social life.

Regarding the data obtained from the academic services, the Annual Report of School Success of the UTAD courses is prepared by the Planning, Evaluation and Improvement Office (GPAM) under the coordination of the Pro-Rector for Teaching and Quality (PREQ) and the Pro-Rector for Pedagogical Innovation (PRIP). According to these annual reports, in the academic year of 2018/2019 of the students enrolled in the IMVM, 95% had attended the CU and were therefore assessable, of those 90% were assessed and 94% obtained approval. Regarding the CU 82% had an approval rate greater than 90%. In the academic year 2019/2020, of the students enrolled in the IMVM, 98% had attended the CU and were therefore assessable, of these 92% were assessed and 96% were approved. Regarding the CU, 90% had an approval rate greater than 90%. In the academic year 2020/2021, of the students enrolled in the IMVM, 98% had attendance to the CU and were therefore assessable; of these, 94% were assessed and 96% were approved. Regarding the CU, 88% had an approval rate greater than 90%. All these rules and information are available in the different regulations in use at UTAD, and the regulations and reports produced by the different structures are also available on the ECAV and UTAD websites.

The PRIP coordinates the Permanent Observatory of Dropouts and Promotion of Academic Success (OPAPSE), whose mission is the monitoring of academic dropouts and the implementation of actions to improve dropout indicators and academic success at UTAD. Every year the Academic Dropout Report is published and we can extract from it that the attrition rate at IMVM was 3.38% in the 2018/2019 academic year, 3.9% in the 2019/2020 academic year and 2.2% in the 2020/2021 academic year. The main reasons given for this dropout rate were non-adaptation to the course, change of Higher Education institution and financial reasons.

The admission procedures and criteria are defined by national legislation and accomplished by the General Directorate of Higher Education (see Standard 7.3). UTAD has no direct intervention in these definitions. The number of students admitted to the IMVM is defined annually by the Rector, which from the overall number of students that UTAD can admit to the 1<sup>st</sup> Cycle Courses defined by the Ministry, determines the number of students that each course, namely the IMVM, will receive in each academic year. This information is communicated using rectoral dispatches sent to the academy via email and advertised on the UTAD website (see Standard 7.1).

**Standard 7.6: Mechanisms for the exclusion of students from the programme for any reason must be explicit. The VEE policies for managing appeals against decisions, including admissions, academic and progression decisions and exclusion, must be transparent and publicly available.**

Students automatically become non-registered at IMVM if they do not renew their registration within the period established for this purpose and published on UTAD's Academic Services webpage.

In compliance with national legislation UTAD as a Regulation of Prescriptions (Regulation n<sup>o</sup> 43/2015). This regulation establishes the maximum number of enrolments that can be made by a student in a study cycle leading to a bachelor's degree or a master's degree at UTAD. Thus, students whose

academic record in the study cycles previously mentioned does not exceed the ECTS referred to in Table 7.6.1 are prevented from enrolling for two consecutive semesters.

**Table 7.6.1.** Criteria applicable to the prescriptions' regime at UTAD

Obtained ECTS	Maximum number of enrolments
0 a 59	3
60 a 119	4
120 a 179	5
180 a 239	6
240 a 359	8
360	9

UTAD also has a Disciplinary Regulation (Regulation n° 468/2011). Depending on the seriousness of the situation, sanctions applicable to students can range from a warning, or a fine to a suspension of attendance at UTAD for varying periods of time, which may include a ban of attending the course for up to 5 years. The student excluded can appeal by submitting to the academic office, in an appropriate form, a request addressed to the Rector of UTAD.

**Standard 7.7: Provisions must be made by the VEE to support the physical, emotional and welfare needs of students. This includes, but is not limited to, learning support and counselling services, career advice, and fair and transparent mechanisms for dealing with student illness, impairment and disability during the programme. This shall include provision of reasonable adjustments for disabled students, consistent with all relevant equality and/or human rights legislation. There must be effective mechanisms for resolution of student grievances (e.g. interpersonal conflict or harassment).**

The university recognizes that the physical and mental health of its students is critical to the learning process and their academic success, and is therefore committed to providing a wide range of initiatives and services to support them along their academic degrees.

Students admitted to the VEE for the first time, carry out their registration in a personalised way, on a defined day, in the presence of the academic office staff, workers of UTAD's Social Services (SAS-UTAD), with the support from ECAV staff (GAECAV), IMVM's Directive Board and by some of their future teachers. At this time, students are specially monitored for their enrolment at UTAD and their enrolment in the CU, the Tutoring/Mentoring programme, the services provided by SAS-UTAD, the cultural and sports offer, the volunteer student programs, and get to know the Student's Ombudsman.

UTAD has a Student Centre, a transversal centre that exercises its competences in the attendance to students, namely in the clarification of questions and support them throughout their academic career in the following areas: Academic subjects; International Relations and Mobility; Access to Scholarships and Other Social Support; Access to accommodation, food and services provided in the areas of sports, health and welfare.

ECAV has a support office more focused on the School's courses, where the IMVM is integrated, which provides closer and more targeted support to IMVM's students, helping students or indicating the most appropriate services to help them with specific problems.

The University, as previously referred to, promotes the PT-UTAD program whose mission is to promote the integration and academic success of students in the transition from Secondary School to Higher Education and throughout their course at the University, contributing, through the involvement of teachers, to the optimisation of the Teaching and Learning processes (see Standard 7.5). Although tutors and mentors have the training, organised by the Management and Support Group (GGA) of the Tutoring/ Mentoring Program, whenever they encounter problems they cannot solve, they can help the student by referring them to GGA, which in turn will refer students to the specialised services. The IMVM has 32 Tutors and 17 Mentors.

SAS-UTAD supports students in various aspects, including food, accommodation, medical services, DGES scholarships, other economic support (Social Support Fund - Through the Emergency

Subsidy and Collaboration Scholarship) and external scholarships. The main strategic objective of SAS-UTAD is the concentration of all reinforcements and achievements in the Promotion of a Policy of Well-Being for Students. The SAS-UTAD maintains a Health Unit where all students can go whenever they need. This Health Unit has available consultations in Clinical Psychology, Nutrition, Gynaecology and Nursing. Currently, the academic community has access to General and Family Medicine and Nursing consultations at the Douro I – Marão and Douro Norte Health Centre Group (ACES Douro I). This commitment results from the cooperation protocol for the area of Health and Well-being signed between UTAD and ACES Douro I.

SAS-UTAD and the Pro-Rectorate for Health and Welfare (PRSB), together with the Academic Association of the University of Trás-os-Montes and Alto Douro (AAUTAD), the Schools and external institutions, organize awareness-raising actions and sporting events to promote physical exercise, encouraging a healthy environment in the academy. Throughout the academic year, various sporting and cultural events are organised, including the UTAD Cup, the Popular Games, the UTAD Summer Sports, the UTAD Run and Walk and the 24h Futsal Tournament. In addition, the PRSB “UTAD Sports” project also provides a set of facilities, equipment and activities for students and staff to practice sports, which can be pre-booked through the SAS website. Among the set of facilities offered are a sports Centre, an indoor athletics track, an outdoor athletics track, a natural grass field, a synthetic turf field for 11-a-side football, a rugby turf field, two tennis courts and a synthetic turf field for a 5-a-side football.

UTAD has also merit scholarships to be awarded to students who, in each curricular year, have demonstrated exceptional academic performance, as established in Regulation n° 616/2018.

The Mission for Arts and Culture Group, created in 2013, is the organization of activities, which often involve links with local, regional and national entities. At UTAD there are conference cycles, social gatherings, cinema cycles, music, theater and dance performances, photography, painting, sculpture and other exhibitions, initiatives that combine gastronomy and music/cinema/debate, initiatives that cross arts and science, cultural trips, creative workshops and campus tours.

The great competitiveness of the labour market makes employers increasingly look at the interpersonal skills (soft skills) of candidates, which are increasingly valued by them, to complement knowledge and technical skills (hard-skills). Since the academic year 2014/2015, in which the 1<sup>st</sup> edition took place, the university has organised the "UTAD Soft-Skills Plan" which mainly aims to offer students contact and experience with a set of interpersonal skills, having UTAD prepared, each year, to the effect one annual activity plan.

UTAD is concerned with contributing to the transition of its students to the labour market. The advertising of job offers, internships, or fellowships, the undertaking of initiatives aimed at promoting the greater employability of young graduates and the development of students for better employability, and participation in studies identifying new professions and new labour markets are all concerns of the University.

The University Volunteering Initiative is a non-profit project that aims to create a Volunteering group of students, in a university context, intending to raise awareness of social responsibility and integrate volunteers in projects or other activities of the university or other institutions, in different areas of intervention.

The Academic Association of the University of Trás-os-Montes and Alto Douro (AAUTAD) is the link between the university and its students. It is a recreational, cultural, and sports association and works to defend the interests of the academy, having a serious and priority commitment to the students it represents, accompanying them in an attentive, careful and concerned way.

At UTAD there is also, since 2002, the Association of Veterinary Medicine Students (AEMV). All students of the Course are inherently members of it and their participation in Association activities is free and encouraged. AEMV supports the students and organizes sporting and social events. It also organizes technical and scientific events with the collaboration of the IMVM’s teachers, highlighting the international conferences that are already in their 24<sup>th</sup> edition. Most of this information is available to students on digital platforms: <https://www.utad.pt/wp-content/uploads/2021/09/Apoios-na-UTAD.pdf> and <https://www.utad.pt/en/students/>.

Students are represented in various management bodies at UTAD, namely, the Course Committee (CC), PC and Academic Council, where they can expose situations and monitor the development of various processes. In some situations, problem solving can be done through the intermediation of AAUTAD or the AEMV.

In addition to some of the mechanisms mentioned above, IMVM students also have the Student's Ombudsman, whose help they can seek whenever necessary to solve their problems. The Student Ombudsman is an independent body that in conjunction with the Academic association, the PC and the president of ECAV has the aim to defend and promote the legitimate rights and interests of students within the scope of their relationship with the University. The Ombudsman, among other functions, collects and appreciates the complaints presented to her, arbitrates situations of conflict, prepares, based on the results obtained, recommendations to the bodies and competent authorities, and also proposes and/or participates in initiatives that contribute to the improvement of the academic environment quality.

**Standard 7.8: Mechanisms must be in place by which students can convey their needs and wants to the VEE. The VEE must provide students with a mechanism, anonymously if they wish, to offer suggestions, comments and complaints regarding compliance of the VEE with national and international legislation and the ESEVT Standards.**

In addition to the availability of the CD or the members of the IMVM directive board, students can address their messages by e-mail – [dcmimv@utad.pt](mailto:dcmimv@utad.pt) – reporting abnormal situations, or requesting help or being elucidated about procedures or other doubts.

Students also have [AEMV](#) that can act as student representative, by whom they can address several matters of concern, along with promoting the exchange of ideas and information among students.

UTAD has a Communication system that allows students to report “Compliments, Suggestions or Complaints”, through which they can expose something that did not go as expected, that did not correspond to their expectations, and where they can report their experience and contribute to the improvement of the situations in question. Any entry is handled by the Integrated Quality Management System (SiGQ), with the claimants receiving a response within the stipulated deadlines and the situation is resolved as presented – a responsibility of the GPAM under the coordination of PREQ.

There is also a legally established citizenship tool, the Complaints Book, at the service points that can be used whenever requested. The treatment of the situations reported here is carried out in the same way as described for the submission of complaints on the UTAD website.

As mentioned before, Student's Ombudsman attends students and handles for their exposures.

### Comments on Area 7

The decision on the number of students admitted to the IMVM is a competence of the Rector and is decided according to Portuguese law and UTAD's internal regulations, after consulting the ECAV's President.

The average of dropout rate among IMVM students in the period under evaluation was  $\approx 3\%$ , with these cessations occurring mainly in the 1<sup>st</sup> and 2<sup>nd</sup> years due to the fact that some students decide to repeat the national entrance exams to try to enter the Medicine course and others, during the 1<sup>st</sup> year, realize that the course is not what they actually wanted.

In the academic year 2020/2021 there was a sharp decrease in the number of graduates (46), not only due to the difficulties inherent to COVID-19 pandemic (confinements, mobility restrictions and difficulty in finding places that would accept students), but also because in that year the deadline for submitting Master theses was extended.

During COVID-19 pandemic, *UTAD+Contigo* program was implemented to support students.

### Suggestions for improvement in Area 7

It is intended to propose adjustments to the institution's regulations so that thesis delivery deadlines are shortened and thus allow the completion of the IMVM to be in accordance with the period stipulated in the curricular plan.



**Standard 8.1: The VEE must ensure that there is a clearly identified structure within the VEE showing lines of responsibility for the assessment strategy to ensure coherence of the overall assessment regime and to allow the demonstration of progressive development across the programme towards entry-level competence.**

At the present, the student assessment is ruled by Pedagogical Regulation n° 419/2021 - *Diário da República*, 2ª série, n° 94, May 14<sup>th</sup>, and before this by Pedagogical Regulation n° 136/2018 - *Diário da República*, 2ª série, n° 41, February 27<sup>th</sup>. These Pedagogical Regulations define the different types of assessment: students can be assessed by continuous evaluation (during the semester period) or by exam, at two different times (Normal and Appeal exams). The students of the 3<sup>rd</sup> and 5<sup>th</sup> years have also the opportunity to undergo a special exam to finish the cycle or the course.

Students under special statutes (such as working students, members of academic bodies in the university, high performance athletes, parental students, with special education needs, etc.) also have the possibility to perform exams in the special exam period, according to the University Special Attendance Regimes Regulation n° 409/2021 - *Diário da República*, 2ª série, n° 92, May 12<sup>th</sup>. Usually, the special exam takes place in the last two weeks of July. All the examination seasons (Normal, Appeal or Special exam) are in accordance with Pedagogical Regulation.

Students have the opportunity to be part of the discussion and decision related to the final exam schedule, through the discussion between the students' representative (CU and year representatives), and the Course Director (CD). This schedule is proposed to the School PC, which is responsible for the approval of the exams schedule. As previously stated, PC includes IMVM teachers and students.

**Assessment of theoretical knowledge:** in the last three academic years, most of the CU (95%) evaluated theoretical knowledge through written test assessment during the semester. Almost 83% of CU made 2 theoretical evaluations. The question typology is variable, with multiple-choice, true/false, development questions, and short answers, but also with image short description, and clinical decision-making questions.

**Assessment of pre-clinical practical skills:** the pre-clinical practical skills are evaluated through Direct Observation Procedures (DOPs) during the practical assessment, integrated with the aims of each CU, and are evaluated by the CU teaching staff. Most of them are evaluated with a procedure execution, such as the identification of tissues, organs, and images. They are also evaluated with group work during the practical classes, at the end of each practical class, or in a group of sessions for a given topic. A practical exam at the end of the semester is also used to evaluate pre-clinical practical skills. During the CU Traineeship I, students are evaluated in veterinary medical training with various healthy animal species; general management techniques and nutrition; animal containment techniques and behavior and welfare.

**Assessment of clinical practical skills:** the assessment of clinical practical skills is evaluated by the CU teaching staff. The assessment is performed by DOPs of techniques or diagnosis execution together with its oral explanation, individual resolution of real clinical cases (oral and/or written format) or by an oral or written explanation of procedures, individually or by a working group of students.

During clinical practice rotations at VTH or extramural training, students are also evaluated by teachers. They validate the student's performance in the student's logbook (or diary). This practical assessment will then be merged with a written final report and oral examination in the CU *Traineeship II-V*, contributing altogether to the final grade.

Currently, we have a registration system on the intranet, where the students' clinical activity, developed under the teacher/practitioner's supervision, is recorded. This rotation clinical activity (see

Standard 3.1) is validated and classified by the student supervisor. These records have been having a natural evolution and development, with the first registration on paper and currently by online register on the intranet. At the end of this curricular year (2021/22), a Skills Book in paper format has been implemented, and an application for smartphone will be available in 2022/2023, replacing the previous booklet format.

The extramural work has an assessment made by the tutor that accompanies the student, at the end of the placement.

**Assessment of soft skills:** Day One Competencies (D1C) soft skills and their applicability are primarily assessed during the practical assessment. During practical classes, students need to resolve clinical cases by applying several learning methodologies such as problem-based learning approach, jigsaw technique, critical thinking, inverted learning, concept maps, role-play, among others. During this process, it is possible to assess the ability of the student to communicate, his self-confidence, and time management. In these classes, students need to work in a group and elaborate on the best clinical approach to the clinical case, allowing assessment of team working capability, ethics, and respect by each other. This assessment has continuous feedback.

**Standard 8.2: The assessment tasks and grading criteria for each unit of study in the programme must be published, applied consistently, clearly identified and available to students in a timely manner well in advance of the assessment. Requirements to pass must be explicit. The VEE must properly document the results of assessment and provide the students with timely feedback on their assessments. Mechanisms for students to appeal against assessment outcomes must be explicit.**

At the beginning of the semester, during a meeting between all academic staff of the year and the course director, the time points for the evaluation for each CU are defined, in order to have a harmonious distribution along the semester (with acceptable time intervals between evaluations) that does not impair student performance.

All information for the assessment is based on the approved Pedagogical Regulation, including the requirements to pass and the minimum assessment values. For each subject, all these rules and the evaluation time points are discussed with the students at the beginning of the semester and are written in the FUC. This is a quite complete document where it is mandatory to have all information (the content of the CU; specific rules for theoretical and practical examination; the coherence between the CU program and objectives) at the beginning of the semester (two first weeks, after which the FUC is validated by the CD and locked, with no possibility to be altered by the teacher). This document presents the updated rules of the CU for that semester on SIDE (Teaching Support Information System).

The Pedagogical Regulation (articles 20<sup>th</sup>, 21<sup>st</sup> and 22<sup>nd</sup>) have the description and rules for the assessment by test or exam, written and oral. Moreover, as previously stated, it is mandatory to include on the FUC at the beginning of the semester, all the information regarding examination rules for each CU. Written and oral tests are taken after registration on the student platform SIDE, where the day, time and place of the evaluation are posted.

At least one teacher from the teaching staff of the CU under assessment must be present during the written exam, and the exam time cannot exceed two hours and thirty minutes. The test/exam must include the rating of each question, as well as the classification applied to each correct and wrong question in case of multiple-choice or True/False questions.

The oral exams require at least two teachers from the teaching staff of the CU or Evaluation Panel elements of the CU, and cannot exceed 45 minutes per student.

The article 22<sup>nd</sup> of the Pedagogical Regulation, is explicit concerning the rules for the CU assessment. The grade of the continuous assessment must be published on SIDE within 7 days after the end of classes. When the final assessment has more than one evaluation element, all must be discriminated on the classification grade. The classifications must be published within 10 days after the tests are carried out.

When an evaluation element depends on a classification of a previous one already done, that classification must be disclosed to the student at least two working days before the test. If this minimum period is not met, the Course Director may schedule an additional test, considering the students' exam calendar and the availability of the teacher.

Grades are expressed as numbers, from zero to 20. For all the assessments, the minimum passing grade is 9.5. The examination committee for each CU is composed of at least two members of the teaching staff, belonging to the specific or related academic disciplines of the subject. Four types of results are possible for an exam of a given CU: non-admitted (when the student does not accomplish with the FUC standards of the CU); Absent (when the student does not attend the exam); Unapproved (when the student does not reach the punctuation of 9.5); Approved (when student reach the classification of 9.5 or higher).

The classifications must be published in the SIDE, for all students enrolled in the CU. In cases where the final classification results from the weighting of more than one assessment element, the results of each of these elements must be detailed and known by the students.

The results of the elements of the continuous evaluation must be disclosed within ten working days after they have been carried out. The final results of the continuous assessment must be made public on SIDE within seven working days, after the end of the class period. If the decision to attend an assessment element or exam depends on previous classifications, these must be disclosed at least two working days in advance.

The grade record is the definitive document that assigns a grade in each CU to students. The final grade must be posted in SIDE within timeframes defined in the academic calendar or by Rector's order. After being locked in SIDE, student gradings can only be changed upon official request from the CU regent and subsequent authorization from the School President.

Students may request the review of written tests in the continuous or exam assessment by submitting a written request for revision to the Academic Services (SA-UTAD), within three working days after consulting the assessment test; this request is subject to fee payment.

The VEE pedagogical support structure must provide the student, within three working days, with a copy of the assessment test in question. Within two working days after having access to the test, the student must deliver this copy together with a document with the elements that support his/her request for re-examination, to the same support office.

The President of the School appoints an Evaluation Panel in the following three working days, at the proposal of the Director of the Department where the CU is located. This Evaluation Panel is composed of two teachers with competence in the scientific area in question, one of whom is appointed as President of the Evaluation Panel. At the end of the procedure for the re-examination of the assessment test, the President of the School must inform, in writing, the CU Evaluation Panel and the SA-UTAD of the respective result.

The SA-UTAD notify the student of the result within three working days from the date of receipt of the communication by the School; except for duly substantiated cases, the maximum period for completing this process and communicating the result to the Academic Services will be five working days, counted from the appointment of the Evaluation Panel responsible for the decision.

The classification of the assessment test will be the one that results from the reassessment, but it cannot imply the student's failure; in this case, if the previous grade allowed the approval, the student will have the final classification of ten values.

**Standard 8.3: The VEE must have a process in place to review assessment outcomes, to change assessment strategies and to ensure the accuracy of the procedures when required. Programme learning outcomes covering the full range of professional knowledge, skills, competences and attributes must form the basis for assessment design and underpin decisions on progression.**

General and specific veterinary skills and competences, as well as professional attitude, are assessed in all exams in the different years of the course. The CU contents were developed and aligned in order to promote the succession of predefined knowledge and learning with the first day skills. Each

question in summative assessments is targeted towards specific learning outcomes. Programs of all CU, including assessment criteria and systems, are validated annually by the Course Director. Students, through pedagogical surveys, evaluate the CU and respective teaching staff, and contribute to its continuous improvement.

The UTAD Quality Office analysis each semester the CU Report (RUC) where the ratio of approved/disapproved students are stated, as well as other special issues (i.e fulfill the theoretical and practical content, agreement of assessment with the described in the FUC, etc.). The analysis of the RUC is then communicated to the Course Directive Board (CDB) and PC, enabling the identification of eventual problems during the semester. When an issue is identified, the teacher in charge of the CU is summoned for a meeting together with PC President, Course Director and Student representative, in order to discuss solutions. Each year, quality reports are published on the University [webpage](#), being publicly available.

In general, learning outcomes are assessed through direct observation of students' practical procedural performance during practical classes. Depending on the CU, in order to evaluate learning outcomes in real practice situations, the final practical examination is assessed by oral or written exams based on real clinical cases, descriptive reports, presentations of clinical cases, performing necropsy reports, etc.

**Standard 8.4: Assessment strategies must allow the VEE to certify student achievement of learning objectives at the level of the programme and individual units of study. The VEE must ensure that the programmes are delivered in a way that encourages students to take an active role in creating the learning process, and that the assessment of students reflects this approach.**

At the end of the semester, teachers have to fill out the RUC, which analyses the results of the students at the CU, the student pedagogical surveys (QP) and evaluates the teaching in a summary way. In addition, the teacher in charge must propose an action plan if the results obtained by the students have not been satisfactory (see Standard 3.1). The students also have an active role in the learning process (see Standards 1.2 and 3.1). At the end of each semester, students have to fill a QP regarding four dimensions: CU functioning, teaching (content delivery, communication, etc), student involvement and available resources; comments/opinions/suggestions can also be given (Appendix 4). QP is anonymous and its results are communicated to the CD and to the teachers. This is an interesting tool as it gives the teaching staff the opportunity of re-thinking the CU in case of need and considering the students opinion.

The learning results of the different CU are recorded in the Academic record, which is the official document that includes all the grades obtained during the course. These are valued in a total of 330 ECTS, including the final course thesis/report valued at 30 ECTS. The Thesis is discussed and orally presented to an Evaluation Panel of three to five elements (one of them can be a specialist from an external institution and another, the thesis supervisor) being classified from zero to 20 values. The student's final grading is recorded in the Master's certificate, by the Academic Services, resulting from a pondered average of the different CU grades, including the thesis grade.

**Standard 8.5: Methods of formative and summative assessment must be valid and reliable and comprise a variety of approaches. Direct assessment of clinical skills and Day One Competences (some of which may be on simulated patients), must form a significant component of the overall process of assessment. It must also include the quality control of the student logbooks in order to ensure that all clinical procedures, practical and hands-on training planned in the study programme have been fully completed by each individual student.**

The practical performance of our students is the main objective of our VEE. Students take the D1C throughout the course, in all years, with greater predominance in the last 3 years of the curricular plan.

The evaluation methodology of each CU is aligned, as described in the FUC, with the objectives of each one and with the D1C. Clinical activities (including clinical rotations) are validated by the

teacher in charge, by the practitioners on the VTH, and by the external tutors (extramural work), that contributed to the assessment of the student.

In the last semester of the course, the student can improve even more its practical skills, in a chosen area: clinic, surgery, anatomical pathology, microbiology, genetics, inspection, food technology, animal production or legislation, in different species (companion animals, farm animals, equine, exotic pets and wild animals). This internship is supervised by, at least, one teacher from our VEE, and one professional in the place where it is performed. During this period the student has the opportunity to place the acquired knowledge into practice in a real hands-on professional environment. At the end of this period he/she writes a report/thesis that will be further evaluated. Only after positive evaluations and successful completion of all the CU, and a positive thesis discussion, the course is completed.

The assessment methodology has been changing throughout the years. During the pandemic time, there was a need to adapt to the pandemic's special circumstances and new assessment methodologies, like interactive case discussions, remote oral examinations, remote presentation of teamwork, and evaluations through Moodle platform, among others. All the knowledge and experience gained from the last challenging years culminates now with the introduction of a Skills Book as part of the clinical skills assessment.

### **Comments on Area 8**

FUC, QP, RUC and RAC are effective tools for assessment quality improvement.

With the pandemic, the evaluation process through the e-learning methodology suffered a significant increase. Currently, many CU use a mixed model, combining Moodle evaluation with the conventional written format, oral or other. This fact allows the teacher to evaluate students in various models and is also an environmentally-friendly measure as it significantly reduces the amount of paper by exam.

In the next academic year (2022/2023), the VEE school calendar will suffer changes aligned with student suggestions, namely a wider examination period at the end of semester (from 3 weeks to 4 weeks).

Each semester, the Rectory allows the academic teaching staff to improve their knowledge, promoting lifelong training courses with different types of content such as assessment methodologies, learning resources, and new work approaches with the students, including the use of the Audience Response system in a theoretical setting. Besides these available resources, others will be added soon, as a training course for specific clinical assessment using the Miller's pyramid methodology. Although several of the Miller's levels are already applied in the VEE, it's our goal to improve and systematize it throughout the course.

### **Suggestions for improvement in Area 8**

The assessment regime as mentioned above is regulated by the pedagogical regulation, which is transversal to all UTAD courses. It would be advantageous for the IMVM to be able to adopt a differentiated assessment regime that takes into account the specificities of some of its CU and, above all, allows us to reduce the assessment elements required.

It would be useful to include the Skills Lab in summative assessment.

**Standard 9.1: The Establishment must ensure that all staff are appropriately qualified and prepared for their roles, in agreement with national and EU regulations and must apply fair and transparent processes for the recruitment and development of staff. 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. Most academic staff (calculated as FTE) involved in veterinary training must be veterinarians. It is expected that more than 2/3 of the instruction that the students receive, as determined by student teaching hours, is delivered by qualified veterinarians.**

The University of Trás-os-Montes and Alto Douro (UTAD) global strategy is to provide an educational program of veterinary medicine training with qualified academic staff and consists in the systematic selection of applicants with a diploma of veterinary medicine, PhD degree for permanent academic staff, and high practical training experience for invited teachers.

The IMVM obtained the certification of the Agency for Assessment and Accreditation of Higher Education (A3ES) for six years, a seal of approval that meets European standards for the quality of education. This certification highlights the representation that the student has in UTAD's management bodies, social services, sports activities, easy access to health and welfare services, in addition to the quality of the training offer and the teaching-learning process, as well as the quality of research, collaboration with the surrounding community, internationalization, and the strategic policy defined by UTAD's Rectorate. During the AE3S evaluation, the qualifications and expertise of the teaching staff involved in the study programme were also scrutinised.

In addition, the recognition of academic and support staff qualifications is also guaranteed by recruitment and promotion procedures and by the formal training system that include pedagogical subjects, soft skills, biosecurity and QA procedures.

The number of faculty members is 62.57 FTE, most of whom are veterinarians (48.9 FTE). However, in the context of One Health, the integration of non-veterinarians, particularly in the teaching of Agriculture, Genetics, Animal Science (animal nutrition and reproduction, animal products technology) is strategic. The farm-to-fork strategy and the challenges of agriculture and livestock production reinforce this interdisciplinary need. Academic staff from other departments, including other departments mostly from School of Agrarian and Veterinary Sciences (ECAV) and School of Life and Environmental Sciences (ECVA) (Appendix 1), teach specific Curricular Units (CU), for example, in basic sciences or production. All veterinary and non-veterinary teachers have expertise in their respective disciplines, with extensive pedagogical and research experience in the area.

**Standard 9.2: The total number, qualifications and skills of all staff involved with the programme, including teaching staff, adjunct staff, technical, administrative and support staff, must be sufficient and appropriate to deliver the educational programme and fulfil the Establishments mission. A procedure must be in place to assess if the staff involved with teaching displays competence and effective teaching skills in all relevant aspects of the curriculum that they teach, regardless of whether they are full or part time, residents, interns or other postgraduate students, adjuncts or off-campus contracted teachers.**

Tables 9.2.1 and 9.2.2 provide details of the numbers and range of faculty members with the expertise to deliver the course degree program. The IMVM has an appropriate balance of veterinarians and non-veterinarians of 79.1% veterinarians and 20.9% non-veterinarians, and of these, considering temporary academic staff, about 93.4% are veterinarians. Five veterinarians (permanent academic staff) are members of the European Board for Veterinary Specialization (Veterinary Parasitology, Veterinary

Microbiology, Veterinary and Comparative Nutrition and Veterinary Public Health). All of the permanent academic staff possess PhD qualifications.

**Table 9.2.1.** Academic staff\*\* of the veterinary programme

Type of contract	2018-2019	2019-2020	2020-2021	Mean
Permanent (FTE)	48.93	49.72	48.9	49.18
Temporary (FTE)	11.02	11.0	13.67	11.9
Total (FTE)	59.95	60.72	62.57	61.1

**Table 9.2.2.** Percentage (%) of veterinarians in academic staff

Type of contract	2018-2019	2019-2020	2020-2021	Mean
Permanent (FTE)	75.3	75.2	75.1	75.2
Temporary (FTE)	94.6	94.6	93.4	94.2

IMVM has a number of administrative and technical support personnel who play an invaluable and essential role in the functioning of the ECAV. Administrative staff is located in the School's offices and in the academic sections. The technical support staff is located in the academic sections and in other departments and schools, and are responsible for a mix of technical support activities, both in teaching and research activities. The Veterinary Teaching Hospital (VTH)'s support staff includes technical and operational assistants, veterinary nurses, lab technicians, veterinarians and a pharmacist. Numbers are listed in Table 9.2.3.

**Table 9.2.3.** Support staff of the veterinary programme

Type of contract	2018-2019	2019-2020	2020-2021	Mean
Permanent (FTE)	37.02	40.02	45.02	40.69
Temporary (FTE)	19	22.50	16.0	19.17
Total (FTE)	56.02	62.52	61.02	59.85

There are also specific dedicated research support staff that are a mix of research assistants and postdoctoral. They are mostly on temporary contracts and are hired onto specific research grants to contribute to the delivery of these grants. They report directly to the academic staff member that holds the specific grant fellows.

**Table 9.2.4.** Research staff of the Establishment

Type of contract	2018-2019	2019-2020	2020-2021	Mean
Permanent (FTE)	3	3	5	3,67
Temporary (FTE)	10	11	28	16,33
Total (FTE)	13	14	33	20

UTAD's Strategic Plan for 2021-2025, has as priority the re-evaluation and renewal of academic careers, and the reduction of the dependency on occasional collaborations. For the next three academic years, UTAD intends to increase the number of permanent academic staff, with a PhD degree, a high-quality curriculum and, preferentially, with a Specialist diploma. Two positions are opening in clinical sciences (farm animals and equines) and an additional position is expected to be vacant next year.

For the VTH there are two vacancies for support staff and soon there will be one vacancy for a small animal caretaker, five vacancies for practitioners (three in small animal, one in production animal and one for wild and exotic animal clinics) and one for veterinary nurse.

The selection of permanent staff is public and competitive, most often with an external evaluation board. The criteria for recruiting permanent academic staff are based on merit and competence, professional experience, research and teaching experience, and, as far as possible, the veterinary specialist diploma.

The Statutes of the University Teaching Career (ECDU) and UTAD internal Regulation defines the rules for specially hired teaching staff recruitment. Recruitment may be by invitation, to professionals with recognised scientific, pedagogical and/or professional competence in the disciplinary area or areas in question, presented by the Department, which, in the case of Assistant Professor, is based on a report



subscribed by at least two professors in the specialty. The decision to renew contracts by Department Direction and Course Director considers the analysis of the Students Pedagogical Surveys (QP), and also includes the evaluation of temporary teaching staff.

Proposals for the invitation of specially recruited personnel are sent to the President of the School who submits them to the Scientific Council (SC) for deliberation. They have to be approved by an absolute majority of the members present at the assembly. The hiring of specially hired staff is the responsibility of the Rector. Support staff from the VTH have been integrated into the temporary teaching staff by invitation, according to a rule of accumulation of its functions (4 hours per week).

Recruitment may also be carried out by establishing a recruitment base which will include spontaneous applications for specially recruited staff. Individuals whose scientific, pedagogical, or professional curricula may be of interest to the VEE may present their application for teaching functions until March 31<sup>st</sup> of each year, with or without an indication of the category to which, through contractual equivalence, they intend to be invited.

Staff qualification is a priority at UTAD. The Centre for Continuous and Executive Training, a part of the Teaching, Training and Pedagogical Innovation Office (GEFIP) develops its activity in the area of training (non-degree granting training, continuous training for Teachers and Educators or professional training) for UTAD or external participants. Educational surveys are also an important tool and, after evaluation, allow the definition of new training topics, based on identified needs or suggestions.

The IMVM academic and non-academic staff are trained in aspects related to Biosafety and QA procedures, occasionally in training sections extended to students (included in Table 10.1.4). Academic staff (including temporary staff) have also formal training in pedagogical areas, including methodologies to assess students (Appendix 6.9.1). Special attention has been given to training in new teaching methodologies, and new teaching and assessment tools. One of the pedagogical tools is the e-learning Moodle platform. In the transition to on-line teaching, several actions have been undertaken to train teachers in this type of teaching; it enables communication between students and teachers, the provision of bibliographic support and other learning materials, and student assessment.

In addition to formal institutional training, each semester a meeting oriented towards each specific CU is performed, which also includes all temporary teachers. Particular attention is given to the operation of the CU, programmatic content, objectives, intended learning outcomes and day one competences (DIC) assessment. Besides the regular training promoted by the VEE, additional pedagogical training is promoted for new teachers, before the beginning of classes.

The Biosafety Unit of IMVM, the Course Direction Board (CDB) and the Department Direction also organize additional training mainly in the area of biosecurity and QA procedures, basic life support, among others.

Free language courses are also available for the academic community, contributing to the improvement of the teaching-learning process of foreign students.

The recruitment in the public service is open to all citizens (external competitions) or only for employees with a public employment contract (internal competitions) who wish to enjoy mobility or access other categories in the career. The external recruitment within the Public Administration is carried out through a competitive bidding procedure, duly publicised. Different selection methods are used for the purpose of selecting candidates with the competency profile appropriate to the performance of the activities inherent to the job position.

The training to perform their specific duties is regulated by specific laws that define the regime of professional training in Public Administration. UTAD, as a public employer, must provide workers and managers with access to vocational training and create the conditions that facilitate the transfer of learning in the workplace. Public administration departments draw up the vocational training plan on the basis of a needs assessment, preferably taking into consideration: the policies of human resources development and administrative innovation and modernization, ensuring a prospective approach to training activity; and the priority needs of the employees in relation to the demands of the jobs they occupy, assessed from among the strategic areas defined. The workers may also present proposals for the elaboration of the training plan. A general initial training is compulsory, takes place during the trial

period of employment, and is intended for workers who are starting public functions, with the aim of contributing towards an awareness of the values of public service and the special characteristics of the performance of public functions. Specific initial training to acquire essential skills is provided through a suitable training program. Continuous training promotes the updating and personal and professional improvement in accordance with the development, innovation and change policies of the public administration. Training for professional valorisation aims to strengthen the worker's professional skills, with a view of integration into a new job, following the reorganization of services.

In conformity with the General Law on Employment in the Public Service (Law nº 35/2014 - *Diário da República, 1ª série, nº 1172014, June 20<sup>th</sup>*), the exercise of public functions can not accumulate with private functions or activities, performed on an autonomous or subordinate work basis, with or without remuneration, competing, similar or conflicting with public functions.

**Standard 9.3: Staff must be given opportunities to develop and extend their teaching and assessment knowledge and must be encouraged to improve their skills. Opportunities for didactic and pedagogic training and specialisation must be available.**

In order to support teachers and provide them with tools and strategies in the pedagogical field, aiming for more dynamic and active ways of learning, UTAD gives the staff the opportunity to develop and extend their teaching and assessment knowledge, and encourages them to improve their skills, in a consistent way, since 2017. Additionally, a Group for the Improvement of Teaching and Learning (MEA) was created, composed by UTAD teachers, researchers, technicians and students. The MEA Group also promotes pedagogical seminars that are informal discussion (tertulias) opportunities open to the academic community (Appendix 6.9.1).

The pedagogical-didactic training actions offered each year to UTAD faculty members are listed in Appendix 6.9.1. These trainings are usually given by invited lecturers, both internal and external to UTAD. Since the end of 2020, UTAD has been collaborating on another interinstitutional initiative, the "Teaching and Personal Teacher Training Plan", in collaboration with the interinstitutional Conferences on Pedagogical Innovation. A cycle of training activities is organised, streamlined by teachers from several institutions, aiming at the improvement of the quality of teachers training, through sharing and dissemination of experiences and good practices. The participation in National Congresses on Pedagogical Practices in Higher Education is also encouraged.

UTAD is the coordinator of a project called Erasmus+CRITHINKEDU, born from a partnership with several European Higher Education Institutions, namely from Greece, Lithuania, Italy, Romania, Czech Republic, Spain, Ireland and Belgium, with a funding of about 390000 euros from the European Union. This project aims to improve the quality of learning in universities and across different sectors, which converge in a common need on how to better support the development of Critical Thinking according to labour market needs and social challenges.

The book "Educating for critical thinking in the classroom: Planning, Strategies and Evaluation" was recently published with results from the work of a community of practice - webPACT Group (since 2012) that integrates teachers from various Schools. This group has developed projects, organised scientific meetings and implemented strategies and learning activities in their CU with the aim to promote the skills development by students and their critical thinking to enhance an intervention in the society in a more critical and creative way. In addition, the University encourages teachers and support staff to participate in the Erasmus Plus programme, with the aim of enhancing and broadening their teaching skills.

Permanent faculty members may apply for sabbatical leave to be excused from teaching duties in order to carry out research and strengthen strategic collaborations with other institutions, at the end of each three or six years of effective service, respectively for six months or one academic year (ECDU). Authorization is dependent on the University and the management of the teaching service. In 2019/2020, an annual sabbatical was granted to an academic member of the Department of Veterinary Sciences (DCV).

Assistant Professors are hired for an indefinite period for a five-year trial period, at the end of which, after a specific evaluation of the activity carried out by two reporters, the unfixed-term contract is assigned.

Academic temporary staff are hired on a fixed-term, part-time basis. Each full-time faculty member provides a minimum of six hours and a maximum of nine hours of teaching sessions per week. In addition to the time spent teaching, the teaching services schedule includes the student attendance component. The remaining time (up to 35 hours per week) is set aside for research, extension and management services. According to the Performance Evaluation Regulations, each teacher, according to his/her profile, may define the weightings of his/her evaluation according to the following thresholds: Teaching: from 30% to 70%; Research: from 15% to 65%; Extension: up to 30% and Management: up to 30%.

A special type of contract is that of faculty members hired under the stimulus for scientific employment at the institution, a national program for hiring doctorate holders, whose contract implies both research and teaching activities, only allowing a maximum of 6 teaching hours.

**Standard 9.4: The Establishment must provide evidence that it utilises a well-defined, comprehensive and publicised programme for the professional growth and development of academic and support staff, including formal appraisal and informal mentoring procedures**

The structure of academic staff comprises the categories of Assistant, Associate and Full Professor. The transition between categories depends on the vacancies. Each category is divided into four stages and two schemes are allowed (part-time/full-time). The transition between the stages is linked to the Performance Evaluation Regulations, as described below. An additional promotion path, not dependent on vacancies, is the achievement of the title of Aggregate that leads to a salary increase. Aggregation examinations follow the National general rules and may be requested by an internal or external academic staff member, at the UTAD or at another university, depending on the branches of knowledge. The title of aggregate attests to the quality of the academic, professional, scientific and pedagogical curriculum; the capacity for research; and the aptitude to direct and carry out an independent scientific work. There are public examinations that consist on the assessment and discussion of the candidate's curriculum, the assessment and discussion of a report on a CU, group of CU, or cycle of studies, within the scope of the branch of knowledge or specialty in which the examinations are held; and a seminar or lecture on a topic within the scope of the branch of knowledge or specialty in which the examinations are held, and subsequent discussion.

Academic staff members are evaluated every 3 years, according to a system based on the UTAD Performance Evaluation Regulations. The following aspects are considered: Teaching; Scientific research, technological development; Extension, scientific dissemination and economic and social valorisation of knowledge; and management functions. The weighting of each of the items may vary individually, within predefined values, allowing the teacher to choose in self-assessment, the weighting of each item that best suits his/her career in that period. Teaching includes the teaching workload, the production of teaching materials, pedagogical innovation and exploitation relevant to the teaching activity, and the monitoring and mentoring of students. Research includes patents, publications, coordination and participation in scientific projects, among others. The extension strand includes enhancement of knowledge transfer, provision of services to the society in general and provision of services, consultancy and expertise and participation in activities involving clinical or laboratory extension services.

The evaluation is made by two reporters, appointed by the Coordinating Committees in each School, who post the results, after they have been harmonised. The Rector is responsible for approving the classification once the process has been completed. The maximum classification in two consecutive 3-year periods leads to a promotion within the category associated with a salary increase, up to a maximum of four steps.

Regarding support staff, the public service evaluation system in Portugal is the Integrated System of Management and Performance Assessment in Public Administration (SIADAP) set up by Law n° 66-

B/2007. The SIADAP defines the method of assessment of the performance of the public services (SIADAP 1 - QUAR), their respective managers (SIADAP 2) and workers (SIADAP 3).

SIADAP 3 takes into account two parameters: outcomes and skills. The outcomes are measured using previously established indicators that allow for transparency and impartiality and the prevention of discretionary measures, and are relative to the objectives that are interconnected with the actual performance of each job. The skills are chosen for each employee, depending on its category (ranging from 5 to 7 skills). Objectives and skills are contractualised between the evaluator (Laboratory and VTH Directors) and the employee at the beginning of the evaluation period (two years).

The curricular weighting and respective assessment are determined according to criteria previously established by the Coordinating Council of UTAD's SIADAP Assessment, which is composed by the Administrator, elected School Representatives, the Head of Human Resources and the CEGA Director. The process is carried out transparently, with public minutes of the meetings containing the deliberations. According to the classification, the employee is promoted to a higher category, which implies an increase in his/her remuneration. The entire procedure is based in National legislation and there is an agreement signed by the evaluator and the employee. Clarification sessions between employees and evaluators regarding the process are regularly organised.

Since 2021, each School/Service prepares the QUAR (Assessment and Accountability Framework) with effectiveness, efficiency and quality goals, thus providing a referential framework for the performance evaluation of the service and alignment of the staff individual outcomes and skills.

In order to allow constant improvement, the SIADAP identifies the potential of evolution and development of employees, as well as their training needs. According to the priority needs of the staff and the job demands, training is considered in the UTAD annual training plan.

The teaching staff is included in almost all structures of the University namely: General Council (CG), Academic Council (CA), Schools bodies such as Scientific Council (SC) and Pedagogical Council (PC), Biosafety Commission, Ethics Committee, Animal Welfare Committee (ORBEA), Research Centres, Agricultural Management and Exploration Centre (CEGA), and VTH. Thus, teaching staff takes part in the most of the decision-making processes, according to the competences of each organic structure. Each Professor, within the Departmental Council, also participates in several decisions, including the decision on opening positions for permanent academic staff and proposals on temporary academic staff hiring.

Support staff members are represented in UTAD management bodies, such as the CG. Since 2018, there has been a Ombudsman for the support staff, whose mission is the defense and promotion of their rights and interests within the University. The Ombudsman and other non-teaching staff members integrate several internal commissions (e.g. COVID-19 Contingency Plan Commission). The VTH's Strategic Council, CEGA and ORBEA also include a support staff member.

Periodic meetings between the Rector and the academic and non-academic staff are organised, as well as between the Department Director, academic and non-academic staff.

**Standard 9.5: A system for assessment of teaching staff must be in operation and must include student participation. Results must be available to those undertaking external reviews and commented upon in reports**

UTAD's Quality Policy is committed to promote the relationship with students and other stakeholders, developing solutions in line with their needs and expectations in order to increase their level of satisfaction.

UTAD has also published the Pedagogical Charter that presents a set of pedagogical principles to serve as guidance and inspiration for students, teachers and staff involved in the design, implementation and evaluation of teaching and learning activities.

Within UTAD, the view that students and teachers are partners in the learning process prevails. Learning is not something that the teacher can do without the active cooperation of the student, as well as the interaction between the student and the teacher and the other students. In this process, academic activities, as well as feedback on student learning outcomes, are understood as an important objective

for increasing interaction between students and teachers. Developing interactive and collaborative skills is essential for students, as they will be important for their future.

The Pedagogical Surveys (QP) is a fundamental tool for the self-assessment process and for the continuous improvement of the education-learning system. Students complete the QP each semester regarding the functioning of the CU and on the pedagogical performance of teachers. Academic staff is evaluated in different items such as: articulation of contents, methodologies, strategies and activities of the CU, promotion of a favourable environment for student participation, promotion of student critical capacity, capacity to communicate the contents of the CU in an organised and clear way, fulfillment of the evaluation rules agreed with the students and present in the CU Form (FUC), availability to support the students, degree of global satisfaction with the teaching and learning process, use of methodologies and strategies adequate to remote learning, capacity to overcome difficulties arising from the implementation of remote learning. The results of the QP, duly validated, are assessment tools used in the academic staff evaluation. In this evaluation system, there is also a differentiating factor expressing the effect of the fulfillment of administrative obligations such as the non-insertion of class summaries, incomplete or non-existent FUC (in Portuguese or English), and non-completion of CU reports. Besides CD, QP is also analysed by the department director, allowing a follow-up of each teacher, including non-permanent teachers. In addition to concrete actions adapted to each situation, the results obtained have a practical application in the decision to renew the contract of the non-permanent teachers. The results of the QP are available on the UTAD website.

The Course Annual Report (RAC), also based on the QA results, points to improvement measures to be included in the Course Improvement Plan (PMC). If a problem related to the teaching activity occurs throughout the semester, meetings to solve situations are scheduled between the PC (depending on the problem), CD and the teacher, with or without the presence of students. Furthermore, meetings are scheduled for the resolution of any problem concerning teaching activity.

### **Comments on Area 9**

There has been a growing increase in the number of hired permanent and temporary teaching staff. The teaching staff for extramural teaching has been increased with the inclusion of teachers with professional experience: two for equine clinics, one for farm animals clinics and one for companion animal clinics.

In 2021/2022, there was an investment in the recruitment of human resources, namely veterinary practitioners, nurses and animal caretakers for the VTH. A survey of support staff was recently made with a view to hiring support staff for the laboratories. A full-time manager was also included in the VTH board. Three coordinators for the Small Animals area (with higher salaries and responsibilities) have been appointed to VTH.

According to ECDU, Full Professors and Associate Professors should represent a minimum of 50% of all career academic staff. Starting in 2020, UTAD has begun a phased Teacher Appreciation Plan for promotion to intermediate and top categories in higher education (Decree Law nº 112/2021), with three positions attributed to DCV. Currently, procedures are underway to open three new positions for Associate Professor and two for Full Professor for the DCV. Another phase of promotion is planned for 2023.

To regulate the allocation of the sabbatical licenses, an internal regulation was recently approved and, for 2022/2023, three biannual sabbatical licenses are foreseen for DCV.

The concern with the Health and Well-being of UTAD's staff has been constant. The Pro-Rector for Health and Welfare (PRSBE) organizes awareness actions and events to promote physical exercise, encouraging a healthy environment in the academy. PRSBE provides a set of facilities and equipment for the practice of sports.

To promote food literacy and the empowerment of the different elements of the academic community for the achievement of healthy and sustainable eating, UTAD published the UTAD Charter for Healthy and Sustainable Eating, a joint work with academic, support staff and students.

As a result of the continuous improvement of teaching and learning processes, and in recognition of the quality of UTAD and its willingness to innovate, the Regulation for the Valuation and

Development of Good Practices and Pedagogical Innovation at UTAD was recently approved. This Regulation provides for the awarding of a Prize for Good Pedagogical Practices and the Incentive to Pedagogical Innovation Projects. The competition will open soon for projects to be implemented in the 2022/2023 and 2023/2024 academic years. The Award for the 2021/2022 academic year will be awarded for the first time in 2023. In July 2022, the Pro-Rector for Pedagogical Innovation launched the "Pedagogical Innovation Newsletter", sharing with the Academy the developed pedagogical activities, nationally and internationally.

### **Suggestions for improvement on Standard 9**

Increase the number of permanent academic staff to reduce the dependence of occasional collaborations and rejuvenate the academic staff team.

Increase the number of European specialists, who contribute to an increase in the technical quality of veterinary training.

Increase the support staff, both in Laboratories and in the VTH.

The recruitment and retention of clinical staff in the VTH which are currently very well paid in the private sector and in other countries remains a perennial issue. The School is currently looking at developing a more attractive package for some of the clinical staff to improve recruitment and better retain staff.





## AREA 10 | RESEARCH PROGRAMMES, CONTINUING AND POSTGRADUATE EDUCATION

**Standard 10.1: The Establishment must demonstrate significant and broad research activities of staff that integrate with and strengthen the veterinary degree programme through research-based teaching.**

UTAD aims to be an internationally recognised institution of excellence in veterinary education and research, permanently adapted to the needs of society, contributing for the advancement of the frontiers of knowledge. The general objectives of VEE are to promote an adequate research-based veterinary practice, under the “One Health” concept, which enables students to diagnose and treat sick animals and to contribute to animal production in a sustainable environment of comfort and welfare, to protect humans from zoonosis and to ensure safe and high-quality animal products for human consumption.

Thus, IMVM teaching is based on the principles and methods of scientific research, encouraging students since the 1<sup>st</sup> year to have contact with interdisciplinary research activities and showing them how knowledge is built. Many of these research results are regularly included in the syllabus, namely in the theoretical classes, most of which are updated annually.

Between 2018 and 2021, 407 scientific papers from all represented subject areas were published in journals indexed to Web of Science or Scopus (Appendix 5). The research activity involving teachers and students of the IMVM is mainly carried out in two research centres, the Animal and Veterinary Research Centre (CECAV) and the Centre for the Research and Technology of Agro-Environmental and Biological Sciences (CITAB), both integrated in the national network of research centres. Within the scope of the Portuguese Foundation for Science and Technology (FCT), they are regularly submitted to evaluation, carried out by international panels, and are currently classified as "Very Good".

CECAV currently has 61 full members, 13 PhD collaborators and 40 PhD students, including 18 scholarship researchers. CITAB has 108 full members, 66 PhD collaborators, 23 non-PhD collaborators and 85 scholarship researchers.

Despite CITAB and CECAV's base funding, during the period under review (2018-2021), being 1 332,750€ and CECAV 574,735€, respectively, research is mainly funded through national and international projects attracted by their researchers from very competitive national (FCT) and international programmes (FEDER; VII EU Framework programme, Horizon 2020). In addition, private funds are also regularly attracted, particularly from pharmaceutical and animal feed companies.

The implementation of these projects immerses students in a research environment that allows them to get involved, from a visit to the laboratory and brief understanding of the project, to voluntary collaboration in laboratory activities or a curricular internship with the consequent experimental master theses preparation. The major funded research projects (more than 75,000€/year) are listed in Table 10.1.1 and a complete list available in the Appendix 6.10.1.

**Table 10.1.1.** List of the major funded research programmes in the Establishment

Project title	Duration (years)	Budget (€/year)
OneHCancer - One Health approach in animal cancer	2	249,999.99
SoilRec4+Health - Soil recover for a healthy food and quality of life	2	249,999.99
AgriFood XXI - Integrated innovation in the agrifood chains towards a sustainable future	4	129,411.77
TraDACa - Diagnosis and preventive treatment of hip dysplasia in dogs	2.2	100,053.23
Safety, quality of processed meat products	5	99,999.99
CareBio2 - Comparative evaluation of antimicrobial resistance in environmental biofilms through proteomics: in search of innovative theranostic biomarkers	3	79,895.67
Physical exercise for the prevention of prostate cancer	3	78,649.63



**Standard 10.2: All students must be trained in scientific method and research techniques relevant to evidence-based veterinary medicine and must have opportunities to participate in research programmes.**

Throughout the curriculum, students are trained to think critically and make decisions based on the best scientific evidence, a concept they are familiar with in their first year at CU of "*Introduction to the Veterinary Medicine*". That same year at the CU of *Biostatistics* they came into contact with the importance of data analysis, interpretation and efficient representation. Epidemiological aspects such as measures of disease frequency and study design are discussed in the course 2<sup>nd</sup> year. In the 3<sup>rd</sup> year, in a compulsory CU (*Introduction to the Scientific Research*) they become familiar with the language of research, scientific methods and research techniques, searching literature in various databases, understanding the value of supporting statements with appropriate citations, writing reports and/or presenting scientific data in front of their peers.

In order to students become aware of the importance of research, evidence-based veterinary medicine and, uppermost, of the need to keep up with the latest development in veterinary sciences for their professional life, students are encouraged to follow up and participate in research activities. There are many ongoing research projects at the Establishment, presenting a good opportunity for students to familiarize themselves with research activities. As a result of students' participation in Research, 27 scientific publications in journals indexed to Web of Science or Scopus, 57 communications in scientific events and five abstracts in indexed scientific journals, were published in this period (Appendix 6.10.2).

In the 2<sup>nd</sup> cycle, students are increasingly exposed to evidence-based thinking, particularly when involved in small-group clinical rotations and other pre-professional activities.

In the 11<sup>th</sup> semester, students carry out an internship and to complete the study plan, they must write and defend a course conclusion work (final graduation thesis) in the presence of an examining board (with internal and external members), corresponding this work to 30 ECTS. This final work can be developed in the form of a project, internship report or master's thesis, with the requirement for the latter format to carry out research (fundamental, applied, clinical). It is usually during this period that students benefit from intensive research-based education. They elect the guidance team that plans the work with them and supervises the execution period and the writing of the work. The student's interaction with the advisor during the correction of their thesis is considered a key moment not only for critical thinking, but also for refining report writing and literature search skills. Assessment of undergraduate Thesis work includes explicit assessment of the above-mentioned skills. When the quality of the work is relevant, the team disseminates the results at national and international conferences and in indexed international scientific journals. Some examples of IMVM, thesis related with scientific research works are summarised in the Appendix 6.10.3.

**Standard 10.3: The Establishment must provide advanced postgraduate degree programmes, e.g. PhD, internships, residencies and continuing education programmes that complement and strengthen the veterinary degree programme and are relevant to the needs of the profession and society.**

In the period under analysis and in the various sectors/services of the VTH, 112 graduates completed their internship period, according to the distribution shown in Table 10.3.1. The members of the European Board of Veterinary Specialization active in the Establishment supervise one EBVS trainee in Parasitology.

**Table 10.3.1.** Number of students registered at postgraduate clinical training

Postgraduate clinical training	2018	2019	2020	2021
Internships	35	35	26	16
Residencies	-	-	-	1

UTAD has several Master's programs where students with a Veterinary Medicine degree are accepted, as Master Sciences in Food Engineering, Zootechnical Engineering, Biomedical Engineering, Biotechnology for Health Sciences and Clinical and Laboratorial Biology. The VEE also offers several doctoral courses, highlighting the PhD in Veterinary Sciences, with four branches namely Clinical, Food Quality and Safety, Animal Health and Biomedical Sciences and the PhD in Animal Science as the two most sought by graduates in Veterinary Medicine. Considering the recommendations of the National Agency for Higher Education (A3ES) and the supervisory authority, each year the university administration decides how many places are open for application.

**Table 10.3.2.** Number of students registered at postgraduate research training

Number of enrolled students	2018-2019	2019-2020	2020-2021
PhD in Veterinary Sciences	28	33	34

**Table 10.3.3.** Number of students registered at other postgraduate programmes in the VEE but not related to either clinical or research work (including any external/distance learning courses)

Number of registered students	2018	2019	2020	2021
Sanitary assessment of large game animals	-	-	-	15

The VEE is active in organizing scientific events open to students, PhDs, and private practitioners on the latest development of different scientific disciplines.

The postgraduate program is organised taking into account suggestions or external requests from professional or scientific organizations, suggestions from colleagues or Alumni and the initiative of teachers, attentive to the areas where knowledge advances more quickly and, therefore, where the need for professional updating is more urgent or with a view to meet specific professional needs. In addition, an effort is made to offer courses in all main areas of employment, Clinics, Animal Health, Animal Production and Food Safety. Seminars and short to medium duration courses on highly specialised issues are organised, resorting to external influential speakers whenever pertinent, in a schedule feasible for professionals.

**Table 10.3.4.** Number of attendees to continuing education courses provided by the VEE Establishment

Event title	No. of attendees
<b>2018</b>	
Course on Beekeeping	18
Course on Laboratory Animal Science - Category B of FELASA	30
II Technical-Scientific Meeting on Bovine Nutrition	200
IX Forum on Pharmacological Research "From <i>in vitro</i> studies to <i>in vivo</i> application"	95
Seminar "Chronic kidney disease: a complex dichotomy"	50
Seminar "Companion animal orthopedics"	100
Seminar "Diabetes Mellitus: key points for an effective treatment"	50
VII Conference on Health Inspection	150
Workshop "Echocardiology in equines"	15
Workshop "Sample preparation in veterinary cytology and histology"	40
Workshop "Semen collection in horses"	20
XXI International Conference on Veterinary Medicine "Surgical techniques in equines and Clinical nutrition in domestic animals"	250
<b>2019</b>	
2 <sup>nd</sup> Workshop European Association of Avian Veterinarians Student Section	25
Advanced Trauma Life Support / Advanced Trauma Care for Nurses (ATLS/ATCN) Course	12
Biosafety, biosecurity and QA training action (BU-IMVM) "Personal Protective Equipment, disinfectants and sanitization of work surfaces in laboratory environment"	70
Biosafety, biosecurity and QA training action (BU-IMVM) "Physical risks training action: ALARA, as low as (reasonably) possible"	60
Course on Beekeeping	18
Course on Laboratory Animal Science - Category B of FELASA	30
I Clinical Conference on Milk Production	200
III Seminar in Immunology "When the defense is the attack"	90

IV Seminar in Immunology	80
Meeting “Vets with Horsepower: the Iberia tour”	100
Practical course “Artificial feeding in beekeeping”	18
Practical course “Pollen and propolis production”	18
Seminar “Animal behavior: dog and exotic and wild animals”	50
Seminar “Aquatic animals”	100
Seminar “Assistance to animals”	40
Seminar “Clinical Pathology: SDMA, interpretation of DotPlots and reticulocyte hemoglobin”	50
Seminar “Minimally invasive surgery”	20
Seminar “Update on Forensic Veterinary Medicine”	20
Seminar “Use of dogs in police investigations”	50
Seminar “Volunteering opportunities”	30
V Workshop “Melissopalynological analyzes”	18
Workshop “A <i>post mortem</i> key to understanding life: from classical to molecular necropsy”	20
Workshop “Cytogenetics and Bioinformatics in the experimental design of tools for cancer biomarkers”	20
Workshop “Designing DNA-based tools for detection purposes: HRM and biosensors”	20
Workshop “Forensic Veterinary Medicine”	20
Workshop “Rational use of antibiotics in dairy production”	102
Workshop “Trying to understand species’ adaptation to climate change. What says the DNA?”	30
XI Genetics and Biotechnology Conference / I Iberian Genetics and Biotechnology Conference	170
XXII International Conference on Veterinary Medicine “Geriatrics in companion animals and Clinic and conservation medicine in exotic and wild animals”	250
XXIV Meeting of the Portuguese Society of Animal Pathology	60
<b>2020</b>	
Biosafety, biosecurity and QA training action (BU-IMVM) “Biosafety requirements and standardisation for certification/accreditation of analysis laboratories”	30
Course on Beekeeping	18
I Conference on Biotechnology for Health Sciences	30
Seminar “COVID-19: How to deal with the impact of exceptional measures on my company?”	50
Seminar “Feline Medicine: domestic and wild felids”	100
Seminar “Forensic cases in production animals”	30
Seminar “Obstetrics and neonatology in companion Animals”	100
Seminar “The Academy unites all from a distance”	?
Seminar “What’s after the University?”	30
Webinar “Disaster and tactic medicine”	300
Webinar “Security, terrorism, criminal investigation and animals”	200
Workshop “Clinical genomics of the periodontal disease”	20
Workshop “How to extract, isolate and identify plant-based secondary metabolites with biotechnological and pharmacological relevance?”	20
Workshop “Introduction to Phytton and R programming for applications in Bioinformatics”	20
Workshop “Molecular Genetics: genotype vs. phenotype”	20
Workshop “The history of silkworm production and new technologies”	20
XII Genetics and Biotechnology Conference / II Iberian Genetics and Biotechnology Conference	180
<b>2021</b>	
Biosafety, biosecurity and QA training action (BU-IMVM) “Biosafety and Implementation of Quality Control and Assurance Systems”	70
Biosafety, biosecurity and QA training action (BU-IMVM) “Biosecurity practices in UTAD Veterinary Teaching Hospital”	300
Biosafety, biosecurity and QA training action (BU-IMVM) “Radioprotection in Veterinary Medicine”	100
Certification for the use of DisUTAD	40
Course on Beekeeping	18
Critical Thinking Day	80
II Conference on Biotechnology for Health Sciences	50
International Conference One Health “New insights and challenges of zoonotic diseases”	200
Practical course “Asinine Medicine and Wellness”	30
Seminar “Welfare in Wildlife: the role of ORBEA in teaching and research activities”	71
Seminar “Emergency in companion animal”	150
Seminar “Interferences and validation of laboratory methods”	45
Seminar “Pediatrics in companion animals”	150
Seminar “Rabbits and rodents dentistry”	150

Seminar “Soft Skills: importance and development”	50
Seminar “The role of veterinary medicine in zooarchaeology and archeogenetics”	150
Seminar “Welfare in Wildlife: the role of ORBEA in teaching and research activities”	71
VIII Health Inspection Conference “Birds and Leporidae: integrated Sanitary Inspection, farm to Abattoir”	150
Webinar “Science Communication - Clinical communication: an essential dimension of critical thinking in the medical field”	60
Webinar “Science Communication - Creative Commons Licenses”	60
Webinar “Science Communication - Science communication and scientific writing”	60
Webinar “Science Communication - Scientific terminology: from Greek and Latin to vernacular languages”	60
Webinar “Science Communication - The importance of medical terminology in the language and communication skills of a veterinarian”	60
Webinar “Science Communication - The role of scientific illustration in the advancement of medical sciences”	60
Workshop “A hands-on science experiments to promote sustainable use of natural resources through genomics”	15
Workshop “Comparative oncology: spontaneous animal models for human cancer research?”	20
Workshop “ <i>Post mortem</i> examination in understanding the pathogenesis of pandemics”	15
Workshop “Silk, an exciting material”	20
Workshop “Software Zotero”	80
Workshop Spark Agency “How to write a CV and use LinkedIn and Pitch?”	50
XIII Genetics and Biotechnology Conference / III Iberian Genetics and Biotechnology Conference	185
XXIII International Veterinary Medicine Conference “A journey to the future”	250

With regard to intramural clinical training, students benefit from the support of clinicians, nurses and residents, and their learning is facilitated by this collaborative strategy. Recently, three of the clinical staff members were appointed coordinators and supervise, in collaboration with the VTH Direction, the entire teaching strategy at the VTH. As skills to be developed, each student must be trained to take a relevant medical history, perform a clinical examination, administer medication (under supervision) and work safely for themselves and others and patients. Individual skills, safety issues, and service convenience sometimes limit student engagement. In this context, conflicts between staff and in particular trainees and students are rare and promptly resolved.

**Standard 10.4: The Establishment must have a system of QA to evaluate how research activities provide opportunities for student training and staff promotion, and how research approaches, methods and results are integrated into the veterinary teaching programmes.**

Scientific production is an important parameter of the institutional evaluation of teachers' performance, which takes place every three years. If evaluated with Excellent in a period of six consecutive years (two trienniums) of evaluation, the academics progress horizontally one step, corresponding to a salary increase.

Assessment is carried out at an institutional level and the ECAV's assessment committee appoints two rapporteurs with an academic degree higher than the person being assessed, who certify the self-assessment previously carried out by each teacher on a platform made available for this purpose. On this platform, for each item placed, teachers must provide documentary evidence. The classification obtained by each teacher is subject to scrutiny and approval by the school President and the Rector.

In the promotion contests (vertical progression) of the teaching staff, research is the most valued parameter, with a weight of 30 to 60% in the General Regulation of the Contests for the Recruitment of Full, Associate and Assistant Professors of UTAD.

Research policy, including the assessment of its quality, is the responsibility of the Research Vice-Rector, whose mission is to encourage, support, promote, evaluate and communicate research, innovation and impact within and outside the university. For the QA, he is supported by the Pro-Rector for Teaching and Quality, which oversees the implementation of the SiGQ-UTAD.

The Directors of the research centres, the Scientific Councils of the various schools, the Doctoral College and the Academic Council participate in the definition and monitoring of research policies arising from the UTAD's Strategic Plan; however, each researcher has the freedom to decide what

research to carry out and the most appropriate funding sources to apply for support. Also, the UTAD's Strategic Plan decides the main objectives, based on local/regional and cultural/economic needs. The directions of the research centres within its scope of research lines decides the best way to implement the administration's plan.

The main areas and research strategies are regularly discussed, decided on, evaluated and reviewed by the bodies of CECAV and CITAB (Director, Coordinating Committee and Scientific Council). These decisions are communicated (by email) to all members of the Research centres, to all academics through the department's director and to students and interested parties through the websites of the research centres.

Postgraduate programs are proposed by the VEE, after an internal process that involves the consultation of various bodies such as Departments, Scientific (SC) and Pedagogical (PC) Councils related to the proposal and Academic Council, to the national higher education accreditation agency A3Es that evaluates them and, in case of approval, authorizes their implementation by the establishment. For each postgraduate course at the VEE, a Course Director is appointed, made up of teachers and students whose functions have been described at Area 1. Postgraduate programs are published by official bodies such as the Directorate General for Higher Education - Ministry of Science, Technology and Higher Education, and UTAD, through their respective websites, and are also advertised in the Press in special editions relating to Undergraduate Courses. The A3Es agency regularly audits and pronounces on the quality of each of the courses in force in Portuguese institutions.

Lifelong learning (LLL) programs are discussed and approved by the SC based on proposals from teachers and researchers who intend to create new courses, and often also in collaboration with students and external entities such as scientific societies, organizations and Alumni. LLL programs are implemented, evaluated and reviewed by the SC and posted on the UTAD website and publicized to professionals. At all these events, feedback is requested on the current program and requests are made for suggestions on what would be the most appropriate topics for future series.

### **Comments on Area 10**

The Institution prioritises research and continuous and postgraduate training. The ability to successfully apply to national and international competitions scholarships is satisfactory given the number of permanent academic staff. As a result, ongoing research projects are numerous (Table 10.1.1), with positive effects on teaching and student involvement in research activities. The global result of the research activities is witnessed by the large number of publications issued. The pandemic situation delayed the execution of many scientific projects and compromised student participation.

Despite the fact that in the period under analysis the specialists of the European colleges only guide one resident, at the moment there are five additional Residents registered in a total of six.

A proposal for the creation of a new PhD programme in "One Health" has been recently approved by the internal bodies.

### **Suggestions for improvement on Area 10**

Research is a fundamental pillar that supports the quality of teaching, encouraging the undergraduate students to develop a research career as early as possible. Also, motivating them to apply for research initiation grants and to conceive and develop research projects can add value to the society in which they are inserted.

In order to increase the number of residences recognised by the European Board of Veterinary Specialisation (EBVS), the establishment must encourage and support the academic staff to obtain the diploma status.

## LIST OF ESEVT INDICATORS

Raw data from the 2 full academic years preceding AY 2019-2020		2018/19	2017/18	Mean
1	n° of FTE academic staff involved in veterinary training	59.95	59.84	59.90
2	n° of undergraduate students	481	453	467.00
3	n° of FTE veterinarians involved in veterinary training	47.22	48.1	47.48
4	n° of students graduating annually	69	62	65.5
5	n° of FTE support staff involved in veterinary training	56.02	55.1	55.56
6	n° of hours of practical (non-clinical) training	1260	1239.5	1249.75
7	n° of hours of clinical training	789	764.5	776.75
8	n° of hours of FSQ & VPH training	322	324	323
9	n° of hours of extramural practical training in FSQ & VPH	56	54	55
10	n° of companion animal patients seen intramurally	2965	3170	3067.5
11	n° of ruminant and pig patients seen intramurally	88	35	61.5
12	n° of equine patients seen intramurally	82	52	67
13	n° of rabbit, rodent, bird and exotic patients seen intramurally	324	219	271.5
14	n° of companion animal patients seen extramurally	0	0	0.0
15	n° of individual ruminants and pig patients seen extramurally	639	605	622.0
16	n° of equine patients seen extramurally	69	74	71.5
17	n° of visits to ruminant and pig herds	46	39	42.5
18	n° of visits of poultry and farmed rabbit units	4	4	4.0
19	n° of companion animal necropsies	134	120	127.0
20	n° of ruminant and pig necropsies	99	65	82.0
21	n° of equine necropsies	8	6	7.0
22	n° of rabbit, rodent, bird and exotic pet necropsies	324	337	330.5
23	n° of FTE specialised veterinarians involved in veterinary training	4	4	4.0
24	n° of PhD graduating annually	2	3	2.5

Calculated Indicators from raw data		UTAD values	Median values <sup>1</sup>	Minimal values <sup>2</sup>	Balance <sup>3</sup>
I1	n° of FTE academic staff involved in veterinary training / n° of undergraduate students	0.128	0.15	0.13	0.002
I2	n° of FTE veterinarians involved in veterinary training / n° of students graduating annually	0.728	0.84	0.63	0.098
I3	n° of FTE support staff involved in veterinary training / n° of students graduating annually	0.848	0.88	0.54	0.308
I4	n° of hours of practical (non-clinical) training	1249.750	953.50	700.59	549.160
I5	n° of hours of clinical training	776.750	941.58	704.80	71.950
I6	n° of hours of FSQ & VPH training	323.000	293.50	191.80	131.200
I7	n° of hours of extramural practical training in FSQ & VPH	55.000	75.00	31.80	23.200
I8	n° of companion animal patients seen intramurally / n° of students graduating annually	46.832	62.31	43.58	3.252
I9	n° of ruminant and pig patients seen intramurally / n° of students graduating annually	0.939	2.49	0.89	0.049
I10	n° of equine patients seen intramurally / n° of students graduating annually	1.023	4.16	1.53	-0.507
I11	n° of rabbit, rodent, bird and exotic seen intramurally / n° of students graduating annually	4.145	3.11	1.16	2.985
I12	n° of companion animal patients seen extramurally / n° of students graduating annually	0.000	5.06	0.43	-0.430
I13	n° of individual ruminants and pig patients seen extramurally / n° of students graduating annually	9.496	16.26	8.85	0.646
I14	n° of equine patients seen extramurally / n° of students graduating annually	1.092	1.80	0.62	0.472
I15	n° of visits to ruminant and pig herds / n° of students graduating annually	0.649	1.29	0.54	0.109
I16	n° of visits of poultry and farmed rabbit units / n° of students graduating annually	0.061	0.11	0.04	0.016
I17	n° of companion animal necropsies / n° of students graduating annually	1.939	2.11	1.40	0.539
I18	n° of ruminant and pig necropsies / n° of students graduating annually	1.252	1.36	0.90	0.352
I19	n° of equine necropsies / n° of students graduating annually	0.107	0.18	0.10	0.007
I20	n° of rabbit, rodent, bird and exotic pet necropsies / n° of students graduating annually	5.046	2.65	0.88	4.166
I21*	n° of FTE specialised veterinarians involved in veterinary training / n° of students graduating annually	0.061	0.27	0.06	0.001
I22*	n° of PhD graduating annually / n° of students graduating annually	0.038	0.15	0.07	-0.032



## Comments

In general, the ESEVT indicators are positive, and reflect both the capacity and the determination of the VEE in providing the IMVM students with high-quality Veterinary Education, aiming to acquire the Day-One Competences.

With regard to the Indicators that appear below EAEVE minimum values, some are compensated by others with a similar objective:

**I10** - n° of equine patients seen intramurally - although there was an increase in the number of intramural observed equids, this Indicator is below the minimum required value. This can be explained due to the farmers that are not always willing to bring the animals to the VTH. However, this Indicator is compensated by the I14 (n° of equine patients seen extramurally); which, besides the hands-on training, allows the students to also have the opportunity to evaluate the husbandry and management conditions.

**I12** - n° of companion animal patients seen extramurally is zero - there is no ambulatory clinics for Companion Animals.

**I22** - n° of PhD graduating annually - although a considerable number of students are enrolled in the PhD programme, there is a rather small number that actually concludes the PhD course. Most of the enrolled students are working students, who have clear difficulties in reconciling their professional life with the pursuit of the work leading to their doctoral theses.

## Suggestions for improvement

Although the public financial resources are inferior in comparison to other European VEE, UTAD is committed to the improvement of the IMVM course and consequently to improve the ESEVT indicators:

- The recruitment of new academic staff for clinical training (I21) with a PhD degree and/or holding a Specialist Diploma. This will be mandatory for the implementation of Residency Programmes and to the increase the number of referral clinical cases;
- The establishment of protocols with other veterinary hospitals, livestock farms, and other entities, especially in the North of Portugal, will be important to increase the number of clinical cases.



- A3ES:** Agency for Assessment and Accreditation of Higher Education, *Agência de Avaliação e Acreditação do Ensino Superior*
- AAUTAD:** Academic Association of University of Trás-os-Montes and Alto Douro (UTAD), *Associação Académica da UTAD*
- AEMV:** Association of Veterinary Medicine Students of UTAD, *Associação de Estudantes de Medicina Veterinária da UTAD*
- BC-UTAD:** Biosafety Committee of UTAD
- BU-IMVM:** Biosafety Unit of IMVM
- CA:** Academic Council, *Conselho Académico*
- CAC:** Course Analysis Committee, *Comissão de Análise de Curso*
- CC:** Course Committee
- CD:** Course Director
- CDB:** Course Directive Board
- CE-UTAD:** Ethics Committee, *Comissão de Ética da UTAD*
- CECAV:** Animal and Veterinary Research Centre, *Centro de Ciência Animal e Veterinária*
- CEGA:** Agricultural Management and Exploration Centre, *Centro de Exploração e Gestão Agrárias*
- CEL:** Centre for Language Studies, *Centro de Estudos em Letras*
- CERTIC:** Rehabilitation and Accessibility Engineering Centre, *Centro de Engenharia de Reabilitação e Acessibilidade*
- CETRAD:** Centre for Transdisciplinary Studies for Development, *Centro de Estudos Transdisciplinares de Desenvolvimento*
- CG:** General Council, *Conselho Geral*
- CGe:** Management Board, *Conselho de Gestão*
- CIDESD:** Research Centre in Sports Sciences, Health Sciences, and Human Development, *Centro de Investigação em Desporto, Saúde e Desenvolvimento Humano*
- CITAB:** Research and Technology of Agro-Environmental and Biological Sciences Centre, *Centro de Investigação e Tecnologias Agroambientais e Biológicas*
- CQ-VR:** Chemistry Centre - Vila Real, *Centro de Química - Vila Real*
- CQE:** School Quality Commission
- CR:** Clinical Rotations
- CRAS:** Wildlife Rehabilitation Centre, *Centro de Recuperação de Animais Selvagens*
- CRUP:** Council of Rectors of Portuguese Universities, *Conselho de Reitores das Universidades Portuguesas*
- CU:** Curricular Unit
- D1C:** Day One Competences
- DCV:** Veterinary Sciences Department, *Departamento de Ciências Veterinárias*
- DGAV:** General Directorate for Food and Veterinary Medicine, *Direção-Geral de Alimentação e Veterinária*

- DGES:** General Directorate of Higher Education, *Direção-Geral do Ensino Superior*
- DOP:** Direct Observation Procedure
- DR:** *Diário da República*
- DVM:** Degree in Veterinary Medicine
- EAEVE:** European Association of Establishments for Veterinary Education
- EBVS:** European Board of Veterinary Specialisation
- ECAV:** School of Agricultural and Veterinary Sciences, *Escola de Ciências Agrárias e Veterinárias*
- ECHS:** School of Human and Social Sciences, *Escola de Ciências Humanas e Sociais*
- ECT:** School of Sciences and Technology, *Escola de Ciências e Tecnologia*
- ECTS:** European Credit Transfer System
- ECVA:** School of Life and Environmental Sciences, *Escola de Ciências da Vida e do Ambiente*
- ENQUA:** Quality Assurance in Higher Education
- EPT:** External Practical Training
- EQAR:** European Quality Assurance Register for Higher Education
- ESEVT:** European System of Evaluation of Veterinary Training
- ESG:** Standards and Guidelines for Quality Assurance in the European Higher Education Area
- ESS:** School of Health Sciences, *Escola Superior de Saúde*
- FCT:** Portuguese Foundation for Science and Technology, *Fundação para a Ciência e a Tecnologia*
- FSQ:** Food Safety and Quality
- FTE:** Full-Time Equivalent
- FUC:** Curricular Unit Form, *Ficha da Unidade Curricular*
- GAA:** Administration Support Office, *Gabinete de Apoio Administrativo*
- GAJ:** Legal Advisory Office, *Gabinete de Apoio Jurídico*
- GCI:** Communication and Image Office, *Gabinete de Comunicação e Informação*
- GEFIP:** Teaching, Formation and Pedagogical Innovation Office, *Gabinete de Ensino, Formação e Inovação Pedagógica*
- GGA:** Management and Support Group, *Gabinete de Gestão e Apoio*
- GPAM:** Planning, Evaluation and Improvement Office, *Gabinete de Planeamento, Avaliação e Melhoria*
- GPFE:** Projects and External Funding Office, *Gabinete de Projetos e Financiamento Externo*
- GRIM:** International Relations and Mobility Office, *Gabinete de Relações Internacionais e Mobilidade*
- HE:** Higher Education
- IMVM:** Integrated Master in Veterinary Medicine
- LabCC:** Skills Lab, *Laboratório de Competências Clínicas*
- LLL:** Lifelong learning
- LTQSA:** Laboratory of Technology, Quality and Food Safety, *Laboratório de Tecnologia, Qualidade e Segurança Alimentar*
- MEA:** Improvement of Teaching and Learning, *Melhoria do Ensino e Aprendizagem*
- MSTHE:** Ministry of Science, Technology and Higher Education

**ND:** National Deliberation

**OPAPSE:** Permanent Observatory of Dropouts and Promotion of Academic Success, *Observatório Permanente do Abandono e Promoção do Sucesso Escolar*

**ORBEA:** Animal Welfare Committee, *Órgão Responsável pelo Bem-Estar dos Animais*

**PC:** Pedagogical Council

**PDCA:** Plan, Do, Check, and Act

**PMC:** Course Improvement Plan, *Plano de Melhoria do Curso*

**PREQ:** Pro-Rectorate for Teaching and Quality, *Pró-Reitoria para o Ensino e Qualidade*

**PRIP:** Pro-Rectorate for Pedagogical Innovation, *Pró-Reitoria para a Inovação Pedagógica*

**PRSB:** Pro-Rectorate for Health and Welfare, *Pró-Reitoria para a Saúde e Bem-Estar*

**PT-UTAD:** Tutoring/Mentoring programme, *Programa de Tutoria e Mentoria*

**QA:** Quality Assurance

**QP:** Pedagogical Surveys

**R&D:** Research & Development

**RAC:** Course Annual Report, *Relatório Anual do Curso*

**RUC:** Curricular Unit Report, *Relatório da Unidade Curricular*

**SA-UTAD:** Academic Services of UTAD, *Serviços Académicos da UTAD*

**SAS-UTAD:** Social Services of UTAD, *Serviços de Ação Social da UTAD*

**SC:** Scientific Council

**SDB:** Documentation Services and Libraries, *Serviços de Documentação e Bibliotecas*

**SEN:** Special Educational Needs

**SER:** Self Evaluation Report

**SIC-UTAD:** Computer and Communications Services, *Serviços de Sistemas Informação e Comunicações da UTAD*

**SIDE:** Teaching Support Information System, *Sistema de Informação de Apoio ao Ensino*

**SiGQ-UTAD:** Integrated Quality Management System, *Sistema Integrado de Gestão da Qualidade*

**SIRCA:** System for the Collection of Animal Corpses on the Farm, *Sistema de Recolha de Cadáveres de Animais Mortos na Exploração*

**SOP:** Standard Operating Procedure

**SRH:** Human Resources Services, *Serviços de Recursos Humanos*

**SWOT:** Strengths, Weaknesses, Opportunities, Threats

**UMIS:** Infrastructure Maintenance and Sustainability Unit, *Unidade de Manutenção de Infraestruturas e Sustentabilidade*

**USEP:** Psychology Specialised Services Unit, *Unidade de Serviços Especializados em Psicologia*

**UTAD:** University of Trás-os-Montes and Alto Douro

**VEE:** Veterinary Education Establishment

**VPH:** Veterinary Public Health

**VTH:** Veterinary Teaching Hospital of UTAD

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