

#### FULL VISITATION REPORT

#### To the VEE of the Swedish University of Agricultural Sciences, Uppsala, Sweden

On 18-22 March 2024

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# Introduction

Veterinary training in Sweden was created in Skara in 1775. It was later moved to Stockholm, before arriving in Uppsala (Ultuna campus) in 1977. Since then, the Faculty of Veterinary Medicine and Animal Science (called the VEE in this report) has been part of the Swedish University of Agricultural Sciences (SLU), which is the only university in Sweden to offer veterinary education.

The VEE has been positively evaluated by EAEVE in 1997, 2007 and 2018.

The main objective of the VEE is to deliver highly qualified professionals with the essential skills society requires for animal and public health, animal welfare and 'one health'. This is achieved through its research, education and services activities. These are carried out at the Centre for Veterinary Medicine and Animal Science (VHC), the Veterinary Teaching Hospital (VTH) and the Swedish Livestock Research Centre (SLRC) (the latter being located in Lövsta, 20 kilometres north of the Ultuna campus).

The main developments since the last visitation are:

- The "Together Project" aimed at strengthening collaboration between the VEE and VTH to standardise the strategy for education, clinical research and specialisation training;

- The implementation of a new curriculum since 2023;

- The 45% increase in the number of admitted students (145 students instead of 100) from 2023 onwards;

- The expansion of the clinical training centre (skill lab).

The Visitation is completed in agreement with SOP 2023.

# Area 1. Objectives, Organisation and Quality Assurance Policy

Standard 1.1: The VEE must have as its main objective the provision, in agreement with the EU Directives and ESG Standards, 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.

# The VEE must develop and follow its mission statement which must embrace the ESEVT Standards.

# 1.1.1. Findings

The VEE has a mission statement related to its work focused on the best interests of animals, alignment with the sustainable development goals of the United Nations, and an overarching responsibility for research, education and collaborative projects within an evidence-based framework. The VEE's mission for the veterinary programme is to provide training that is grounded in research, covers individual animals, groups and populations, One Health and food safety, and enables graduates to meet the Day One Competences and to align with the ESEVT Standards.

The VEE follows four principles as guidance to everyday activities: scientific approach encompassing generating new knowledge and research integrity and practice; fostering a creative environment; openness in collaborations internally and externally; and responsibility towards the university's success and the working environment. The veterinary programme aims to enable students to develop their scientific, research and professional skills in readiness for their future roles in the veterinary profession and society and includes a Master's project at the end. The programme is taught in Swedish with support for non-native speakers of English during a transition period in years 2 to 4 of the curriculum. The VEE aims to foster openness, equality, inclusion and diversity in its study and work environment.

The curriculum is based on European Directives (2005/36/EC, 2013/55/EU) and the Swedish Board of Agriculture legislation (SFS #2009:302). The research-based curriculum covers basic, preclinical and clinical sciences. The curriculum covers basic, preclinical and clinical education. There is no tracking within the core curriculum, but choice is available to students via elective subjects and extramural placements in practices focused on preferred species during vacation time.

# 1.1.2. Analysis of the findings/Comments

The VEE's main objective is to provide veterinary training that will produce new graduates capable of entering the veterinary workforce. The VEE's mission describes its aims in relation to education, sustainability, research, and promoting animal health, One Health and food safety.

# 1.1.3. Suggestions for improvement

None.

# 1.1.4. Decision

The VEE is compliant with Standard 1.1.

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.

The person responsible for the veterinary curriculum and the person(s) responsible for the professional, ethical, and teaching affairs of the Veterinary Teaching Hospital (VTH) must hold a veterinary degree.

The decision-making process, organisation and management of the VEE must allow implementation of its strategic plan and of a cohesive study programme, in compliance with the ESEVT Standards.

# 1.2.1. Findings

The VEE is part of the Swedish University of Agricultural Sciences (SLU) and is one of the university's four faculties. The overall structure for SLU is shown in Figure 1.2.2 and a list of those in leadership roles is shown in Table 1.2.1. The Dean and the director of the university animal hospital (VTH) hold veterinary degrees as does the vice-dean for education, who is also a vice director of the VTH.

The official authority overseeing the VEE is the Board of SLU, which is chaired by the Director-General with elected representatives from the student unions, and the Vice Chancellor and Deputy- and Pro-Vice Chancellors.

The organisation of the VEE is shown in a diagram in Figure 1.2.2 (dated January 2024). The responsibility for planning and administration of activities of the VEE is with the Dean, who along with the Deputy Dean is appointed by the Vice-Chancellor, following nomination by the Faculty's Electoral Assembly. The VEE's highest decision-making body is the Faculty Board. It is chaired by the Dean and members (eight academics) are elected every three years by the Faculty's Electoral Assembly, there are three students. Non-voting attendees are the Faculty Director, the Faculty Secretary and staff union representatives. The VEE's committees and subcommittees support the Faculty Board's activities, members are appointed by the Faculty Board or the Dean. The four Associate (Vice) Deans are appointed by the Faculty Board. There is a Faculty Board Executive Committee consisting of the Dean, Deputy Dean and Associate Deans, a student delegate and the Faculty Director, with an advisory role to the Dean. Administrative and secretarial support to the VEE leadership team and committees is provided by the Faculty Office. There is student representation on anybody that makes decisions affecting student studies in accordance with the Higher Education Act. There are also representatives from the veterinary profession, industry, government and non-government organisations on some committees. Planning and administration of scientific and educational activities at the departmental level are overseen by the Head of Department who is appointed by the Dean.

The VEE's committees are:

- VHF Faculty Board (as described above)
- programme Board for Education with teaching and student members and responsibility for curriculum evaluation and improvement and governance of examinations.
- Research Education Board (FUN) responsible for postgraduate-level education
- Docent (Associate Professor) Board to appoint and provide opportunities for docents
- The Appointments Board has responsibilities to provide an expert review as required related to employment of academics and employment regulations.
- Gender equality and equal opportunities committee makes associated proposals and action plans.

The Dean also has representatives responsible for key areas including Erasmus, student disabilities, equal opportunities, the clinics, health and safety, and research activities.

The VEE operates on a main campus in Uppsala and several other sites. The VEE has six departments: Anatomy, Physiology and Biochemistry; Biomedical Sciences and Veterinary Public Health; Animal Environment and Health; Animal Nutrition and Management; Animal Breeding and Genetics; Department of Clinical Sciences, which has five sections and engages in national and international collaborations. The VTH is now formally part of the VEE (as of January 2024).

#### 1.2.2. Analysis of the findings/Comments

The VEE is part of the Swedish University of Agricultural Sciences (SLU). The Dean, the person responsible for the veterinary curriculum and the head of the Veterinary Teaching Hospital hold veterinary degrees. The decision-making process, organisation and management of the VEE support the implementation of its strategic plan and the veterinary program.

#### **1.2.3.** Suggestions for improvement

None.

1.2.4. Decision

The VEE is compliant with Standard 1.2.

Standard 1.3: The VEE must have a strategic plan, which includes a SWOT analysis of its current activities, short- and medium-term objectives, and an operating plan with a timeframe and indicators for its implementation. The development and implementation of the VEE's 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.

#### 1.3.1. Findings

The VEE has a formal strategic plan for 2021 - 2025, approved by the Faculty Board in December 2020, which aligns with the university strategy and includes specific clarifications relevant to the VEE. Associated information is publicly available. The Dean also has an Operations Plan. Following the agreement in October 2023, both the strategy and plan apply to the operations of the VTH. Specific goals for the VEE within the Operations Plan relate to: Systemic perspective on the circular food system; One Health; digitisation; and One SLU. Priorities specific to the VTH are pedagogical training, the staff having two or more areas of work (clinical, teaching and/or research), standards for medical records, recruitment and funding opportunities. The VEE also has a SWOT analysis, with a list under each section. The VEE describes specific activities for each strategic goal in the Operations Plan, with the current status of implementation (e.g., complete, completion date, ongoing). Students provide input through various mechanisms including their elected representatives, membership of committees and course evaluations. Other stakeholders, internal and external, provide input through various committees and consultation activities. The VEE also has a list of focussed activities for both education and research and current status. For education, the list includes achieving European accreditation of the veterinary program, accrediting the animal nursing program, increasing the amount of practical training at the VEE's teaching farms, and increasing awareness of programmes and related career opportunities. For research, the list includes planning a large external cross-disciplinary research project, developing PhD courses and supporting the funding for PhDs and postdocs, clarifying expectations of academics' roles regarding research and teaching, planning strategic recruitment of academics, and providing support for researchers participation in EU grants, as applicants and reviewers.

#### 1.3.2. Analysis of the findings/Comments

The VEE has a formal strategic plan aligned with the university strategy, a SWOT analysis, an operating plan with activities and an evaluation of the implementation. The development and implementation of the VEE's strategy includes input from students and other stakeholders, both internal and external.

#### **1.3.3.** Suggestions for improvement

The operating plan needs to be updated and expanded to include details related to the increased student numbers. The plan should include the timeframe and indicators for the first cohort moving up the curriculum year-on-year and how each successive intake of the larger cohort will be accommodated.

#### 1.3.4. Decision

The VEE is partially compliant with Standard 1.3 because of the operating plan not including a timeframe and indicators for the increase in student numbers.

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 QA within the VEE. To achieve this, the VEE must develop and implement a strategy for the continuous enhancement of quality.

The VEE must have a policy for academic integrity, i.e. the expectation that all staff and students act with honesty, trust, fairness, respect and responsibility.

#### 1.4.1. Findings

The VEE has policies and associated procedures for quality assurance (QA) aligned with the university's strategy on QA and the Swedish Higher Education Authority's new model (UKA, 2017). A record of national and international evaluations since 1990 is provided in Appendix 1.4. The new UKA QA model resulted in shared responsibility between UKA and HEIs, and as a result, the university reviewed its processes with a panel of experts, self-evaluations, student consultation and site visits. The university's current processes are in accordance with UKA and are available in detail on its 'Quality assurance of SLU's education' website.

The university has a 'Framework for the quality assurance of courses and study programmes at SLU' which is based on national and European standards for QA and has a framework aligned with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). The university has six quality areas mapped to national and ESG standards, the areas are: Recruitment, selection, admission and introduction to studies; Study and learning environment (basic and advanced levels), research and working environment (graduate level); programme structure, content and results; Teaching and tutoring; Education management and guidance; and Transition to working life and career. The university has policies for academic integrity, which describe the expectations of its staff and students, including those at the VEE. The university uses a 'quality cube' to illustrate the responsibilities of key components: teachers, students, tools for QA work and the organisation of QA operations, combined with the university administration and infrastructure and the framework for education (regulations and other documented processes).

Over the last 6 years (2017-2023) the university's approach to QA has involved quality dialogues between the Education Board and the programme Boards and between the Vice-

Chancellor and the Faculty Boards (for doctoral programmes), which occur in September and October with evaluation, results and suggestions for change before the end of the year. Currently, the university is performing an evaluation and revision of its QA system and therefore is not evaluating programmes in 2024.

The approach to QA encompasses the university's regulations and strategic objectives, stakeholders' expectations of high-quality programmes (students, teachers and the wider community), and a culture of a shared approach to QA. Specifically for the VEE's Veterinary Medicine programme, the Faculty Board appoints the members of the Programme Committee, which is chaired by the Vice-Dean for Education. The committee is responsible for ensuring the programme and courses are of high quality and appoints a Programme Director, who is assisted by the committee and VEE's management in developing the programme's academic progression and quality. The six Heads of Department are responsible for the provision of education within their area and are assisted by Departmental Directors of Studies. The department supervising each course appoints a Course Coordinator for the implementation of the course.

All students can provide feedback on all their courses using an evaluation form. There are also reports from student representatives and course leaders. The evaluations and reports inform the quality improvement cycle. Responsibility for data analysis and producing a summary of findings and actions is with the department coordinating the course; the overall process is overseen by the Programme Committee. Factors in course evaluation data that are monitored include response rates, low evaluation scores, and missing reports. The results (summarising quantitative and qualitative data), conclusions and proposed changes are entered into standard templates, which are available to students.

At the VEE, students are alerted to the course evaluations, and the elected student representative engages in the process including reviewing responses and holding discussions with their peers. The student works with the course lead, is paid a stipend and is supported by the student union. The student has specific responsibility for reviewing the student comments section of the evaluation report. In the next step the course leader reviews the results with teachers, adds comments in a specific section and submits the report to the Programme Director. All course reports are collated and sent to the Programme and Faculty Boards. Additionally, students can evaluate the overall programme; the Programme Committee is responsible for reviewing and summarising this feedback. Course evaluation response rates range from 25-60% (current average of 41%).

The QA cycle of Plan-Do-Check-Act (PDCA) has criteria for decision-making for changes and the timeline; it is different for a course, when the loop is short, some changes can be made immediately, some require Programme Board approval, and such changes will be implemented for the next academic year, and then major programme review, where a comprehensive curriculum update and full implementation involves a ten-year cycle. Quality dialogues have three stages or cycles involving VEE and university boards and student representatives, with the third stage being at the Vice-Chancellor level. Following the QA dialogues, a development plan is written, which forms the starting point for the next QA cycle.

The quality dialogues are reviewed and assessed by the UN and Vice-Chancellor, who report annually to the university Board. They are responsible for ensuring that the QA processes are of sufficiently high quality and decide upon appropriate action where QA work is deemed to be sub-standard. Documentation published on university websites. External input and review

are also sought including at national and European levels. Another part of QA is the VEE annual review of their activity plans and submission of a report.

The university has an Internal Audit Unit which performs independent audits of all university activities and assists with development and change processes, including financial management. The audits are reported to the University Board and acted upon and inform future planning. At the VEE, the VTH had an internal audit in 2020 with a focus on clinical education provision, research, and financial stability, with issues raised leading to the Vice Chancellor's decision to integrate the VTH back under the control of the VEE. Another change relates to the number of departments at the VEE which will be reduced from six to three from January 2024, with greater critical mass in each to support teaching and research.

#### 1.4.2. Analysis of the findings/Comments

The VEE has policies and procedures for quality assurance of the programme and committees to support and implement associated processes. There is a culture of enhancement of quality within the VEE and regular cycles of quality assurance. Students contribute through regular course evaluations, elected representatives, membership of committees and the student union. The VEE has policies for academic integrity and the associated expectations around the behaviour of staff and students.

#### 1.4.3. Suggestions for improvement

None.

#### 1.4.4. Decision

The VEE is compliant with Standard 1.4.

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. The VEE's website must mention the VEE's ESEVT status and its last Self-Evaluation Report and Visitation Reports must be easily available to the public.

#### 1.5.1. Findings

The VEE has a publicly available website that describes its current ESEVT status together with clear information about EAEVE accreditation and details about the 2024 EAEVE visitation.

The university has external representation on its decision-making bodies at the university and VEE level. Veterinary education is represented on the Vice-Chancellor's Stakeholder Council with heads of relevant organisations providing input on, for example, student numbers and curriculum content. Additionally, the veterinary programme director regularly consults with key stakeholders, currently, the focus is on the development of the new curriculum. Other input comes from representatives of industry, veterinary hospitals, companies and authorities, as well as from collaborating researchers and adjunct teachers. Employers are represented at a Veterinary Career's day, which is organised annually by the Student Union and has a trade fair format with multiple shorter seminars.

The university has separate websites for the public and external stakeholders, employees, prospective and current students and library services. There are also faculty, department and student union websites. Board and committee minutes are available to staff. Other forms of

communication include newsletters, Dean's letters and the Vice Chancellor and the university leadership team write a blog.

Prospective students can access information on admissions and the curriculum in an online brochure that is updated annually. The university has an event for prospective students which includes visits to the VEE facilities, when veterinary students are available to answer questions. There is an open day for the public organised by the VTH.

#### **1.5.2.** Analysis of the findings/Comments

The VEE interacts with a variety of stakeholders through various consultative processes, provides information for prospective students and engages with wider society through public engagement activities, associated information is on websites. The VEE has a publicly available website that includes its ESEVT status, the last Self-Evaluation Report and Visitation Reports.

#### 1.5.3. Suggestions for improvement

None.

# 1.5.4. Decision

The VEE is compliant with Standard 1.5.

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. Evidence must be provided that the QA loops are fully closed (Plan Do Check Adjust cycles) to efficiently enhance the quality of education. Any action planned or taken as a result of this data analysis must be communicated to all those concerned.

# 1.6.1. Findings

The VEE has a strategy which is part of, and aligned with, the university's strategy. Both university and VEE strategies and associated processes are described in detail in Standard 1.3. There are five-year and annual plans, with quantitative and qualitative components. A strategy project was initiated in 2020 as a pan-VEE process with input from academic and support staff and students through a series of workshops, resulting in the VEE's strategy (2021-2025). The Dean provides annual reports on behalf of the VEE to the Vice-Chancellor's council annually. Associated information and documents are available to staff, students and on publicly accessible websites. The VEE regularly engages with students, staff and other stakeholders as part of its QA processes including input into analysis and access to reports and plans. The steps, participants and processes (including actions) associated with the Plan Do Check Adjust cycle are detailed in Standard 1.4.

# 1.6.2. Analysis of the findings/Comments

The VEE monitors and reviews its activities against its objectives with qualitative and quantitative components through its quality assurance loops, processes, committees, staff and student input, and reports. The steps, participants and processes (including actions) are associated with the Plan Do Check Adjust cycle. External stakeholders contribute and some recent graduates provide informal qualitative feedback after graduation.

#### **1.6.3.** Suggestions for improvement

The VEE's mechanisms to gather specific feedback from recent graduates working in the profession should be expanded to include regular collection of quantitative data on how well the programme prepares them in the Day One Competences and the information should be used to inform current and ongoing curricular changes.

#### 1.6.4. Decision

The VEE is partially compliant with Standard 1.6 because of suboptimal involvement of recent graduates in the design of the new curriculum.

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.

#### 1.7.1. Findings

The VEE was last visited by EAEVE in 2017, with a revisitation in 2018 to review major and minor deficiencies, when Accreditation was awarded as all major deficiencies were corrected and there was progress in correcting minor deficiencies. Changes to address major deficiencies included an increased capacity and training in anaesthesiology, a review of the isolation facilities with training for staff and students on biosecurity measures, increasing the number of patients and necropsies. Changes to address minor deficiencies included the 'Together Project' to improve the organisation and cooperative culture between the VEE and the VTH, which led to the Vice Chancellor deciding to re-integrate the VTH and strengthening of food safety and quality teaching.

The VEE introduced a new curriculum in 2017, which had a longer (three-semester) clinical rotation period. Another new curriculum (VP23) has been launched (triggered by a government decision to rapidly expand the number of students in veterinary medicine. The new curriculum includes earlier introduction of practical training in animal handling and increased use of models for students to learn and practise clinical skills, more time in clinics, a greater emphasis on professional skills, and more external clinical practice placements, both compulsory and elective. The VEE also had to make adaptations to teaching and examinations during the COVID-19 pandemic but managed to maintain quality and all affected students achieved the Day One Competences.

#### **1.7.2.** Analysis of the findings/Comments

The VEE undergoes external review through ESEVT and progress since the last visitation has been linked to quality assurance processes.

#### **1.7.3.** Suggestions for improvement

None.

#### 1.7.4. Decision

The VEE is compliant with Standard 1.7.

# Area 2. Finances

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).

# 2.1.1. Findings

The majority (around 85%) of the revenues are public funds. Additionally, the annual budget is complemented by private funding agencies and financial revenues.

The allocation of funding for the first and second cycles is based on the performance and fulltime student count (FTE). Research programmes and third cycles are determined by agreements with the public higher education service.

The Swedish student funding system aims to provide access to higher education for all those who can benefit from it. Additionally, Swedish students and those from the European Economic Area (EEA) and Switzerland can attend higher education institutions tuition-free.

The budget is approved annually by Parliament on the proposal of the government, i.e.  $\in$ 188.4M for 2023. The University Council decides on the allocation and distribution of state funds among the faculties and accounting areas, such as education and research.

The description in the finances of incomes and expenses refers to the data separately according to the SOP.

In the last 3 years, the VEE has maintained a positive and adjustive balance between expenses and revenues. This is not the same case in the VTH whose negative balance has doubled from 2021 to 2023.

Over the last three years, revenues from clinical and diagnostic services have fallen from  $17.085 \notin (-24\%)$ .

# 2.1.2. Analysis of the findings/Comments

The funding of the VEE has been satisfactory in recent years and has enabled it to respond adequately to its activities, mission, and functions. However, the VTH is in a worrying situation, as its deficit has steadily increased, reaching €3 million in the last financial year.

As the VTH and the Department of Clinical Sciences have recently merged, the VEE budget must cover this deficit.

Although the deficit of the VTH is funded by SLU every year, sufficient financial resources must be available to ensure long-term clinical training.

#### 2.1.3. Suggestions for improvement

The VEE must secure its own funding to carry out its mission successfully.

#### 2.1.4. Decision

The VEE is partially compliant with Standard 2.1 because of suboptimal funding for the clinical training.

Standard 2.2: Clinical and field services must function as instructional resources. The instructional integrity of these resources must take priority over the 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.

#### 2.2.1. Findings

To comply with the strategic plan and guarantee the quality of teaching, the VEE has autonomy in the use of economic resources. The VTH has undergone a number of changes and has merged with VHC and its departments of Clinical Sciences.

#### 2.2.2. Analysis of the findings/Comments

The VTH has refocused on teaching and research in veterinary medicine rather than being a profit centre. Unprofitable veterinary care activities have been abandoned if they do not serve teaching or research. The opening of two more veterinary clinics in Uppsala has increased competition for patients and staff, which could have led to this change of direction.

#### 2.2.3. Suggestions for improvement

None.

# 2.2.4. Decision

The VEE is compliant with Standard 2.2.

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

#### 2.3.1. Findings

The SER describes the process of making decisions on expenditures, investments and revenues, which are then communicated to all of the staff, students, and other stakeholders. Additionally, there are procedures in place for implementation, evaluation, and review.

Revenues are expected to increase gradually over the next three years, helping to improve the balance which remains negative.

# 2.3.2. Analysis of the findings/Comments

The process and procedures in place to review resource allocation are adequate. The financing is activity- and staff-related and correlated to external financing.

Careful monitoring must ensure that requirements are met, especially given the increase in the number of students.

#### 2.3.3. Suggestions for improvement

None.

# 2.3.4. Decision

The VEE is compliant with Standard 2.3.

# Area 3. Curriculum

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 the ESEVT SOP 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)
- Veterinary Public Health (including Food Safety and Quality)
- Professional Knowledge (including soft skills, e.g. communication, team working skills, management skills).

When part of the study programme cannot be organised because of imposed regulations or constraints, convincing compensations must be developed and implemented.

If a VEE offers more than one study programme to become a veterinarian, e.g. in different languages or in collaboration with other VEEs, all study programmes and respective curricula must be described separately in the SER. For each Standard, the VEE must explain if there are differences or not with the basic programme and all this information must be provided as a formal annex to the SER.

Similarly, if a VEE implements a tracking (elective) system in its study programme, it must provide a clear explanation of the tracking system in the SER.

#### **3.1.1. General findings**

#### 3.1.1.1. Findings

The regulation of the study of veterinary medicine in Sweden is governed by two main entities, EU Directive and the Swedish Higher Education Act and related ordinances. Swedish Higher Education Act (Chapter 1, Sections 8 and 9) defines the general learning outcomes expected for all first- and second-cycle programmes (including veterinary medicine) in Sweden; while the Ordinance for the Swedish University of Agricultural Sciences (1993:221), outlines the specific learning outcomes for the Degree of Master of Science in Veterinary Medicine offered by the VEE, which houses the only veterinary medicine programme in Sweden. The study programme was designed to meet the requirements outlined in EU Directive 2005/36/EC (as amended by Directive 2013/55/EU) and its Annex V.4.1. The curriculum is designed to comply with both EU and national regulations, ensuring veterinary graduates possess the essential Day One Competences for proficient practice. The Swedish Board of Agriculture is the authority responsible for granting permission to practice as a licensed veterinary surgeon in Sweden. This authority also oversees the licensing process and has specific regulations that the programme must adhere to in order to ensure graduates meet the standards for professional practice in Sweden.

The curriculum development process begins with a collaborative effort involving VEE members, educational experts, and stakeholders. The curriculum is designed to align with the program's learning outcomes, accreditation requirements, and industry standards. The curriculum is based on a pedagogical framework that includes various teaching methodologies such as lectures, practical training, seminars, laboratory exercises, and clinical rotations, which aims to engage students in active learning and help them achieve the desired competencies. Learning objectives are aligned with the ESEVT Day One Competences and other relevant educational standards. Once the curriculum is developed, it undergoes a formal approval process. The approval typically involves review by academic committees, curriculum development teams, and external stakeholders to ensure that it meets the required standards. A formally constituted committee structure, which includes student representation, is responsible for overseeing and managing the curriculum. This committee ensures that the curriculum is regularly reviewed, updated, and improved based on feedback and evaluation. Due to a government decision to rapidly expand the number of students in the Veterinary Medicine

program, a new curriculum was developed and launched in 2023. This expansion necessitated changes in the curriculum structure to accommodate a larger student cohort. Students admitted prior to autumn 2023 follow the programme syllabus approved in 2016; while a new syllabus, approved in 2022, applies to students admitted in autumn 2023 and onward. The new curriculum reflects adjustments made in response to the challenges posed by the COVID-19 pandemic. While theoretical teaching was transferred online, clinical training continued with modifications to ensure the health and safety of students and staff. The curriculum adaptations during the pandemic period impacted the total number of clinical training hours for students. The new curriculum emphasises the importance of quality assurance and continuous improvement; where it focuses on monitoring the curriculum to ensure it remains up to date with scientific advancements, evidence-based veterinary medicine, and One Health principles.

The programme Director of Studies is responsible for ensuring continuous coordination between subjects and courses. This coordination helps in identifying potential overlaps, redundancies, or inconsistencies in the curriculum. Departmental Directors of Studies meet regularly in the programme Committee to discuss and rectify any weaknesses in the curriculum. These meetings provide a platform for stakeholders to address issues related to transversality and integration of the curriculum.

During the pre-clinical years (years 1-3), students undergo training to prepare them for clinical practice. This includes introductory courses where students gain an overview of the veterinary profession, develop an understanding of animal welfare and ethics, and acquire basic skills such as animal handling and microscope usage. Theoretical education covers core subjects like anatomy, physiology, and pharmacology through a combination of lectures, seminars, and online resources. Practical training is emphasised, with students practicing skills on dummies, models, and live animals both on campus, including cattle, goats, and sheep, and at research farms. Additionally, simulated exercises in the Clinical Training Centre (CTC) contribute to hands-on learning experiences. Farm visits are also incorporated into the curriculum, allowing students to gain first-hand knowledge about animal husbandry and health management in diverse agricultural settings. During the clinical rotations in Years 4 and 5, students engage in structured rotations across different clinical departments, including small animal, equine, pig and ruminant medicine. They actively participate in clinics, emergency services, and ambulatory practice, receiving hands-on training under the guidance of experienced veterinarians. Throughout these rotations, students maintain detailed logbooks to document their completion of specific tasks aligned with Day One Competences. They also undergo extensive skills training, honing their abilities in procedures such as surgery, anaesthesia, and radiology, thus enhancing their practical expertise and theoretical knowledge. Furthermore, students have the opportunity to customise their learning experience by selecting elective rotations, allowing them to explore areas of interest such as authorities, production animal medicine, exotic animals, or small animal clinics during two-week placements. The curriculum is most intensive in years 4 and 5, with a respective workload of 1057 and 1069 hours. The total curriculum spans 5.5 years, with workloads ranging from 560 to 1069 hours per year.

Curriculum comprise basic subjects (60 hours) and specific veterinary subjects in basic sciences (1907 hours); clinical Sciences in companion animals (including equine and exotic pets; 1414 hours), Clinical Sciences in food-producing animals (including Animal Production and Herd Health Management; 643 hours), Veterinary Public Health (including Food Safety and Quality; 336 hours) The curriculum integrates subjects related to professional knowledge, including soft skills like communication, teamwork, and management. These are embedded within various subcategories, such as Information Literacy and Data Management, Professional Ethics and Communication, Animal Health Economics and Practice Management, Clinical

Practical Training, Herd Health Management, and Veterinary Legislation. Clinical practical rotations on VTH are provided in years 4 and 5, on small animals, equine, ruminant, pig and reproduction of multiple species for 37 weeks, while for ambulatory clinics is compulsory for ruminants and horses for 4 weeks, FSQ and VPH for 3 weeks herd health management focusing on ruminant medicine, pigs, and reproduction, as well as food safety and veterinary public health. Each rotation has a specified duration of weeks and corresponds to the respective year of the program, primarily in the fourth and fifth years.

EPT is described from 1st to 5th years, where from 1-3 years, preclinical EPT is requested in production animals which is less than 1 week, and another experience is requested for around 2 weeks in years 4 and 5.

#### **3.1.1.2.** Analysis of the findings/Comments

The programme follows a 5.5-year format in accordance with Swedish regulations, emphasising hands-on training in both pre-clinical and clinical phases. The recently revised curriculum offers increased opportunities for practical learning and experience, providing greater flexibility for both students and faculty, who have embraced this approach. The thorough examination and improvement of the curriculum have been rightfully acknowledged as praiseworthy efforts and found to be commendable.

#### 3.1.1.3. Suggestions for improvement

None.

# 3.1.1.4. Decision

The VEE is compliant with Standard 3.1.1.

# 3.1.2. Basic Sciences

#### 3.1.2.1. Findings

Basic sciences subjects include Anatomy, histology and embryology, Physiology, Pharmacology, Biochemistry. General and molecular genetics, pharmacv and pharmacotherapy, Pathology, Toxicology, Parasitology, Microbiology, Immunology, Epidemiology, Information literacy and data management, Professional ethics and communication, Animal health economics and practice management, Animal ethology, Animal welfare and Animal nutrition. The programme includes 865 hours of lectures, 301 hours of seminars, 210 hours of supervised self-learning, 162 hours of lab and desk-based work, 160 hours of non-clinical work, 2 hours of clinical work, 207 hours described as others comprising 1907 hours in total. At the beginning of the first year, students are given an overview of the veterinary profession in Swedish society, which likely includes foundational knowledge related to basic sciences. Additionally, students visit the VEE goat herd and follow clinical work at the Veterinary Teaching Hospital (VTH) or extramural clinics for one day or evening. This year includes basic anatomy, tissue histology and biochemistry (30 credits), and advanced anatomy, organ histology and physiology (30 credits) courses. In 2nd year animal husbandry and animal welfare (9 credits), infection biology (21 credits), immunology and general pathology (10 credits), special pathology (14 credits) and veterinary genetics (6 credits) courses are given. In year 3, pharmacology and toxicology (14 credits), experimental animal medicine (3 credits), scientific approach (13 credits). The course plans, contents of modules, examination information and rating scales are publically available and can be accessed via the web.

VEE ensures that students have access to a diverse range of anatomical specimens, which allows students to develop a comprehensive understanding of animal anatomy and enhances their practical skills in veterinary medicine. In order to supplement the anatomical material available for student training, cadavers for anatomical dissection and demonstration are acquired through various routes, such as donations in horses and dogs; organs from cattle, sheep, pigs, and horses sourced from nearby slaughterhouses; and purchased laboratory animals are provided. The animal owners in the clinics are informed about separate cremation or standard cremation procedures for the potential donation of their pets as teaching materials. The government's actions to reduce the number of stray cats and implement chipping procedures have led to a slight scarcity of materials for cat anatomical dissections. This issue gains further significance considering the rising number of students requiring these materials for their studies.

Additionally, besides dissections, anatomy practicals include live animal palpation and clinical examination (goats, dogs, horses) along with dry practicals with skeletons, joints, plastinated organs and imaging techniques. Anatomy teaching videos are available in Slu-Instructure system A cloud-based internet platform called Aiforia for digital is utilised for histology and histopathology teaching, which is integrated with the digital exam system Inspera. This system also allows for examination. The histology curriculum also incorporates microscopy-based practices to ensure students develop fundamental microscope skills, essential for their future studies and careers. Anatomy-histology and physiology are taught in tandem to enhance learning outcomes and foster a more integrated understanding of these interconnected disciplines. While the practicals in physiology are relatively low, it includes goat practicals where the student monitors several parameters and reports. Other physiological practicals such as blood pressure and electrocardiography can include live animals.

VetBact is utilised as a comprehensive resource for microbiology training. The students are obliged to attend the bacteriology practical lessons, while for parasitology and virology practicals are not obligatory. All students receive biosecurity training before the practicals of the microbiology course.

Additionally, the University Library provides access to various electronic resources, for students studying anatomy and other basic sciences subjects. The use of Canvas, an e-learning platform, through which students have access to links to compendiums, lecture hand-outs, quizzes, and video recordings are available. Overall, the availability of online materials and resources, including digital microscopy tools, e-books, e-journals, and e-learning platforms, enhances the learning experience for students studying basic sciences within the VEE. Learning objectives are designed to be in harmony with vertical integration, requiring the completion of core subjects before advancing to certain topics.

#### 3.1.2.2. Analysis of the findings/Comments

The programme offers a comprehensive curriculum in basic sciences. The inclusion of sessions dedicated to discussing ethical aspects of the profession with senior lecturers and veterinarians at the beginning and end of the first year demonstrates a commitment to instilling ethical awareness and values in students. Furthermore, the hands-on experience gained through visits to the VEE goat herd, clinical work at VTH or extramural clinics, and visits to research farms like Lövsta in subsequent years ensures that students are exposed to real-world scenarios right from the start of their training.

The availability to adopt the anatomy dissection lectures for the increased student population in the VEE requires an extra strategy to ensure that all students have access to hands-on learning

experiences alongside the benefits of a hybrid learning environment and increased online materials.

#### 3.1.2.3. Suggestions for improvement

While the possibilities of a hybrid learning environment and the increasing number of materials available online to accommodate the newly increased number of students in the VEE, it is suggested to enhance the availability of anatomy dissection resources such as dissection rooms, number of cats etc. to enable all students to benefit from a hands-on learning experience.

#### 3.1.2.4. Decision

The VEE is compliant with Standard 3.1.2.

#### **3.1.3.** Clinical Sciences in companion animals (including equine and exotic pets)

#### 3.1.3.1. Findings

The number of hours of the veterinary programme assigned to clinical sciences in companion animals accounts for 1414/5232 hours (27%). Of these, about 26% are organised as lectures, 8.6% seminars, 4.6% supervised self-learning, 1.6% laboratory and desk-based work, 6.9% non-clinical animal work, 51% clinical animal work, and 1.9% EPT.

Out of a total of 1414 hours, the majority are assigned to Medicine, Surgery, and Clinical practical training in common companion animals (about 28%, 28%, and 15%, respectively). A limited number of hours is related to Infectious diseases and Preventive medicine (about 3%, and 1.4%, respectively).

# Description of the core clinical exercises/practicals/seminars before the start of the clinical rotations

In the 1st year of the veterinary program, students receive an overview of the veterinary profession. In the 3rd year, students, after a preliminary introduction to clinical examination and animal work, with anatomy as the basis for clinical examination and diagnostic imaging, perform practical exercises on clinical examination and minor diagnostic procedures on teaching dogs and horses. As a first step, students practise on dummies in the CTC and on organs/cadavers, then on teaching dogs and horses, and finally on patients. The pre-clinical training ends with students' online-based exercises followed by mandatory seminars and group-based work about diagnostic imaging, with radiograph interpretation belonging to real cases. In the 4th year of the veterinary program, before starting the clinical rotations, students practise in the form of laboratory, handling, drugs administration, examination, sampling, anaesthesia induction, on organs and teaching animals but also on dummies and using simulatory programmes at CTC, where also basic surgical procedures and suture techniques are practised. Practical training in obstetrics is carried out using organs and models.

Description of the core clinical rotations and emergency services (both intra-mural VTH and ambulatory clinics) and the direct involvement of undergraduate students in these

The clinical animal work is concentrated in the 4th and 5th years of the programme. Clinical rotations are scheduled throughout the year except for Easter, summer, and Christmas holidays and the break for exams (Appendix 3.2).

During the 4th-5th year of the veterinary program, rotations are scheduled as intra-mural activities at the VTH for 14 weeks. Practical rotations on dogs and cats account for about 32% of the overall clinical rotations carried out at the VTH. In horses, the clinical rotations during the 4th-5th year include intra-mural training for 8 weeks (about 18% of the total rotations provided by the VTH). For dogs, cats, and horses additional rotations on reproduction are provided, for 5 weeks, in which also ruminants and pigs are included. About dogs, cats, and

horses, the training is held in different stations, such as the outpatient medicine and surgery clinics, the emergency unit, the stationary care unit, and the minor surgery unit. The training includes obtaining case history, performing clinical examination, making a diagnosis, suggesting treatment, prescribing drugs, making treatments, and keeping medical records. Training also includes intubation, anaesthesia monitoring during surgery in dogs, cats, and horses, surgical procedures under supervision. Practical exercises also include radiation safety methods, taking radiographs in dogs, cats, and horses, discussing the interpretation of radiographs, and writing reports.

Veterinary professional skills, such as client communication, legal framework, and issues about euthanasia perceptions are developed. A student-driven clinic for 5th-year students allows students to become familiar with handling first opinion, less complicated cases, under the supervision of the teacher, also considering animal welfare, animal protection, and ethics. During the clinical rotations, students are grouped with 5-25 students/subgroups. Within each subgroup, a further division into small groups of students is done to allow the presence of 2-4 students/rotation for certain activities, such as surgery and intensive care.

Rotations also include necropsies of clinical cases, and discussion of possible pathogenesis, under the supervision of a teacher and a senior pathologist. Digital cases are used in the event of a lack of clinical cases. Each student must present a case in the last-day seminar.

The Ambulatory clinics regard ruminants and horses for 4 weeks, accounting for about 9% of the practical rotations. Groups of 3-4 students with one teacher go on stable visits. Students actively participate in equipment preparation, case history, clinical examination, and treatment under the supervision of the veterinarian.

# Description of procedures for selection of Electives by students and the degree of freedom in their choice

Electives are limited in the veterinary programme. Students can choose a topic of interest for the Master thesis in the last semester. During the clinical rotations, students can choose to follow, for 2 weeks, external veterinarians working in veterinary clinics, relevant agencies, laboratories, or zoos.

Description of the procedures (e.g. log-books) used to ascertain achievement of each core practical/clinical activity (pre-clinical, clinical, ambulatory clinics, EPT) by all students

For certain clinical courses, each student has a log-book with the list of all the compulsory tasks, based on the DOCs, which must be completed and signed by the teacher, verified by the course examiner, and finally submitted to the course administration for registration and to be archived. For pre-clinical courses, the achievement of DOCs is proved by written reports, oral presentations, seminars, laboratory work, and study visits with registration of attendance. When relevant, lab reports, case reports, etc. are requested.

# **3.1.3.2.** Analysis of the findings/Comments

The student-driven clinic is praiseworthy. Clinical sciences in companion animals include a good total number of hours, a good balance between core subjects and a good proportion of hours between lectures, seminars, supervised self-learning, laboratory and desk-based work, as well as work on non-clinical and clinical animals. Around 50% of the practical rotations offered by the VTH involve dogs, cats, and horses. Suboptimal clinical training is provided in exotic pets, including birds.

#### **3.1.3.3.** Suggestions for improvement

It is suggested to extend ultrasound practicals in pets.

# 3.1.3.4 Decision

The VEE is partially compliant with Standard 3.1.3 because of suboptimal clinical training in exotic pets.

# **3.1.4.** Clinical Sciences in food-producing animals (including Animal Production and Herd Health Management)

# 3.1.4.1. Findings

The curriculum comprises over 1610 hours of lectures taken by each student (approximately 30% of the total hours in learning activities). Clinical animal work starts in the 3rd year (16 h) and involves in total 912 hours per student (17.4% of the total learning hours). Elective Practical Training totalise 72 hours (4-7 hours in 1<sup>st</sup> year, approximately 15 hours in the 2<sup>nd</sup> year and 30h in both 4th and 5th year). The 6<sup>th</sup> year is exclusively occupied by supervised self-learning activities culminating in a Master thesis.

Each student is exposed to 643 hours of subjects related to Clinical Sciences in food-producing animals. This comprises 178 hours of lectures and 190 hours of actual clinical work with animals, including 43 hours in herd health management and in animal production, husbandry and economics.

The clinical activity (CCT) with animals includes practical rotations under teaching staff. This period includes approximately 19 weeks (during the 4<sup>th</sup> and 5<sup>th</sup> year) with food producing animals (ruminants and pigs).

The time per student dedicated to Elective Practical Training (EPT) with food-producing animals is 12 hours of pre-clinical activities during the 1<sup>st</sup> year, in which students follow staff working at the VEE dairy farm. EPT also includes approximately half a week in the 2<sup>nd</sup> and 3<sup>rd</sup> year and two weeks in the 4<sup>th</sup> and 5<sup>th</sup> year. This accounts for 1.4% of the total teaching hours. Additionally, a total of 200 hours of teaching in animal husbandry is offered as an optional subject.

Non-clinical contact with food-producing animals (including organs or cadavers) starts in the first three years. In the 1<sup>st</sup> year students are presented with ways to handle farm animals (goats and dairy cattle) and may spend up to one day following clinical work, that may include food producing species. Students in the 2<sup>nd</sup> and 3<sup>rd</sup> year continue to be involved in pre-clinical work with farm animals. In the 3<sup>rd</sup> year students spend two days in cattle, sheep or pig farms (as part of the EPT) and also visit farms accompanied by teaching staff to get a basic understanding of animal production, animal welfare and husbandry. Students are expected to present written reports of these activities expressing their knowledge and comprehension of animal production. These issues are then discussed in groups.

Students improve their skills in food-producing animal at the Clinical Training Centre were several models and activities are related to farm animals.

Students are also trained to talk (and listen) to animal owners as communication is considered an essential skill for any practitioner.

At this pre-clinical stage students are also trained in different aspects of diagnostic imaging. This exercise, understandably, does not include much work on food producing species but focus mainly on companion animals and horses. The online-based test is applied ensuring that students can interpret radiographs and understand the safety rules related with these techniques. In the 4<sup>th</sup> year students are introduced to clinical work with live animals. This first approach will ensure basic knowledge so that following activities are well comprehended and integrated. The use of dummies, cadavers and organs is intended to introduce students to clinical and reproductive work without compromising animals' welfare. At this time, students are also trained in obstetrics and reproduction examination (e.g. rectal palpation) in ruminants (reproduction rotation).

Actual clinical work, including emergencies, is performed at the VTH (ruminant medicine), at Lovsta pig and dairy cattle farms and during ambulatory farm services. Students on call for emergency in farm animals will be at the VTH. During evenings and weekends up to 2 students per shift are present. Students have to participate in a minimum obligatory number (4) of on-call shifts.

Clinical rotation is achieved by dividing students into small groups that can be as small as 2-4 students with a teacher. Training in food-producing species includes visits to farms or barns with one or two teaching staff.

Two subjects have been recently added to the clinical rotation period – Anaesthesiology and Profession-related issues, including legislation and communication.

The log-book is a tool used in some of these clinical activities (see more on log-books below). Students will ask teachers to sign the log-book after performing the different activities listed. The logbook is collected and checked by the teaching staff when the rotational period ends.

Clinical work with pigs is done during 6 to 8 farm visits. Once again visits are in small groups with 1 to 2 teachers. All stages of swine production are covered (sow, piglets and finishers). Students have to present reports after these clinical activities addressing both individual clinic activities and herd health considerations. Assessment is done at the end of this period.

In addition to the activities performed during these planned farm visits, students are involved in (rotational) farm animal ambulatory services. The ambulatory clinic has a total caseload of approximately 45% cattle, 3-4 % sheep and <0.5% goats. Around 95% of cattle visits are related to dairy cattle and 5 % in beef cattle. The ruminant clinic at the VTH saw 185 cases in 2023, where 60.5 % were cattle (84% of which was dairy cattle), 26 % were sheep and 14.5% were goats.

The ambulatory clinic receives calls daily on a planned phone hour, as well as emergency 24/7 calls. Proportion of planned farm visits at the ambulatory clinic equates to about 10-20 percent of the total caseload for food-producing animals. Each student has a total placement of 4 weeks (incl. 1 on call shift weekly) in the ambulatory clinic.

Activities in the ambulatory clinics are performed in groups of 3-4 students with one member from the academic staff. Students are asked to complete veterinary duties, such as equipment and drug provision, anamnesis, physical examination, treatments and finally deliver clinical reports. The involvement in clinical work and surgery (especially disbudding and castration of calves) is significant.

The large animal ambulatory practice rotation entails a mandatory seminar.

At the moment there is some apprehension regarding the availability of farms for the ambulatory service. In the new curriculum, the compensation will be to enrol more practices and practitioners - a pilot programme is currently ongoing in collaboration with the Swedish Board of Agriculture (SBA). In this pilot programme, students have to complete a case log and three medical records per week and the District veterinarian has to sign a certificate of attendance.

Other courses and activities integrated in the clinical rotation related to food-producing animals, include:

- study and training in cattle and pig reproduction and obstetrics. These activities include working with dummies and organs but also performing palpations in healthy animals and analysing herd data at farms;

- performing necropsies and writing necropsy reports of animals that were followed as clinical cases or, when there are no clinical cases, writing a case report based on pictures and

slides. Students must prepare a case report to present in a seminar at the end of this "diagnostic pathology" course.

- clinical pharmacology in which students learn to use different drugs in different settings and for different diseases;

clinical pathology in which students select, perform and interpret basic lab tests.

A record sheet (similar to a log-book) is used in some of the rotational clinical courses. On this sheet, the teacher confirms the student's presence and the accomplishment of different tasks. The completion of all mandatory tasks is verified and registered at the end of each course. In other courses, attendance is simply registered and learning outcomes are endorsed through reports, oral presentations or other activities. In some instances, the activity is fulfilled and checked through the digital learning platform.

During the 4th and 5th year two EPT weeks, students are supervised by practitioners or other professionals. There are no formal statistics available on the types of practice selected, so it is not possible to calculate how many students go for farm animal activities. Supervisors sign an attendance form, but there is no mandatory evaluation and no logbook filling. At the end of the EPT period, a report with the students' reflections is handed and approved by the course teacher. Evaluation by the students of these EPT periods (and hosts) is possible but not mandatory. However, all students present and discuss their EPT experience in a compulsory seminar.

An optional course on Animal Husbandry (7.5 ECTS) is available, but only 1 to 2 students from the VEE enrol in the course each year.

Poultry health, welfare and production are presented as part of several courses over the years. There is an annual visit to a broiler farm with a follow-up discussion in the 3rd year. In the fourth year, the Veterinary propedeutics course includes a lecture series (10 h) on poultry disease.

However, very little practical training is done with poultry or fish.

# **3.1.4.2.** Analysis of the findings/Comments

The VEE curriculum shows a quite large offer in farm animal husbandry, handling, medicine, herd-health and surgery. It is well balanced and includes the main food-producing species.

The exposure to pig production and medicine is highly commendable. It is specially praiseworthy the hands-on clinical work on animals from all ages and stages of production, as well as the analysis of herd health data in commercial farms.

It is also highly commendable the clinical and surgical activities in dairy cattle both at the ruminant clinic (VTH) and in the ambulatory activities. Students are asked to perform many tasks by themselves which enhances skills as well as confidence.

The ruminant clinic has a WhatsApp group, where interested students can sign up to be called to acute surgeries outside their allotted course weeks.

The inclusion of (mandatory) practical sessions in which students learn how to communicate and listen to animal owners is also laudable. The introduction of a subject on communication and contact with farmers is very important for those wishing to work as practitioners.

The contact with farm animals (including models and cadavers) starts quite soon. This enables students to become at ease with different species, before being involved in clinical work. It is

noteworthy that training is first done in cadavers and models, before working on living animals. Again, this is important for students' self-confidence and for the welfare of the animals.

Doing clinical work in small groups (2-4 per teacher) is praiseworthy as it will correspond to a high hands-on work involvement by all students. Asking students to prepare equipment and medicines and to act as veterinarians (under supervision) is a very clever way of increasing students' preparedness, confidence and autonomy.

The VEE conveys an important concern related to the reduction of farms seeking help from the ambulatory service and, thus, a significant reduction of students' exposure to clinical cases in food-producing animals. Compensation is being sought by providing pedagogic training to practitioners working for the Swedish Board of Agriculture, which will hopefully increase the workload. An experimental pilot programme is ongoing.

The inclusion in the rotations of subjects such as pharmacology and clinical pathology ensures that students a familiarised with drug dosages, drug application, diagnostic tests, blood sampling, interpretation of results etc.

The logbook (or record sheets) has to be filled by the student and signed by the responsible for the course. It is an excellent tool to ensure that exposure to clinical situations does occur, and it compels students to engage more deeply in clinical activities.

The Elective Practical Training (EPT) period is short (72 hours over 5.5 years).

The low level of practical training in poultry is compensated by a high number of visits to rabbit and poultry farms (Indicator 11), video presentations and seminars with the relevant teaching staff.

# **3.1.4.3.** Suggestions for improvement

The increase of EPT duration during the clinical years is suggested, as it will allow students to understand and appreciate more the everyday work of a practice/practitioner.

It is also suggested that practical training in fish and poultry production, health and welfare is enhanced.

#### 3.1.4.4. Decision

The VEE is compliant with Standard 3.1.4.

# **3.1.5.** Veterinary Public Health (including Food Safety and Quality)

#### 3.1.5.1. Findings

The Veterinary Public Health (VPH) curriculum consists of two periods of study. The first takes place in the third year and covers Population Medicine (VM0118) with 16 credits (. The second period occurs in the fifth year and covers Veterinary Public Health with Applied Epidemiology and Epizootiology (VM0129) with 7 credits.

The VEE mentions the One Health approach in the strategic plan, and in the perspective of the circular food system.

VPH (including Food Safety and Quality) curriculum hours comprise a total of 336 hours broken down as follows: Lectures 152, Seminars 81, Supervised self-learning – 51, Laboratory

and desk-based work 27, Non-clinical animal work 19, Clinical animal work -0 and others 6.. In their third year, students visit slaughterhouses in groups of 25 under the supervision of a teacher. Once there, they are divided into four smaller groups. In their fourth and fifth years, students work in groups of 3 to 5, also under the guidance of a teacher.

The number of visits to slaughterhouses and related premises for training in FSQ for AY from 2020/2021 to 2022/2023 is 5 for ruminants, 5 for pigs and 1 for meat processing plants. No poultry slaughterhouses were visited because of the strict biosecurity measures. This is reflected by the low value of the corresponding indicator I13, which is below the minimal value.

An optional course, Agriculture in Practice - Animal Husbandry 1, is available to students with a total of 200 hours dedicated solely to this field.

As far as postgraduate degrees and Continuing Education are concerned, there are no specific courses related to food quality or VPH.

The median value of VPH training is 293 hours and that of extramural practical training is 75 hours.

The VPH (food safety and epizootiology) team is composed of 2 professors, 2 senior lecturers and 3 lecturers, as well as two researchers and 3 PhD students. Of the lecturers, 3 are residents in ECVPH (food science section) and the professors are diplomates (population medicine).

The extramural practical training in VPH is carried out in the facilities of a slaughterhouse (pigs and beef) in Lövsta, with good facilities that belong to the University and are managed by a private operator.

The students have the option to observe the processes either through windows on an upper floor or directly on site on the lower floor. The students rotate in 20 groups of 5, each undergoing a one-week training at the slaughterhouse. They carry out the basic official control and animal welfare issues as set out in the EU regulations. Additionally, during the teaching process, the students are accompanied by inspectors from the Official Swedish Veterinary Service, and they have the opportunity to carry out the necessary operations at this point as well as access the documentation and records of this task.

Concerning biosecurity, adequate protection elements are present and appropriate measures are taken.

Practical training for other species of food-producing animals in slaughterhouses, such as poultry, is provided by a video showing that facilities in the United Kingdom.

# 3.1.5.2. Analysis of the findings/Comments

Education in VPH covers all required aspects and the day one skills in an adequate biosecurity environment. Practical training in pig and bovine meat inspection is excellent. Compensation measures are in place for poultry.

#### 3.1.5.3. Suggestions for improvement

It is suggested to improve training in other food production animals such as poultry or fish.

# **3.1.5.4.** Decision

The VEE is compliant with Standard 3.1.5.

# 3.1.6. Professional Knowledge

#### 3.1.6.1. Findings

A specific emphasis is on communication, especially between the veterinarian and the animal

owner but also between the veterinarian and the nurse. Role-playing and a small animal clinic run by the students under the supervision of a teacher are among the other methods used and found innovative.

Professional Knowledge includes several subjects. Information literacy and data management account for 113 hours, professional ethics and communication for 87 hours, animal health economics and practice management for 2 hours, veterinary legislation including official controls and regulatory veterinary services, forensic veterinary medicine and legislation for 112 hours.

At the start of Y1, students receive a comprehensive introduction to the veterinary field in Swedish society. This includes topics such as organisational structure, duties, challenges, diverse work domains, and ethical considerations. Students also engage in sessions led by a lecturer specialising in animal ethics and veterinarians, with whom they explore and discuss various ethical dimensions associated with the profession.

During all activities (laboratory, clinical, necropsy etc.), students are in charge of writing reports and communicating with clients. They are also involved in research activities which allow them to acquire competencies in running scientific work.

Particular emphasis is placed on soft skills such as empathy and compassion, critical thinking, time management, leadership, decision-making, to quote but a few.

#### **3.1.6.2.** Analysis of the findings/Comments

Teamwork is particularly enhanced by the fact that nurse students and veterinary students work together during clinical activities, preparing them for their future professional collaboration. The requirements for Professional Knowledge laid down in the D1C are satisfactorily covered by the curriculum, contributing to the development of students 'soft skills and self-confidence.

#### 3.1.6.3. Suggestions for improvement

None.

# 3.1.6.4 Decision

The VEE is compliant with Standard 3.1.6.

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.

The VEE must provide proof of a QA system that promotes and monitors the presence of a teaching environment highly conducive to learning including self-learning. Details of the type, provision and updating of appropriate learning opportunities for the students must be clearly described, as well as the involvement of students.

The VEE must also describe how it encourages and prepares students for lifelong learning.

#### 3.2.1. Findings

The veterinary programme is designed to enable students to meet the learning outcomes and is informed and updated to align with the latest scientific and veterinary medical evidence base. Teaching is conducted by those with expertise in their area and with pedagogic training. Programme, degree and course information is detailed on the learning management system (LMS) and on student websites. Adaptations to content and teaching methods are made by subject representatives together with course leaders and the Programme Director. During the work on the new curriculum, a thorough mapping was performed highlighting how different courses contribute to the fulfilment of the objectives of the programme and the ESEVT Day One Competences.

A teaching environment conducive to learning is supported through active engagement of teachers in research and the clinical activities of staff in the VTH, supported by high-quality online learning resources. Most academic staff have dual roles in research and teaching. The university offers pedagogic courses, one specific for clinical supervision, and has 'excellent teacher' awards, a third of which are held by VEE staff. In the most recent International Student Barometer (ISB), a survey of over 100,000 students around the world, the VEE was ranked first for the teaching quality and teaching staff among all the Swedish universities surveyed and globally in the campus environment category.

Students are encouraged to develop and apply self-learning and lifelong learning strategies throughout the curriculum, including identifying gaps in knowledge or skills and developing associated action plans for self-directed and supervised learning. A variety of approaches are utilised to support learning and encourage the development of lifelong learning skills including collaborative learning, coursework, peer feedback and self-reflection. More curriculum time is being dedicated to soft skills or professional skills and aims to enhance employability and continuing professional development. The VEE is proactively increasing opportunities for collaborative work and learning and international exchanges.

# **3.2.2.** Analysis of the findings/Comments

The programme is designed to meet the objectives and intended learning outcomes and results in a qualification aligned with national and European frameworks for higher education. The VEE has QA systems and teaching staff that promote a supportive environment that is conducive to learning and fosters self-directed and lifelong learning skills. The VEE utilises a variety of pedagogical methods including high-quality e-learning resources. Information about courses and associated learning opportunities is clear, as is the student involvement.

#### 3.2.3. Suggestions for improvement

None.

# 3.2.4. Decision

The VEE is compliant with Standard 3.2.

#### **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
- be regularly reviewed, managed and updated to ensure they remain relevant, adequate and are effectively achieved.

#### 3.3.1. Findings

Descriptions of the programme and course aims, objectives and learning outcomes are available on websites and in the LMS to guide student learning. The programme and course outcomes are aligned with and mapped to the EAEVE Day One Competences. A variety of teacher-led and student-centred methods are used to support learning including lectures, e-learning, practicals, exercises, seminars, training on models, clinical rotation, a record (logbook) of compulsory tasks, and EPT. Assessment of learning outcomes involves different types of examination, including practical and theoretical, oral and written and all examiners must attend a training course focusing on grading and assessment. The processes by which learning outcomes are decided, communicated to staff, students and stakeholders, assessed and revised involves relevant committees, course and programme leaders, and the Programme Board. Changes to learning goals in the curriculum and its courses must be prepared by the programme director, approved by the Programme Board and are then published on the university website. The processes have also been applied to the design and implementation of the new curriculum (first year started in 2023).

#### 3.3.2. Analysis of the findings/Comments

The programme learning outcomes are aligned with the Day One Competences and cohesively build year by year. The programme and course learning outcomes are available in the learning management systems. The quality assurance processes allow the VEE to review, manage and update the programme (for both the outgoing and new curricula).

#### 3.3.3. Suggestions for improvement

None.

#### 3.3.4. Decision

The VEE is compliant with Standard 3.3.

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:

- determine the pedagogical basis, design, delivery methods and assessment methods of the curriculum
- oversee QA of the curriculum, particularly gathering, evaluating, making change and responding to feedback from stakeholders, peer reviewers and external assessors, and data from examination/assessment outcomes
- perform ongoing reviews and periodic in-depth reviews of the curriculum (at least every seven years) by involving staff, students and stakeholders; these reviews must lead to continuous improvement of the curriculum. Any action taken or planned as a result of such a review must be communicated to all those concerned
- identify and meet training needs for all types of staff, maintaining and enhancing their competence for the ongoing curriculum development.

#### 3.4.1. Findings

The VEE has a formal committee structure and boards to oversee the curriculum, its delivery, identify and meet the associated training needs of staff, and has clear reporting lines. The VEE committees and processes are detailed in 1.4. Staff, students and other stakeholders are represented in and contribute to decision-making bodies. The Programme Director has

responsibility for ongoing coordination between subjects and courses, and for updates. The QA process is supported by the Programme Committee (PN-VH), departmental Directors of Studies, course leaders and students who can provide input via elected course representatives and course evaluations. The Programme Committee may appoint a working group for certain potential changes, who consult relevant departments, student representatives and, when appropriate, external stakeholders. Changes are classified as major, medium and minor with associated processes to support decision-making and implementation. A variety of electronic and in-person mechanisms are used to communicate actions and plans. Monitoring and evaluation of the curriculum is an ongoing and continuous process and includes the identification of training needs of staff. There is regular input from teachers and students, as well as periodic reviews by internal and external bodies.

#### 3.4.2. Analysis of the findings/Comments

The VEE has a committee structure with student representation to oversee and manage the curriculum. The committee's activities support the curriculum QA cycle, its design and delivery, the collection of feedback and the associated evaluation to inform change as well as identifying training needs. The associated processes involve a variety of stakeholders and outcomes are communicated to those involved.

#### **3.4.3.** Suggestions for improvement

There should be regular and systematic collection of quantitative data from recent graduates who are in the workplace to inform continuous curriculum improvement.

#### 3.4.4. Decision

The VEE is compliant with Standard 3.4.

Standard 3.5: Elective Practical Training (EPT) includes compulsory training activities that each student must achieve before graduation to complement and strengthen their core theoretical and practical academic education, inter alia by enhancing their experience, professional knowledge and soft skills. Like all elective activities, its contents may vary from one undergraduate student to another.

EPT is organised either extra-murally with the student being under the direct supervision of a qualified person (e.g. a veterinary practitioner) or intra-murally, with the student being under the supervision of a teaching staff or a qualified person.

EPT itself cannot replace the Core Clinical Training (CCT) under the close supervision of teaching staff (e.g. ambulatory clinics, herd health management, practical training in VPH (including Food Safety and Quality (FSQ)). A comparison between CCT and EPT is provided in Annex 6, Standard 3.5.

#### 3.5.1. Findings

In the first two years, students engage in one day or evening of auscultation at an external clinic or with production animals. Third-year students are required to conduct a self-directed two-day practice on a cattle, sheep, or pig farm, preferably a commercial farm or a school with its own livestock.

In the fourth and fifth years, students participate in two weeks of training in a veterinary practice, covering various areas such as authorities, production, horses, exotics, or small animals. Students directly contact the veterinary practice and may participate in all duties. A report documenting their experience must be submitted and approved by the responsible teacher.

#### 3.5.2. Analysis of the findings/Comments

The EPT complements the teaching and training in several disciplines at the VEE and increases the student competences.

#### **3.5.3.** Suggestions for improvement

It is suggested to consider increasing the duration of the EPT in the clinical years.

#### 3.5.4. Decision

The VEE is compliant with Standard 3.5.

Standard 3.6: The EPT providers must meet the relevant national Veterinary Practice Standards, have an agreement with the VEE and the student (stating 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.

There must be a member of the teaching staff responsible for the overall supervision of the EPT, including liaison with EPT providers.

#### **3.6.1.** Findings

A contractual agreement is established with the host for the clinical Externship Placement Training. Both clinical and preclinical hosts receive detailed information about learning objectives, insurance, VEE contact persons, supervisor expectations at the EPT, and other practical matters. Students, based on specific professional quality criteria set by the course leader, independently investigate and select EPT hosts. Upon EPT completion, the host certifies the student's performance and has the opportunity to comment on it. Feedback from EPT supervisors is welcomed by the VEE. Students evaluate the EPT as part of the students and hosts can reach out to the course leader. Throughout the EPT, both students and hosts can reach out to the course leader or director of studies for assistance with professional or academic issues.

There are 3 academic supervisors for EPT.

SLU is currently harmonising EPT routines for all study programmes, including the veterinary programme.

#### 3.6.2. Analysis of the findings/Comments

Monitoring of EPT is structured and allows relevant feedback both to students and providers.

#### 3.6.3. Suggestions for improvement

None.

# 3.6.4. Decision

The VEE is compliant with Standard 3.6.

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. Students must be allowed to complain officially and/or anonymously about issues

# occurring during EPT. The VEE must have a system of QA to monitor the implementation, progress and then feedback within the EPT activities.

# 3.7.1. Findings

Students must ensure that their chosen hosts for the EPT meet specific professional quality criteria set by the course leader. In case of doubt, students can seek guidance from this person. Additionally, students are required to provide necessary information to the EPT supervisor and inquire about any special clothing or equipment requirements. Academic reflection reports on EPT experiences are mandatory. All EPT-related activities, including preparation, recordings, reports, assessments, and evaluations, are documented on SLU Canvas. After completing the clinical EPT, students must participate in a mandatory concluding discussion, during which they can raise any complaints. The course leader and examining teacher assess the student's EPT performance based on submitted reports, reflection papers, host comments, and the concluding discussion.

Complaints procedures are consistent with those for other courses and exams while complaints about the EPT host are directed to the course leader and the department director of studies.

Any accident or incident is reported to the course leader, the department's administrative manager and, where appropriate, the relevant authorities.

#### 3.7.2. Analysis of the findings/Comments

Students have a large choice of EPT activities and benefit from an appropriate follow-up. They have to take responsibility for the content.

#### 3.7.3. Suggestions for improvement

It is suggested that students define the expected learning outcomes of their EPT.

#### 3.7.4. Decision

The VEE is compliant with Standard 3.7.

# Area 4. Facilities and equipment

Standard 4.1: All aspects of the physical facilities must provide an environment conducive to learning, including internet access at all relevant sites where theoretical, practical and clinical education takes place. The VEE must have a clear strategy and programme for maintaining and upgrading its buildings and equipment. Facilities must comply with all relevant legislation including health, safety, biosecurity, accessibility to people including students with a disability, and EU animal welfare and care standards.

#### 4.1.1. Findings

The SLU's main campus is Ultuna hosting the faculties of Natural Resources and Agricultural Sciences and of Veterinary Medicine and Animal Sciences. The Veterinary programme is mainly located in Ultuna, at the VHC, and at Lovsta, at the Swedish Livestock Research Centre and the slaughterhouse, and, for a few exceptions, at Uppsala. The accessibility to people with reduced mobility is assured. VHC represents the commonplace for VHF and VTH. It consists of 6 connected sections, with 3 differentiated entrances: one for staff, students, and visitors, one entrance for pets (dogs, cats, and exotics) patients, and one entrance for horse patients. The building's sections include the horse clinic; the stables for horse patients; the stables for teaching and research animals; special facilities for pathology and anatomy; laboratories,

offices, and teaching facilities; and the horse and pets patients' clinics. Programmes for maintaining and upgrading the buildings and equipment are in charge of the University and of the VEE. Facilities comply with relevant legislation about safety, accessibility to people and animal welfare.

#### 4.1.2. Analysis of the findings/Comments

Although some exceptions of the veterinary programme are located in Uppsala, the Ultuna campus and the VHC, including the VTH, provide an environment conducive to learning. Programmes for maintaining and upgrading the buildings and equipment are the responsibility of the University and the VEE. The facilities comply with relevant legislation about safety, accessibility to people and animal welfare.

#### 4.1.3. Suggestions for improvement

None.

#### 4.1.4. Decision

The VEE is compliant with Standard 4.1.

Standard 4.2: Lecture theatres, teaching laboratories, tutorial rooms, clinical facilities and other teaching spaces must be adequate in number and size, equipped for instructional purposes and 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 teaching and support staff to support their teaching and research efforts.

#### 4.2.1. Findings

Five auditorium/lecture halls of different size are available at VHC, as well as 2 computer labs, one large wet lab, 2 amphitheatres for anatomy and pathology, respectively, 20 group study rooms, and in the clinical area, near the stables, also 2 seminar rooms. Additionally, 1 large aula, 32 differently sized auditorium/lecture hall, 8 computer labs, 28 group study rooms, and 3 student workplaces are available at Ultuna Campus and can be utilised for the veterinary programme.

There is a wet laboratory for benchtop experiments on biological materials or chemicals. Anatomy and pathology have two targeted facilities close to each other. They both include an amphitheatre for 60 students. The anatomy facility has 6 dissection rooms. For organs and carcasses, there is a receiving area, a frozen storage area, a cooled storage area, a preparation/thawing room, rooms for the preparation of specimens, and two cooled waste rooms. The building also has group study rooms (also used for Sectra IDS7 workstation), specimens' room, and changing rooms. The pathology facility is like the one for Anatomy, with dedicated areas for reception and preparation, storage, and waste. Because of the increasing number of students, a freezer room for storing carcasses is under construction.

Besides the CTC, an additional training room is available, and another building is in project, as well as the implementation with more models for pets, equines, and food animals. An area dedicated to obstetrics and reproduction is close to Anatomy, with dummies for cow and sheep obstetrics training. There is also an experimental surgery facility that can be used for training. Students can use the library for working on laptops, and the study group rooms are open 24h/7d. Monday-to-Friday day-time opened restaurants and cafés are in Ultuna. In the VHC there is an equipped lunchroom for students and a public café. VTH also has a lunchroom for students

enrolled in the clinical rotations, and other lunchrooms are available on the campus. Gender-separated changing rooms are available for anatomy and pathology, for VTH, and for the stables. In the VTH 3 bedrooms with 2 beds/each room are available for ambulatory, pets, and horse clinics.

# 4.2.2. Analysis of the findings/Comments

Facilities for lecturing, teaching laboratories, clinical facilities, diagnostic imaging and pathology facilities, and study-group rooms are adequate in number and size, and well-equipped for educational purposes. The access of students to study, self-learning, recreation, changing rooms, sanitary facilities, and food services is adequate.

# **4.2.3.** Suggestions for improvement

It is suggested that an in-depth analysis be carried out to determine whether the facilities will be adapted to the significant increase in student numbers.

# 4.2.4. Decision

The VEE is compliant with Standard 4.

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
- take into account environmental sustainability
- be designed to enhance learning.

# 4.3.1. Findings

The VHC has a sealed-off area with stables for healthy animals used for teaching and research. This area includes: 5 stables for horses, 1 stable for ruminant /horses, 1 ruminant stable, 1 tiedcow stable, 1 calf/small ruminant stable, 4 swine stables, 1 goat herd and 25 stables for dogs. A separate entrance leads to the ruminant clinic where incoming ruminant patients are seen during the clinical rotations, providing access in agreement with rules for infection prevention and hygiene. Stables also have an adjacent minor surgery room and 3 examination rooms with stocks, 1 freezing room, 1 milking parlour, 2 small laboratories, feed storages, and cleaning places. Outdoor horse walkers, yards for dogs, for goats, paddocks, and pastures are also available.

Although an update of the ruminant clinic is planned, Lovsta represents the main place where teaching on farm animals has been increased. Lovsta consists of a cattle facility with 300 dairy cattle with an automatic milking system by robots, a pig herd with 110 sows and an average of 2500 pigs for slaughter/year, and a poultry facility with hens and broiler chickens. Lovsta is ISO 9001:2008 and ISO 14001:2004 certified with strict rules for visitors to control infectious diseases.

Additional facilities are the Robacksdalen dairy research farm, the Gotala Beef and Lamb Centre, and the Alnarps Sodergard facilities which are used for research and teaching.

# 4.3.2 Analysis of the findings/Comments

The livestock facilities at VHC and Lovsta are fit for the educational purpose and are adequate

in terms of capacity, depending on the number of students, which allows for hands-on training of students. The facilities are of high standards and animal housing and welfare are respected. Core clinical teaching, with respect to biosecurity and environmental sustainability, is provided.

#### 4.3.3. Suggestions for improvement

None.

#### 4.3.4. Decision

The VEE is compliant with Standard 4.3.

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 VEE must unequivocally demonstrate that the standard of education and clinical research is compliant with all ESEVT Standards, e.g. research-based and evidence-based clinical training supervised by teaching staff trained to teach and to assess, availability for staff and students of facilities and patients for performing clinical research and relevant QA procedures.

For ruminants, on-call service must be available if emergency services do not exist for those species in a VTH.

The VEE must ensure state-of-the-art standards of teaching clinics which remain comparable with or exceed the best available clinics in the private sector.

The VTH and any hospitals, practices and facilities which are involved with the core curriculum must be compliant with the ESEVT Standards and meet the relevant national Veterinary Practice Standards.

#### 4.4.1. Findings

The core clinical training is provided in the VTH, with the active participation of students in animal care. The patients provide the basis for veterinary education and research. This would be further developed thanks to the merging of the VTH into the VHF in January 2024.

In 2022, the pet clinic was opened 24h/7d during semester times and reduced opening times during summer. Currently, because of reduced staff, during the academic semester, it is open 4 days a week. The clinic offers emergency service and planned veterinary care, with 70% of visits in dogs, 26% in cats, and 4% in "other animals ". The staff consists of 30 veterinarians, 28 nurses, 19 animal keepers and 7 receptionists. Students are involved in the clinical work on most of the day during the academic semester and may participate in clinical activities during the breaks and in the summer. The clinic, certified as a cat-friendly clinic, consists of 25 examination and treatment rooms, some with specific equipment, and specific facilities for internal medicine, dermatology, cardiology, oncology, dentistry, surgery, and reproduction. A separate entrance allows the admission of infectious disease patients to a dedicated area.

The inpatient ward consists of a general and an infection section. The general section is divided into a surgical and a medical unit, with 8 stables with their treatment room, with 30 places for dogs and 14 for cats. The surgical units consist of 6 surgery rooms, with smoke evacuating units, LED operation lighting, and, in the orthopaedic theatre, an HD camera with zoom and a monitor to allow the students to follow the surgical procedures. Work is ongoing to reduce emissions from anaesthetic gases. The intensive care unit is equipped with oxygen supply apparatus, emergency trolley, infusion pumps, ECG, etc, and blood blank availability.

The horse clinic has an administrative area, with reception, offices, a waiting room, a room for rounds, student and staff rooms. It consists of 5 examination and treatment rooms with stocks,

1 dentistry room, and 1 room for minor surgery. The surgery unit consists of a preparation/anaesthesia area, scrub rooms, 3 surgical rooms (2 for recumbent and 1 for standing), and 3 recovery boxes. The diagnostic imaging area is adjacent and includes 2 radiographic units, 1 for ultrasonography, 1 for CT, 1 for MRI, and 1 for Nuclear Medicine. Additional areas are available for orthopaedics and soundness examinations. For inpatients, the clinic has 5 nursing stables with 25 places and 1 outdoor stable with 4 boxes, besides room for treatment and horse care, washes and utility rooms, and a feed barn. The intensive care unit consists of 6 boxes, stocks, an observational room, an emergency ward with 2 boxes, and a treatment room with stocks. For horses with infectious diseases there are 8 closed isolation boxes. There is also a treadmill and a farriery and shoeing stable. Horses can have access to pastures and about 20 paddocks and a horse walker. Close to the clinic, there are offices, equipment and medicine storage rooms, and a small mastitis laboratory.

A central service for sterile handling of goods from the horse, pets, and the ambulatory clinic is provided at the VTH, with rooms with different air pressure to reduce the risk of contamination.

The CTC is equipped with a remarkable number of models and dummies of diverse species allowing the training on common procedures. Students can have access to CTC at scheduled times (Tuesday and Thursday 1-6 pm), but also in all cases in which the CTC is not occupied for teaching (see also area 6).

At the pathology section, students perform necropsy under supervision during the clinical rotations. For routine diagnostics, the nearby SVA is consulted, even if some diagnostics are made at the VEE by MALDI-TOF, and a VetBac database has been developed for teaching, research, and also as a service for practitioners. An animal genetics laboratory is also active for DNA profiles and DNA tests, mainly for horses, dogs, and pigs. A state-of-the-art diagnostic imaging unit equipped with digital radiography, ultrasonography, CT, MRI, and scintigraphy is present in the VTH, as well as a clinical pathology laboratory in which about 30% of the analysis is done for the VTH and 70% from external clinics.

The Lovsta Kott AB slaughterhouse is part of the SLU facilities and includes the provision of spaces for teaching and the possibility for students to carry out practical work in the slaughterhouse, in addition to using observation rooms to follow the steps in slaughter and the cutting room. In the slaughterhouse, cattle and pigs are slaughtered.

#### 4.4.2. Analysis of the findings/Comments

Both the pet clinic and the horse clinic are well-structured and equipped for education, practical training, and animal welfare. The VEE has a high-standard diagnostic imaging unit and an adequate laboratory for diagnostics. The CTC offers the students the possibility to train on organs and dummies before entering the clinical rotations on live animals.

The availability of the Lovsta Kott AB slaughterhouse is a good opportunity for teaching and for students to carry out practical work on FSQ and VPH.

In the pet clinic, the 24/7 service is currently reduced to 4 days/week due to a reduction in staff. As a result, suboptimal training in pet emergency cases is provided. This is partially compensated by an excellent ambulatory 24/7 service for ruminants and horses and by 24/4 emergency services for companion animals.

#### 4.4.3. Suggestions for improvement

It is suggested to re-open the emergency services 7 days a week in order to increase the exposure of students to pet emergency cases.

#### 4.4.4. Decision

The VEE is partially compliant with Standard 4.4 because of suboptimal training in pet emergency cases.

Standard 4.5: The VEE must ensure that students have access to a broad range of diagnostic and therapeutic facilities, including but not limited to clinical skills laboratory, diagnostic imaging, clinical pathology, anaesthesia, surgeries and treatment facilities, intensive/critical care, ambulatory services, pharmacy and necropsy facilities. Procedures and facilities should also be available for soft skills training, e.g. communication skills training through role-play.

#### 4.5.1. Findings

The VTH and VHF provide students with the possibility to have access to broad diagnostic and therapeutic facilities, where they can receive evidence-based education during classes and clinical rotations. The well-developed CTC allows students to train on dummies, models, and organs before training on live animals. Role-play and the student-driven clinic allow the training on soft skills.

The implemented transportation of students to Lovsta has improved the possibility for students to train on farm animals.

#### 4.5.2. Analysis of the findings/Comments

The VEE ensures that students have access to a broad range of diagnostic and therapeutic facilities, including those concerning soft skills training.

#### 4.5.3. Suggestions for improvement

None.

# 4.5.4. Decision

The VEE is compliant with Standard 4.5.

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 the prevention of the spread of infectious agents, animal care and student training. They must be adapted to all animal species commonly handled in the VTH. When permanent isolation facilities are not available in any of the facilities used for clinical training, the ability to provide such facilities and the procedures to use them appropriately in an emergency must be demonstrated during the visitation.

#### 4.6.1. Findings

At the VTH, the pet clinic has a separate section for infectious diseases with 6 boxes and separate treatment rooms and a super isolation area with one patient/stable supplied by a treatment room equipped also for surgery. The horse clinic has 8 isolation wards with separate entrances from the stable yard. The flow of people, instruments, and drugs from the clinic to the isolation ward is allowed by the passage in a space for dressing, equipment, etc. Water supply is provided by check valves and sewage and manure handling is separate and includes decontamination.

#### 4.6.2. Analysis of the findings/Comments

The VEE has appropriate isolation facilities in both the pet and the horse clinic, properly structured, with particular attention to the flow of people, instruments and medicines, and adapted to the species treated in the VTH.

#### 4.6.3. Suggestions for improvement

None.

# 4.6.4. Decision

The VEE is compliant with Standard 4.6.

# Standard 4.7: The VEE must have an ambulatory clinic for production animals or equivalent facilities so that students can practise field veterinary medicine and Herd Health Management under the supervision of teaching staff.

# 4.7.1. Findings

The ambulatory clinic is a well-developed on-call service provided 24h/7d all year round, with 9 veterinarians in charge, and students participating in activities mainly on health care of farm animals and horses, but also as official veterinarians according to EU standards and as border veterinarians at the Swedish International Airport Stockholm Arlanda. The activity is carried out mainly on dairy and beef cattle herds, and in horse stables, and the remainder in pigs and sheep farms. During the clinical rotations, students can participate in the ambulatory clinic, practising field veterinary medicine and herd health management, under the supervision of teaching staff.

#### 4.7.2. Analysis of the findings/Comments

The VEE has a well-developed, well-equipped, and well-organised ambulatory clinic for farm animals and horses that is active 24h/7d all year round, and in which students participate during the clinical rotations, practising field veterinary medicine and herd health management, under the supervision of teaching staff.

#### **4.7.3.** Suggestions for improvement

None.

# 4.7.4. Decision

The VEE is compliant with Standard 4.7.

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 animal welfare, and to prevent the spread of infectious agents.

#### 4.8.1. Findings

The transport of students to extramural facilities is assured by 2 vehicles, 1 minibus, and 1 shuttle bus to allow the optimal usefulness of Lovsta facility for teaching and student training. The ambulatory clinic is assured by 5 cars well equipped for mobile dispensaries 24h/7d/365d in large animal services (see more details in standard 4.7).

The transportation of live animals is provided only for cattle; moreover, a large animal, wellequipped, ambulance with staff is available for day and night services.

The transportation of cadavers, organs, and biological waste within VHC and from VHC to the incinerator is assured by closed stainless steel containers.

#### 4.8.2. Analysis of the findings/Comments

The transportation of students, live animals, cadavers and materials from animal origin and other teaching materials ensures the safety of students and staff, animal welfare and the prevention of the spread of infectious agents.

#### 4.8.3. Suggestions for improvement

None.

#### 4.8.4. Decision

The VEE is compliant with Standard 4.8.

Standard 4.9: Operational policies and procedures (including biosecurity, good laboratory practice and good clinical practice) must be taught and posted (in different languages if the curriculum is taught in them) for students, staff and visitors and a biosecurity manual must be developed and made easily available for all relevant persons. The VEE must demonstrate a clear commitment for the delivery and the implementation of biosecurity, e.g. by a specific committee structure. The VEE must have a system of QA to monitor and assure clinical, laboratory and farm services, including regular monitoring of the feedback from students, staff and clients.

#### 4.9.1. Findings

A manual for the environmental work at SLU, and specifically at VHC, containing overall procedures and documents is available as an online manual. Among manual chapters, the ones entitled "Work procedures", describe details about QA of biosecurity. During the last 10 years renewal process, the VEE has introduced the training of staff and students in biosecurity, risk assessment, and security, increasing awareness about these issues. However, in some rooms posting of biosecurity rules was suboptimal.

#### 4.9.2. Analysis of the findings/Comments

A manual containing all the procedures and documents related to the environmental work at SLU, and more specifically at VHC, is available online, and students and staff are well-trained in biosecurity. However, the posting of biosecurity rules in some rooms, ie. entrance to the isolation units, has been noted.

#### **4.9.3.** Suggestions for improvement

It is suggested that biosecurity signage in the VEE be reinforced and that biosecurity rules be posted in Swedish and English, particularly at the entrance to all isolation units.

#### 4.9.4. Decision

The VEE is partially compliant with Standard 4.9 because of suboptimal posting of biosecurity rules in some rooms.

# Area 5. Animal resources and teaching material of animal origin

Standard 5.1: The number and variety of healthy and diseased animals, first opinion and referral cases, cadavers, and material of animal origin must be adequate for providing the practical and safe hands-on training in all relevant areas 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.

#### 5.1.1. Findings

The VEE is keenly looking at ways to reduce the use of animals in teaching and research. This is done by adhering to the 3R rules and to the EAEVE recommendations. Alternatives to live animals are constantly being sought and ethical discussion precedes any use of live animals in teaching. The number of animals used is calculated taking into account the number of students exposed.

In the 1st year, students are informed and get access to a policy document on animals and animal material use in teaching at the VEE.

Very few animals are euthanised for teaching/research purposes.

Before sending companion animals for necropsy, a signed informed consent is signed by the owner.

The total number of animals (mean of the 3 AY) used or seen at the different stages of learning are summarised:

- Healthy animal for pre-clinical training 200 cattle; 48 small ruminants; 110 pigs; 26 companion animals (Beagle dogs) and 21 horses.
- Patients seen at the VTH 80 cattle; 59 small ruminants; 4379 companion animals; 1899 equine; 179 rabbits; exotic species 135.
- Patients seen in ambulatory clinics 1250 cattle (plus around 2100 dehornings and castrations); 137 small ruminants; 15 pigs and 1495 equine.
- Cadavers used in necropsy 37 cattle; 19 small ruminants; 34 pigs; 181 companion animals; 62 equine; 36 poultry and rabbits.

Sharing of animal cadavers between courses/subjects is performed wherever applicable and biosecurity procedures permitting.

Diversity was achieved in the case of companion animals due to the large number of patients seen at the VTH. In the case of food-producing animals, variety is not so extensive and depends a lot on the time of the year. In ruminants, dairy cattle predominate. Exposure to poultry production is low, especially because of restrictions imposed by the industry. Some compensation is ensured by rotating the students' groups involved in ambulatory and other clinical work and by showing videos and lectures.

Regarding first opinion or referral cases, there is a noticeable difference between companion animals (13% first opinion), horses (25% first opinion) and food-producing animals (first opinion approximately 70%).

As to total visits to farms or slaughterhouses, the mean for the three AY are, respectively: 94 and 5 for ruminants and 67 and 5 for pigs. There are no visits to poultry slaughterhouses.

The students visit the Swedish Livestock Research Centre (SLRC Lövsta) twice during the 1st year. The students visit one external slaughterhouse in western Sweden during the first semester of the 3rd year and the Lövsta slaughterhouse once during the second semester of the 3rd year. The students also visit the Lövsta slaughterhouse for one week, during the clinical

rotations in years 4 and 5.

The policy of the VEE is to introduce students to animal handling and procedures through the use of models, cadavers and organs, before setting onto performing in live animals. In the new curriculum (VP23), one clear objective has been not to increase the use of live animals in preclinical practical training, despite the expected 50% increase of students, but instead increase and strengthen the use of manikins. Part of the investment driven by the implementation of the new curriculum is to order manikins with a value of approximately 3,7 M SEK. Thus, a big number of models have been ordered, for example, this includes anatomy models for different animal species, X-Ray Phantom Dog, Canine Bladder Ultrasound Simulator, Equine Palpation/Radiology Limb Trainer, otoscopy models, models for castration of male dogs, horse head for intubation, models for handling dental problems and anal gland models. Manikins are used in early training of animal handling, such as training to lift a dog/cat or to put a halter on a horse. Practical skills such as sampling techniques and drug handling during year two are also taught using models (and examined by OSCEs). There are plans to replace live animals by several different models, also in some instances during the clinical rotation.

The use of animals in teaching and research is regulated by the official Animal Welfare Act as well as by internal guidelines. Observance of these rules is verified by internal and external means. The VEE has an Animal Welfare Body that participates in monthly consultations and regularly visits to the animal facilities and participates, whenever there are external animal welfare inspections by the county administrative boards. The Animal Welfare Body is assigned to write reports related to animal welfare and review standard operating procedures. There is also a whistle-blower function that accepts anonymous notifications about concerns of animal welfare issues to the Animal Welfare Body.

In obedience to the legislation all teaching and research staff as well as PhD students, must have basic training in animal behaviour and welfare. For this, the VEE provides an online course in laboratory animal science.

An ethical committee is responsible for the evaluation of research projects (issuing licences for studies) and other use of animals such as in teaching.

Students are informed about animal use (including the use of carcasses or organs) and animal welfare policies at the VEE, before they apply to a course. Beginning in the 1st year the VEE introduces and discusses ethical issues related to the use of animals (or organs). Additionally, teachers, researchers but also clinicians are called to join regular ethical workshops to which students are invited to participate.

Animals for dissection in Anatomy classes have different sources: donated animals; organs from slaughterhouses; farm and laboratory animals; or animals bought for the purpose. The number of cadavers used per year is between 10 (equine, small ruminants and pigs) to 40 (poultry). Organs from slaughterhouses vary from 80 (equine) to over 200 in the case of cattle. These fresh or frozen cadavers and organs from the slaughterhouses are used for introductory teaching in several clinical courses (e.g. reproductive, obstetrics).

Animals or organs are used fresh or frozen but never preserved through the use of formaldehyde.

Live animals are also used for external anatomy teaching. These can be dogs owned by the students or farm animals and horses from the VEE or from nearby farms. In some instances, (e.g. diagnostic pathology course) animals coming from the hospital or from VEE facilities are necropsied.

Disposal of cadavers and other material resulting from necropsies varies accordingly with species. Companion animals are incinerated; food-producing animals are used as biofuel.

#### **5.1.2.** Analysis of the findings/Comments

It is praiseworthy the attempt of the VEE to reduce the use of animals in pre-clinical stages and the constant look for ethical appraisal of animal use.

An overall view of the use of animals along the course is comprehensively presented. The number of animals used for clinical work is very large for companion animals and equine and more than adequate for cattle and for pigs. The low number of poultry farms visited is mainly due to biosecurity restrictions. There is no contact with fish.

The number of 1st opinion cases with small animals is relatively low (13%).

The fear of a significant reduction in farm animal caseload is important. The fact that it is recognised, and that compensation is being sought is commendable but should be ensured soon because of the expected rise in the number of students in the near future.

The mechanisms and procedures in place to ensure the best welfare conditions for the animals used in teaching and research is adequate.

The use of live animals, organs and cadavers is extensive in anatomy teaching and there are also an adequate number of animals being necropsied. The variety of species available is large. There is, however, some insufficient information on the number of students involved in dissection and necropsies training and how they are involved (e.g. hands-on in necropsies). Apart from live animals (donated or belonging to the VEE) and cadavers/organs from slaughterhouses, the VEE also (increasingly) uses models.

The elimination of the use of formaldehyde for health reasons is also commendable.

#### 5.1.3. Suggestions for improvement

The team suggests that measures are quickly taken to ensure that the caseload per student will not decrease when the rise in student population in clinical studies occurs.

#### 5.1.4. Decision

The VEE is compliant with Standard 5.1.

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 the supervision of teaching staff and follows the same standards as those applied in the VEE.

#### 5.2.1. Findings

All contact with animals occurs in the VEE facilities except for the short EPT period in which students are with practitioners or other professionals.

#### 5.2.2. Analysis of the findings/Comments

The number and variety of animals to which students are exposed in the VEE facilities (including dairy cattle and pig farms at Lövsta) is very large. Additionally, clinical rotations and ambulatory clinic activities provide additional exposure to equine and food-producing animals in more commercial settings.

#### 5.2.3. Suggestions for improvement

None.

#### 5.2.4. Decision

The VEE is compliant with Standard 5.2.

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.

#### 5.3.1. Findings

Veterinarian students are trained in basic nursing care skills. The first approach is done on numerous models or dummies at the CTC. Nursing activities are also presented and performed during rotational clinical work in all species but mainly at the VTH.

Groups involved in clinical work with animals are relatively small (3-5 students) and can in certain circumstances be as few as 2 per group. Ambulatory clinics usually engage 3-4 students but can go up to 8 in herd health visits to farms.

The ruminant and the horse clinics on campus admit numerous animals every week during the semester time. Cases include a wide range of disease problems that the students will be seeing in the field should they become district veterinarians or practitioners.

Students have to demonstrate being ready for hands-on work with animals, including being prepared to communicate with animal owners and stockpersons.

When doing clinical work, students are attributed a responsible role in taking the medical history, doing physical examination and deciding treatments (under close supervision). When working with companion animals one student may be in charge of one patient. In other clinics' settings (horse clinics and ambulatory clinics) the approach is usually in groups but can be one-to-one consultation with report writing.

When working with animals (equine and ruminants) in the ambulatory services, students are responsible for equipment, medicine, farmer interviews and clinical examination. Students on-call assist with all clinical work in emergencies.

Students on-can assist with an critical work in emergencies.

Time for reflection and study may be short when the caseload is high or animal care is a priority.

The VEE provides enough conditions and equipment for reading, study and paper reviewing. Teachers are also available for case discussion.

#### 5.3.2. Analysis of the findings/comments

The conditions, models and material diversity at CTC facilities are already large and are expected to increase. This is commendable as it ensures animal welfare and student comfort and confidence in the first approach to clinical settings.

The contact with live animals is extensive and includes handling and nursing activities. The group sizes are adequate, both for activities at the VTH as well as for ambulatory activities.

Involving students in all parts of the clinical work - simulating a real practitioner - is very

commendable. This increases confidence and also stimulates clinical thinking. Students go through the various stages of admitting, examining, diagnosing, treating and caring for sick companion animals. The hands-on involvement in the VTH is remarkable.

The inclusion of subjects on biosecurity, communication with clients or owners, legislation and ethics is also praiseworthy.

Providing time and space for students to reflect and study is also essential, although difficult when the caseload is high. This may increase stress and cause some fatigue, that is also a replication of a clinician activity. Teaching staff are considered by students to be always available for advice and to help.

# **5.3.3.** Suggestions for improvement

None.

# 5.3.4. Decision

The VEE is compliant with Standard 5.3.

Standard 5.4: Medical records for patients seen intra- and extra-murally under Core Clinical Training (CCT) must be comprehensive and maintained in an effective retrieval system to efficiently support the teaching and learning, research, and service programmes of the VEE.

# 5.4.1. Findings

ProVet Cloud is the record system used for all clinical case records at the small animal hospital, equine clinics, ambulatory clinics and the ruminant clinic. However, there are two different platforms to store and review clinical cases – one for companion animals and one for ruminants. Students are responsible for filling and updating the medical records, although a clinician reviews the information. Records become definitive after approval by a teacher or clinician. Records can be consulted by all those allowed to log in.

# **5.4.2.** Analysis of the Findings/Comments

Having students responsible for medical records is a good incentive to study and reflect.

The version for farm animals' clinical cases is separate because of data protection rules (farm identification is deleted).

Clinicians review the students' reports reducing the chances of errors and allowing for clarification if mistakes are detected.

# **5.4.3. Suggestions for improvement**

It should be ensured that the data resulting from students' clinical activities with veterinarians working for the Swedish Board of Agriculture, will be retrievable to efficiently support teaching, learning and research.

# 5.4.4. Decision

The VEE is compliant with Standard 5.4.

# Area 6. Learning resources

Standard 6.1: State-of-the-art learning resources must be adequate and available to support veterinary education, research, services and continuing education. Learning resources must be suitable to implement teaching facilities to secure the 'never the first time on a live animal' concept. 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, together with basic English teaching if necessary.

#### 6.1.1. Findings

The Education Development Unit (EPU) is a strategic expert function which manages SLU's higher education courses and digital education system, offering support through consultation, project management, courses, and seminars to teaching staff, students, and others involved in education. Within the VEE, digital pedagogy is emphasised to enhance the quality and efficiency of education, especially in distance learning. Examples include digital exams, recorded lectures, web-based learning platforms, etc. Digitalisation also facilitates interaction and communication training. A cloud-based internet platform (Aiforia) for histology and histopathology is available to students and can be integrated with the Inspera digital exam system.

The EPU works closely with the University library. The VEE does not have its own library. The library is managed by the Library Council which proposes annual funding for the library and works with directors of studies to acquire new books. Students and staff can also suggest new acquisitions. The library operates both physically and digitally and comprises two departments: Scholarly Communication and Research, and Learning Support.

The VEE representative in the Library Council is Johan Dicksved, vice-dean of the VEE.

New students receive detailed information about the IT environment of the VEE and how to search for information and use the different tools.

Students receive support when working on their master project (a mandatory supervised research project). A "drop in-get help online" is also available for finding information or writing an assignment. This is complemented by two specific services:

- The "book a librarian" service on site or online for library-related issues
- The "book language support" service online for writing rules, presentation skills, etc.

Students are taught to develop a critical analysis when reading scientific articles and on fraud and intellectual property.

#### 6.1.2. Analysis of the findings/Comments

Learning resources are easily accessible, and students are taught on how to use them. The Library offers a learning and working environment.

# 6.1.3. Suggestions for improvement

It is suggested that students receive appropriate information on the dangers and opportunities associated with the use of AI.

#### 6.1.4. Decision

The VEE is compliant with Standard 6.1.

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 a qualified IT person, an e-learning platform, and 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 VEE's core facilities via wireless connection (Wi-Fi) and from outside the VEE through a hosted secured connection, e.g. Virtual Private Network (VPN).

#### 6.2.1. Findings

The SLU University Library, consisting of around 50 employees (47.1 FTE), includes professional librarians, systems specialists, and information officers.

Staff and students have access to the library every day from 6:00 am to 11:00 pm using their access cards. The library staff is onsite from Monday to Friday, from 9:00 am to 4:00 pm. In 2023, the library budget was  $6512 \text{ k} \in$ .

The library is located on the Ultana campus. It offers more than 100 seats in the public reading rooms, 8 bookable group study rooms with a total of 54 places, more than 35 computer stations, printers, 2 computer labs including a "silent" room.

3Primo" is the software used for bibliographic search. Some databases such as Web of Science, Scopus, ProQuest and Google Scholar are available. In veterinary medicine, more than 20 more or less specialised databases are also available, including Biological Abstracts, Plumb's Veterinary Drugs, PubMed and VetBact.

The Epsilon database contains student dissertations and projects, and the SLUpub database SLU research publications.

E-books are provided by Ebook Central and all major ebook publishers such as CAB eBooks, Dawsonera, Knovel, Oxford Scholarship Online, etc.

Lectures can be found on HSTalks - The Biomedical & Life Sciences Collection.

There are also campus libraries in other locations and three subsidiary libraries including one for equine studies.

The IT Division has around 100 employees and all departments also have their own IT coordinator. A number of softwares such as Microsoft Office 365ProPlus, SAS, JMP, Endnotes, etc. are available to students for free. Wi-Fi (Eduroam) and VPN allow students and staff secure access to electronic learning resources including databases, e-journals and e-books, both on-site and off-campus.

#### 6.2.2. Analysis of the findings/Comments

The VEE has qualified and dedicated librarians and IT experts as well as an effective portal highly conducive to learning, teaching and research.

#### 6.2.3. Suggestions for improvement

None.

# 6.2.4. Decision

The VEE is compliant with Standard 6.2.

#### Standard 6.3: The VEE must provide students with unimpeded access to learning

resources, internet and internal study resources, as well as facilities and equipment for the development of procedural skills (e.g. clinical skills laboratory). 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.

#### 6.3.1. Findings

The library contains around 1500 e-books, 250 e-journals, 1000 printed books and a printed journal archive with around 200 historic titles in the veterinary field. A database of veterinary drugs is also available.

There are five systems for communicating with students:

- My studies: information about the student's studies
- · Course pages
- · Canvas: digital course rooms
- · E-mail
- Online courses and learning materials, including Aiforia (digital microscopy) and VetBact database mentioned in 6.2.

The Clinical Training Centre (CTC) is located in Building 3 and is completed by another room in Building 4. CTC is being extended with another building containing more models and dummies. Two other rooms close to the anatomy room are used for training in gynaecology. 2 FTE nurses are in charge of the CTC which is open from 7:00 am to 11:00 pm every day. Students can find information on what to train on in Canvas.

#### 6.3.2. Analysis of the findings/Comments

The students have access to relevant learning resources. The CTC serves the 3R principle and "never the first time on a live animal" principle efficiently.

#### **6.3.3.** Suggestions for improvement

None.

#### 6.3.4. Decision

The VEE is compliant with Standard 6.3.

# Area 7. Student admission, progression and welfare

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 the educational programme in all advertisements for prospective national and international students.

Formal cooperation with other VEEs must also be clearly advertised.

#### 7.1.1. Findings

Information about all stages of the student life cycle from admissions, enrolment, progressions and graduation are available via the university website and links to the VEE's veterinary programme:

https://www.slu.se/utbildning/program-kurser/program-pa-grundniva/veterinar,

most pages automatically translate from Swedish to English. Information about procedures and the ESEVT evaluation are available:

https://internt.slu.se/en/targeted-info/faculties/faculty-of-veterinary-medicine-and-animalscience/current-affairs/initiatives-and-projects/accreditation-veterinary-education-establishment.

A website is available to find information about the VEE's collaborators.

#### 7.1.2. Analysis of the findings/Comments

The VEE provides publicly available information about student admission, progression and certification, and its collaboration with other VEEs. Information about the programme and enrolment is available to prospective students.

#### 7.1.3. Suggestions for improvement

None.

#### 7.1.4. Decision

The VEE is compliant with Standard 7.1.

# 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.

#### 7.2.1. Findings

The number of veterinary students admitted by the VEE was 111 in 2022/23, 107 in 2021/22 and 105 in 2020/21. A recent investigation by the Swedish government into future needs for the animal health and public health sector, with the focus on the need for labour within the veterinary sector has led to an expansion in admissions to 145 students from autumn 2023. One of the most challenging areas is identified as for practicals and clinical teaching, including in the VTH. The resourcing has been upgraded to accommodate the larger cohort in the first year of the new curriculum.

The average number graduating between 2021 and 2023 is 88. On average, 65% complete their studies with no extra time, 20% require 1 extra year and 10% two extra years. The average number of registered post-graduate students is 3 interns, 20 residents and 121 PhD students.

#### 7.2.2. Analysis of the findings/Comments

The resourcing is currently consistent with the number of students in the programme with the exception of staffing in the VTH (see 9.2).

#### 7.2.3. Suggestions for improvement

See 9.2.

#### 7.2.4. Decision

The VEE is compliant with Standard 7.2.

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 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.

# 7.3.1. Findings

Entry requirements for the programme include successful completion of high school education and specific science subjects relevant to veterinary medicine. A merit rating is calculated based on grades and supporting documentation by the University Admissions which results in a ranking, the VEE does not have a separate selection committee. The process is overseen by the central national admission process. Two-thirds of applicants are admitted based on school grades and are grouped by school types (four) and compete within those groups. One-third are selected based on performance on the Swedish Scholastic Aptitude Test. A random selection process is if the number of students meeting the requirements exceeds the places available. The admission process ensures all students are treated equally and admitted on merits, and not based on medical or other information. Information on appeals is included in decision documents; appeals can be lodged with the Higher Education Appeals Board; its decisions may not be challenged.

The number of students admitted annually is decided by the University Board. It depends on a variety of factors including estimated need for newly trained veterinarians, incoming veterinarians (from other countries) and the number of applicants to the programme as well as available resources including financial, clinical, animals and staff.

#### 7.3.2. Analysis of the findings/Comments

The selection is based on a merit rating, calculated and then ranked by the university admissions, which is overseen by the national admissions system. The VEE does not have additional selection criteria or an admissions committee but does determine progression within the programme.

#### 7.3.3. Suggestions for improvement

It is suggested that the VEE considers options to include more veterinary-specific criteria in admissions through a dialogue with the university and national admissions groups.

#### 7.3.4. Decision

The VEE is compliant with Standard 7.3.

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.

#### 7.4.1. Findings

The university and VEE provide support for students with disabilities aligned with legal requirements and make associated adaptations to teaching and assessments. For the veterinary programme, the course examiner uses their professional judgement to determine whether adaptations will still ensure that the Day One Competence are met. For long-term illness students can apply to suspend studies; if approved they have a guaranteed place for re-entry.

Students have access to health services, counselling, wellbeing sessions and study support via the university.

#### 7.4.2. Analysis of the findings/Comments

The VEE has clear policies and procedures around disabilities and illness. Accommodations are made where appropriate while still ensuring attainment of Day One Competences.

#### 7.4.3. Suggestions for improvement

None.

7.4.4. Decision

The VEE is compliant with Standard 7.4.

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.

#### 7.5.1. Findings

The progression criteria around academic standards and professional behaviours are described in the course syllabus which is available online and describes the learning objectives, compulsory requirements, and exams. The university offers three exam sessions per year and per course. In Sweden, it is not permitted to terminate students based on failure of written assessment, and the student is allowed to retake every time that course exam is given. Student progression through the programme can be limited on academic and professional grounds by stating prerequisites for entry into a subsequent course to ensure each student has sufficient knowledge and skills. If a student shows unprofessional behaviour and the remediation process is unsuccessful, the student is permanently disqualified from all mandatory practical work during the clinical rotations and hence cannot complete the programme. Participation in compulsory activities e.g. practicals, is a requirement to pass associated courses. For the veterinary programme, failure in certain practical skills may lead to the student being prevented from participating in the practical training with live animals for safety reasons. Course leaders together with the programme director decide upon individual action plans for remediation of knowledge and skills. Plans have been developed for students who move between the existing and new curricula, which will involve individual study plans to support the student transition. When students suspend studies, the university has terms defined around the return to study; support related to counselling, study and careers is made available. Re-entry into the veterinary programme also depends, for example, on availability of places. Information on criteria and procedures is available on course pages and websites and from course leaders. Information on appeals procedures is attached to all decision documents. The veterinary programme has a low attrition rate, reasons including transfers to other courses. Admissions selection and criteria are set and managed by the university and a central national admission process.

#### 7.5.2. Analysis of the findings/Comments

The basis for decisions around progression, academic and professional fitness to practise, are

clear and associated information is available to students. For remediation, there are processes to identify needs and provide support.

7.5.3. Suggestions for improvement

None.

#### 7.5.4. Decision

The VEE is compliant with Standard 7.5.

Standard 7.6: Mechanisms for the exclusion of students from the programme for any reason must be explicit.

The VEE's policies for managing appeals against decisions, including admissions, academic and progression decisions and exclusion, must be transparent and publicly available.

#### 7.6.1. Findings

The university has explicit disciplinary processes related to cheating and exclusion of students from programmes, which could result in a warning or suspension for up to six months. For serious misconduct, the incident would be raised by a Department Head and then to the Vice Chancellor who would, if deemed appropriate, refer it to the disciplinary board for a decision. Student mediators support students throughout the disciplinary process. During a suspension, students cannot participate in teaching or exams, cannot be registered on courses or use university resources such as the library, but can access counsellors and health services. Information about policies, rules and rights around appeals and the associated procedures are available on the university website.

#### **7.6.2.** Analysis of the findings/Comments

Mechanisms for exclusion of students and the policies and processes for appeals are clear and publicly available.

#### 7.6.3. Suggestions for improvement

None.

# 7.6.4. Decision

The VEE is compliant with Standard 7.6.

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 for disabled students, consistent with all relevant equality, diversity and/or human rights legislation.

There must be effective mechanisms for the resolution of student grievances (e.g. interpersonal conflict or harassment).

#### 7.7.1. Findings

The university provides a range of support services for students including for study techniques, careers advice, health, wellbeing, disability, and illness. Support and services are also available

via the student union, centrally and locally. The university aligns with national legislation and European frameworks on equality, diversity and/or human rights. It has organisations for gender equality and equal opportunities to help combat discrimination, support students and employees, and has an action plan for its work on gender mainstreaming. The university adopts a proactive and systematic approach to prevent and combat discrimination and promote equal opportunities. The university has a central council for gender equality and equal opportunities (JLV) and each faculty has a JLV committee, with an officer to support the activities and the faculty. The council and committee have student representatives. The processes around complaints and mechanisms for resolution are described on the university complaints and appeals website.

#### 7.7.2. Analysis of the findings/Comments

Support for physical, emotional and welfare needs of students is provided by the university, student union and the VEE, which are aligned with legislative frameworks. There are various ways in which complaints can be raised and information is available about mechanisms for resolution.

#### 7.7.3. Suggestions for improvement

None.

#### 7.7.4. Decision

The VEE is compliant with Standard 7.7.

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 the compliance of the VEE with national and international legislation and the ESEVT Standards.

#### 7.8.1. Findings

Students have opportunities to complete anonymous course and programme evaluations, which can include comments. Each course has a student representative who can raise concerns, including anonymously, with the course leader or departmental director of study. There are students on faculty and university boards and committees where they can raise questions and highlight their needs. Students can also contact the course leaders, department directors or programme directors directly. The student union is also in dialogue with the VEE, and a report from the student union is a standing agenda item at the programme board, faculty board and SLU educational board meetings.

#### 7.8.2. Analysis of the findings/Comments

Students can convey their needs and make comments and suggestions to the VEE in formal, informal and anonymous ways. The mechanisms are comprehensive and well-functioning.

#### 7.8.3. Suggestions for improvement

None.

#### 7.8.4. Decision

The VEE is compliant with Standard 7.8.

# Area 8. Student assessment

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.

#### 8.1.1. Findings

Assessment strategy indicates that general rules for checking and assessing achievement of learning outcomes are outlined in the Education planning and administration handbook. This handbook defines the rights and obligations of both students and lecturers concerning completing subjects, taking exams, and evaluation for completing the education process. The handbook also serves as a crucial quality assurance tool, ensuring coherence and transparency across the program's assessment regime along with importance of fairness, transparency, and adherence to national and SLU rules in conducting examinations. It effectively communicates expectations and lays the foundation for demonstrating progressive development of student competence throughout the curriculum towards achieving entry-level proficiency. The regulations cover important concepts, such as exam sessions, alternative exam arrangements, and the responsibilities of students, examiners, and departments. Additionally, it details the procedures for reporting results, providing feedback, and preserving exam questions and answers.

Course syllabuses provide information on assessment modes and requirements. VEE elaborates on the criteria for completing a course, including participation in all compulsory parts, completion of course assignments, reports, and practical-clinical education to the minimum required for approved attendance. Additionally, limitations on the total number of examinations and practicals are allowed only if it would result in unreasonable resource solvency for the VEE, with a minimum of five times for each test included in a course.

The head of the department at the responsible department appoints examiners. VEE documents and follow-up on examiners for each course. The responsible department ensures that the examiner is listed on the course page before the course begins. Students have the right to request a review of their grade, with specific guidelines on the review process. Feedbacks on exams are provided to students, and exam answers are treated as official documents once grades are communicated. Students receive their exam results through Canvas or Inspera.

The pass/fail system is implemented when a student fails to achieve two-thirds of the objectives assigned to them, in alignment with the predefined learning outcomes. Theoretical knowledge is typically assessed through oral or written exams, often divided into segments covering both theory and practical skills. Pre-clinical practical skills are evaluated through various activities such as laboratory work, study visits, reports, presentations, seminars, and summative tests, with documentation of attendance and submission of reports or essays. Clinical practical skills assessments include modified essay questions and case-based examinations, as well as direct observation during rotations and verification through practical exams. Completion of compulsory procedures is recorded in a logbook upon achieving a passing rating. The programme emphasises soft skill development through various assessments and the new student-driven clinic initiative. Fifth-year veterinary students manage a clinic for minor cases supervision. Students handle patient communication during appointments, under demonstrating skills during consultations and follow-up; and analyse ethical problems or cases individually or as a team, demonstrating skills through oral presentations and discussions. This holistic approach aims to equip graduates with strong communication, teamwork, and

interpersonal skills crucial for professional success and well-being.

#### 8.1.2. Analysis of the findings/Comments

The findings highlight a comprehensive assessment strategy outlined in the Education Planning and Administration handbook, which serves as a vital quality assurance tool ensuring fairness, transparency, and adherence to regulations in conducting examinations. The handbook effectively communicates expectations, facilitating the progressive development of student competence throughout the curriculum.

#### 8.1.3. Suggestions for improvement

None.

8.1.4. Decision

The VEE is compliant with Standard 8.1.

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.

#### 8.2.1. Findings

The assessment tasks and grading criteria for each unit of study in the Veterinary Medicine programme are published and made available to students in a timely manner, as per the common VEE rules stated in the course syllabus. Grading criteria are accessible on the course website at the beginning of each course. Requirements to pass are explicitly communicated to students at the start of the course, ensuring clarity and transparency in the assessment process. VEE documents assessment results and provides timely feedback to students, aligning with the program's commitment to supporting student learning and progression. The VEE provides three exam sessions annually: one coinciding with the course instance, one resit linked to the course instance, and another resit within a year of the course commencement. Consequently, each course at SLU offers a minimum of five exam sessions.

The examiner evaluates the student's performance according to the objectives outlined in the course syllabus, which involves conducting a qualitative assessment of the student's knowledge, skills, and abilities through one or more exams. Therefore, the exams may consist of multiple components, such as several written assignments. For exams with registration options, registration is mandatory. The course coordinator is tasked with notifying students about registration availability and procedures. Only students who register before the deadline are eligible to take the exam. Registration for moderated exams must occur at least 10 working days before the exam date. Students with approved study support for disabilities who require adapted assessments must apply during exam registration, submitting their application via the provided link in Ladok before the registration deadline. Typically, grades for such exams are not disclosed until all components have been finalised. Take-home exam submissions are screened for plagiarism using a plagiarism detection tool. For grading, national rules and VEE policy applies. The course requirements may also encompass a quantitative assessment, such as mandatory attendance at specified components. The examiner will provide feedback on exam results within 15 working days following the scheduled exam date, and no later than 10

working days prior to the subsequent resit date. Examination results are reported in Ladok system after the examiner has completed their assessment. Mechanisms for students to appeal against assessment outcomes are outlined, allowing for a reconsideration of grading decisions by the examiner upon written request with justification, in accordance with relevant regulations. Grading decisions cannot be appealed; however, a student has the right to ask the examiner for a grade review.

Time limits for submitting written assignments are established at the beginning of the course, with the possibility of extensions granted for valid reasons while still maintaining the potential for higher grades. Other alternative exam sessions, resits and appeal mechanisms are described in the handbook.

It was observed that students received minimal/or no feedback on their performance, particularly after oral clinical examinations.

#### 8.2.2. Analysis of the findings/Comments

The VEE upholds transparent and student-centred assessment practices. However, in cases where students fail certain exams, the provision of feedback to prepare them for a retake is considered non-existent or insufficient. Mechanisms for students to appeal assessment outcomes are outlined and allow the examiner to reconsider grading decisions upon written request.

#### 8.2.3. Suggestions for improvement

It is suggested that in cases where students fail certain exams, efforts should be made to improve feedback, ensuring it is adequate and informative in order to prepare them effectively for resitting opportunities.

#### 8.2.4. Decision

The VEE is compliant with Standard 8.2.

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.

#### 8.3.1. Findings

The Swedish Higher Education Ordinance contains rules on examinations in Chapter 6 (Assessment and grades); which states that the course syllabus indicates, the forms of assessing the performance of students, the grading system which will be used and the other regulations required. The assessment process is planned by the examiner and announced prior to the lectures initiated. An exam can be made up of several parts, e.g. a number of laboratory sessions or seminars or excursions or guest lectures. The Programme Board for Education (PN-VH) is responsible for the improvement and evaluation of the curriculum as well as governing the examinators at the VEE; while the improvement of assessment strategies is not defined in any function of the organisational structure. Feedback from various stakeholders, including students, faculty, and industry partners, are expected to be collected and analysed to identify areas for improvement in assessment processes periodically. Standard operating procedures for the periodic assessment outcome evaluation are yet to be established. Student feedback is

actively sought through the Evald course evaluation tool. This tool allows students to anonymously comment on how well learning outcomes were met by the course content and how effectively examinations assessed these outcomes. Results from course evaluations are used to revise learning outcomes and course content as needed, with students involved in decision-making through elected representatives.

#### 8.3.2. Analysis of the findings/Comments

The Swedish Higher Education Ordinance regulates examinations, emphasising the role of the course syllabus and exam planning by examiners. The Programme Board for Education oversees the evaluation of the curriculum evaluation, while defined SOPs to improve assessment strategies are not fully defined.

#### 8.3.3. Suggestions for improvement

None.

#### 8.3.4. Decision

The VEE is compliant with Standard 8.3.

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.

#### 8.4.1. Findings

VEE ensures that assessment strategies certify student achievement of learning objectives at both the programme and individual unit levels. This is achieved through a detailed Education Planning and Administration Handbook, which outlines rules for verifying learning outcomes. The handbook emphasises constructive alignment, linking course learning objectives to learning activities and examinations. The VEE encourages students to take an active role in creating the learning process. This is reflected in the orientation document, which emphasises strengthening skills and attitudes based on degree objectives. The pedagogic course in examination and grading ensures that examiners are competent in fostering active student involvement in assessments. Student feedback is actively sought through the Evald course evaluation tool. This tool allows students to anonymously comment on how well learning outcomes were met by the course content and how effectively examinations assessed these outcomes. Results from course evaluations are used to revise learning outcomes and course content as needed, with students involved in decision-making through elected representatives. More substantial revisions to learning outcomes and course content involve higher levels of oversight, including the programme Director and programme Board. This ensures that changes align with programme objectives and maintain quality standards. As stated in the "Instructions for systematic quality assurance of courses and programmes at SLU" is periodically reviewed based on quality dialogues and present-state analyses, the head of university administration assesses the quality of the audited support activities. If there is a need for quality-enhancing development measures, they are proposed, which includes the assessment strategies.

#### 8.4.2. Analysis of the findings/Comments

The VEE prioritises the certification of student achievement in alignment with both programwide and individual unit-level learning objectives, as outlined in the comprehensive Education

Planning and Administration Handbook. Student feedback is actively sought through the Evald course evaluation tool, which provides anonymous commentary on the alignment of learning outcomes with course content and examination effectiveness.

#### 8.4.3. Suggestions for improvement

None.

#### 8.4.4. Decision

The VEE is compliant with Standard 8.4.

Standard 8.5: Methods of formative and summative assessment must be valid and reliable and comprise a variety of approaches. Direct assessment of the acquisition 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 regular quality control of the student logbooks, with a clear distinction between what is completed under the supervision of teaching staff (Core Clinical Training (CCT) or under the supervision of a qualified person (EPT). The clear distinction between CCT and EPT ensures that all clinical procedures, practical and hands-on training planned in the study programme have been fully completed by each individual student. The provided training and the global assessment strategy must provide evidence that only students who are Day One Competent are able to graduate.

#### 8.5.1. Findings

The VEE utilises different examination formats to assess theoretical, clinical, and soft skills, ensuring a comprehensive evaluation of student competence. This aligns with the standard's requirement for a variety of assessment approaches. The faculty's training and assessment strategy aims to provide evidence that only students who are D1 competent are able to graduate. Mapping of courses/subcourses vs D1C; where the course contributes to the development and assessment is presented, while the matrix match with the learning outcomes of the lecture and D1C are not defined. The VEE implements regular quality control of student logbooks to ensure that all clinical procedures and practical training planned in the study programme are completed by each student. In these specific clinical courses, each student is provided with a tailored record sheet (logbook), detailing the mandatory tasks aligned with D1C. This serves as a record of attendance and certification of task completion by the teacher. Learning activities aimed at ensuring that every student attains the necessary competences during the preclinical years include written reports, oral presentations, seminars, laboratory work, and study visits. These activities are monitored through attendance records and, where applicable, the submission of lab reports, written essays, or case reports. Students in the fourth and fifth years of their clinical rotation are required to participate in a two-week practical training session in a veterinary practice for EPT. This training may cover various areas such as authorities, production, horses, or small animals. They may also opt to participate in on-call duties if feasible. A report detailing their experiences is submitted and approved by the responsible teacher, while the EPT provider only approves the participation.

#### 8.5.2. Analysis of the findings/Comments

The faculty's implementation of regular quality control of student logbooks ensures that all clinical procedures and practical training are completed. However, there is a need for to improve the implementation of student feedback and follow-up communication mechanisms as part of the logbook filing process. Concerning EPT, the providers provide a voluntary

evaluation.

# 8.5.3. Suggestions for improvement

It is suggested that the student evaluation by the EPT provider be improved by making it more rigorous.

# 8.5.4. Decision

The VEE is compliant with Standard 8.5.

# Area 9. Teaching and support staff

Standard 9.1: The VEE 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 quality-assured programme of teacher training (including good teaching and evaluation practices, learning and e-learning resources, use of digital tools education, biosecurity and QA procedures) must be in place for all staff involved with teaching. Such training must be mandatory for all newly appointed teaching staff and encouraged on a regular basis for all teaching staff.

Most teaching staff (calculated as FTE) involved in core 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.

# 9.1.1. Findings

According to the Swedish Ordinance of Higher Education, teachers are expected to be active scientists. At the VHF, about 200 academic staff have a PhD degree, and over 100 are Associate Professors. In most cases, teachers are engaged in both research and teaching. Teacher and instructor staff include professors, senior lecturers, lecturers, postdoctoral, doctoral students, veterinary clinicians, and researchers. On average, 80% of the teaching staff at the veterinary programme are veterinarians. Veterinary clinicians working at the VTH are also trained to supervise students.

# 9.1.2. Analysis of the findings/Comments

It is highly commendable that a large majority of the teaching staff has a veterinarian degree and a PhD. It is also in the interest of students that clinicians are trained to instruct and supervise them.

# 9.1.3. Suggestions for improvement

None.

# 9.1.4. Decision

The VEE is compliant with Standard 9.1.

Standard 9.2: The total number, qualifications and skills of all staff involved with the study programme, including teaching, technical, administrative and support staff, must be sufficient and appropriate to deliver the study programme and fulfil the VEE's mission.

A procedure must be in place to assess if the staff involved with teaching display competence and effective teaching skills in all relevant aspects of the curriculum that they teach, regardless of whether they are full or part-time, teaching or support staff, senior or junior, permanent or temporary, teachers. Guidelines for the minimum training to teach and to assess are provided in Annex 6, Standard 9.1.

#### 9.2.1. Findings

Teaching staff involved in the core veterinary programme include academic staff, interns, residents, PhD students, Diplomates, national specialists, and practitioners. In total full-time teaching staff is approximately 149 (AY 2022/2023). Several experienced staff (veterinarians and nurses) have left the VTH recently leading to the need to reduce opening hours of the pet VTH. The number of both experienced and junior veterinarians should rise substantially in the next few years to ensure adequate functioning of the hospital.

All of the PhDs at the VHF have other appointments in their employment, e.g. clinical duties or teaching other programmes at VHF, meaning that none of this work 100% with teaching in the veterinary programme.

All staff receive training in teaching and assessing undergraduate students.

Except for veterinary clinicians working at the VTH, documented evidence of pedagogic skills is required for recruitment.

Secondary employment is permitted provided it is not in competition with SLU's activities. Private clinical work is not allowed for a veterinarian employed by the VEE, in neighbouring countries.

PhD students are encouraged to participate in teaching as tutors or instructors.

Some specialists (external consultants) are on temporary employment and participate in clinical rotations.

# 9.2.2. Analysis of the findings/Comments

The possibility of residents to simultaneously enrol in PhD studies is commendable.

The team considers that the VEE is non-compliant with standard 9.2. because it was found that the number and range of skills of the teaching staff at the pet (dogs, cats and exotic animals) VTH clinic are insufficient. This circumstance led to a reduction in opening hours with a consequent substantial decrease in caseload and emergency cases to which the students are exposed to. Other important consequences are that PhD students and residents are experiencing an undesirable increase in clinical work and responsibilities, and resident programmes may see their quality reduced.

The team was not presented with evidence that solutions toward increasing the number and range of skills among teaching staff at the pet-VTH are being implemented, prepared or sought, especially in view of the soon-expected increase in students. So, the concern is that the situation will be worse in the near future.

#### 9.2.3. Suggestions for improvement

It is suggested that conditions for the enrolment of adequate number of experienced veterinarians are planned and implemented.

# 9.2.4. Decision

The VEE is not compliant with Standard 9.2. because the number and range of skills of teaching staff at the VTH-pet clinic are insufficient.

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. The VEE must clearly define systems of reward for teaching excellence in operation.

Teaching positions must offer the security and benefits necessary to maintain the stability, continuity, and competence of the teaching staff. Teaching staff must have a balanced workload of teaching, research and service depending on their role. They must have reasonable opportunities and resources for participation in scholarly activities.

# 9.3.1. Findings

The VEE has the support of a unit responsible for Educational Development. Opportunities to develop and extend teaching and assessment knowledge and skills are provided regularly, at different levels - at the SLU level, at the VEE level, and at the several Departments' level. Moreover, the VEE is also part of the pilot start-up ERASMUS+ project of VETREPOS.

All teaching staff is allowed and encouraged to participate in Erasmus+ teaching and staff mobility. Erasmus+ scholarships are available to all teaching staff at SLU, to cover allowance, travel and accommodation related to participation in scholarly activities in Europe.

The VEE is collaborating with other Swedish universities in developing didactic and pedagogic knowledge and skills, and teachers are encouraged to also attend courses at other Swedish universities.

Most participation in scientific meetings is financed through individual external research grants.

The clinicians at the VTH are encouraged to publish case reports. For Step-1 national specialists, one case report is mandatory, for most Step-2 national specialist programmes and EBVS Residency programmes two publications are required.

# 9.3.2. Analysis of the findings/comments

The opportunities for developing teaching and pedagogic skills are significant and is provided at different levels. The teaching and support staff have an impressive set of both elective and mandatory options for continuing education.

# 9.3.3. Suggestions for improvement

None.

# 9.3.4. Decision

The VEE is compliant with Standard 9.3.

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

Staff must have the opportunity to contribute to the VEE's direction and decision-making processes.

Promotion criteria for teaching and support staff must be clear and explicit. Promotions for teaching staff must recognise excellence in and (if permitted by the national or university law) place equal emphasis on all aspects of teaching (including clinical teaching), research, service and other scholarly activities.

#### 9.4.1. Findings

All members of the staff have an annual discussion about their present and future work conditions. Many programmes are developed for the professional growth and promotion of teaching and support staff. Promotion criteria and excellence recognition for teaching staff are provided. Members of the staff are generally happy with working conditions and career promotion opportunities.

To be appointed an 'Associate Professor' certain conditions have to be fulfilled (e.g. have a PhD) and the application is reviewed by an Award Board.

The contribution of teaching staff and other professionals in past and present decisions concerning the changes in the VTH is very poor.

Excellent Teacher title is awarded by SLU to those demonstrating pedagogic excellence. The VEE has currently 8 members of the teaching staff holding this title. Other prizes for excellence in teaching are obtainable by individuals or groups of teachers.

The salary may suffer various raises according to titles or degrees.

The FOCUS (Forum for Career Development) project aims to better make use of and develop the skills and resources that exist among the VEE employees. It is open for all employees at SLU, even those who have part-time employment.

Step II specialist is within the companion animal area and has been established for approximately 15 years outside the EBVS-system. As the VTH is merged with the VHF from Jan 1st 2024, the number of Step II specialists at the VTH will increase. Being a national specialist is a qualification before entering a residency, but not a requirement.

Veterinary nurses run the CTC with both practical matters regarding stocking the supplies, and developing and fixing all mannequins/models but also supervise student training in certain clinical skills.

#### 9.4.2. Analysis of the findings/Comments

The team considers that the VEE is not compliant with Standard 9.4. The involvement of teaching staff and other professionals in the past and present decisions concerning the changes in the VTH, was found to be notably insufficient. This includes decisions regarding working conditions and the selection and hiring of new experienced teaching staff. A distancing and eventual dissension of more experienced academic staff regarding the functioning of the VTH is evident. Planning, strategy and management inadequacy may explain the reduction in caseload and eventually the delay or unsuccessful recruiting of more specialised and experienced veterinarians to replace those recently leaving the VEE.

According to the SER, the VEE has 20 national specialists and 5 candidates are currently attending programmes for the specialist degree. Thirty-eight European/American Diplomates are employed at the VEE, plus 10 employed at the VTH, with 18 candidates currently registered in training programmes for the European Veterinary Specialist degree. Several Diplomates also hold a PhD title.

#### 9.4.3. Suggestions for improvement

It is suggested that teaching staff are more involved and called to participate in the organisation of the VTH.

#### 9.4.4. Decision

The VEE is not compliant with Standard 9.4 because of insufficient involvement of teaching staff in designing the VTH's contribution to clinical teaching and research and in its day-to-day management.

Standard 9.5: A system for assessment of teaching and teaching staff must be implemented on a cyclical basis and must formally include student participation. Results must be communicated to the relevant staff and commented upon in reports. Evidence must be provided that this system contributes to correcting deficiencies and to enhancing the quality and efficiency of education.

#### 9.5.1. Findings

A system, involving students, for the assessment of different courses is established at the VEE. This evaluation is used for quality assurance. Students are asked to evaluate each course or subject but also the degree programme. For the academic year 2021/2022, the response rates for all the courses in the vet programme were from 25 to 60% (average 41%). Considerable effort is being put by the VEE into making the students increase their input, but the efforts have various results, as can be shown by the response rates.

A crucial addition in evaluating how a single course was received by the students is the dialogue between the student course representative and the course leader.

Some concern is shared in the SER regarding the number of members of the teaching staff reaching retirement age. The strategy to deal with this problem is being discussed and decided. Stakeholders and students are being asked to contribute to this discussion.

#### 9.5.2. Analysis of the findings/Comments

Evaluation of the courses by students is highly commendable. However, it is voluntary and does not include the evaluation of individual teaching staff.

The aim to involve students and stakeholders in deciding the strategy to follow regarding recruiting new academic staff is praiseworthy as it will shape the future of the VEE. However, there are doubts about the real involvement of all staff members in the design of recruiting strategies.

#### 9.5.3. Suggestions for improvement

None.

#### 9.5.4. Decision

The VEE is compliant with Standard 9.5.

# Area 10. Research programmes, continuing and postgraduate education

Standard 10.1: The VEE must demonstrate significant and broad research activities of teaching staff that integrate with and strengthen the study programme through researchbased teaching. The research activities must include veterinary basic and clinical sciences. Evidence must be provided that most teaching staff are actively involved with

# research programmes (e.g. via research grants, publications in congress proceedings and in peer-reviewed scientific journals).

#### 10.1.1. Findings

The VEE researchers are involved in teaching 20/30% of full-time. Residency programmes are associated with research projects ensuring a research-based approach to teaching.

Compulsory MSc degree projects integrate research into teaching and must include a small research task carried out by the veterinary student. The objective is that all professors should do research and all researchers should teach.

19 projects are included on the list of major funded research programmes.

#### 10.1.2. Analysis of the findings/comments

The VEE outlines a comprehensive strategy whereby the research activities of the faculty and the involvement of teaching staff contribute to research-based veterinary education. This strategy includes active research-based residency programs that ensure a contemporary and evidence-based approach to the teaching of veterinary students. A significant portion of VEE researchers are also involved in teaching, and the integration of the compulsory MSc degree projects in the Veterinary Medicine programme ensures that research is embedded in teaching. A specific research course within its curriculum named "Scientific Approach" with 9 ECTS, is given during the third year of the program. It is designed to provide students with an introduction to evidence-based medicine through lectures and exercises. Students are introduced to bibliographic searches, scientific methods and research techniques, and writing scientific papers. Moreover, the Master degree project, which constitutes a significant component of the final semester, offers students opportunities to engage in in-depth exploration of a subject within veterinary medicine, encompassing both planning and investigation of a research-related problem. VEE also allows unique infrastructures for research not only in Uppsala (Main campus and Lövsta Research Centre) but throughout Sweden such as Röbacksdalen Field Research Station and Dairy Research Barn, Götala Beef and Lamb **Research centres** 

The teaching staff is actively engaged in research in various fields, including basic veterinary sciences and clinics. These research activities are an integral part of the study program, and students receive them as part of their research-based training.

#### **10.1.3. Suggestions for improvement**

None.

#### 10.1.4. Decision

The VEE is compliant with Standard 10.1.

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

#### 10.2.1. Findings

The scientific method is introduced in all cycles through lectures, practical work, and exercises, which encourage the discussion of cases, bibliographic research, and the writing of articles. Students, including first and second-cycle students, are given the opportunity to participate by assisting in research programmes. Masters are related to ongoing PhD students and other research projects.

In the final semester of the Master programme, students can choose to undertake a 30 ECTC thesis. This provides an opportunity for students to develop a deeper understanding of a topic in veterinary medicine. For undergraduate students, a travel grant is available to write a final project that focuses on development issues in low- and middle-income countries.

The research project involves identifying and formulating a topic, conducting scientific research using scientific methods, and presenting the project in both written and oral forms. During the oral presentation, students are designated as "opponents" and are required to present opposing views to each other's presentations.

#### **10.2.2.** Analysis of the findings/Comments

Along with the Scientific Approach course, the substantial research component of the curriculum is centred through the Master degree project, which is carried out in the final semester. This project allows students to deeply engage with a subject, requiring them to plan and investigate a research-related problem. The library offers scientific writing assistance this includes the first year students for finding literature via databases, writing references, source criticism, and plagiarism, where this information is deepened in the third year where AI and thesis writing, presentation techniques and defending the thesis activities are added and the final year extra support for thesis writing is offered. Students also have the opportunity to participate in research activities across various departments, provided they meet the general prerequisites for the specific project and adhere to biosecurity protocols. Additionally, there are instances where master's theses have led to scientific publications.

There is evidence that shows that students receive research-based training as part of their curriculum.

# 10.2.3. Suggestions for improvement

None.

# 10.2.4. Decision

The VEE is compliant with Standard 10.2.

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

#### 10.3.1. Findings

The Graduate School for Veterinary Medicine and Animal Sciences (GS-VMAS) plays a pivotal role in supporting graduate students across a broad spectrum of research topics, thereby fostering an enriching academic and research environment.

The Swedish authorities do not require veterinary practitioners to provide hours of training. The main event for Swedish veterinarians is the annual Veterinary Congress, organised by the Swedish Veterinary Association. This two-day conference covers different species and themes, offering a series of parallel topics. If employed by SLU, veterinarians can attend this conference at the department's expense. Veterinary students are also invited to attend, either for free or at a reduced cost.

6 candidates are registered in training for National Veterinary Specialist Recognition and 18 in programmes for a European Veterinary Specialist degree.

The number of attendees to a selection of continuing education courses has increased in the last three years.

#### 10.3.2. Analysis of the findings/Comments

The high rate of PhDs is praiseworthy.

Issues regarding the reduction in case numbers adversely impacting residency programs were highlighted, as sufficient case volumes are necessary. Additionally, the augmented teaching responsibilities place additional strain on PhD students and residents, hindering their research efforts.

The number of PhDs, internships, residencies and continuing education programs meet the established standards.

#### **10.3.3. Suggestions for improvement**

None.

#### 10.3.4. Decision

The VEE is compliant with Standard 10.3.

Standard 10.4: The VEE 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 study programme.

#### 10.4.1. Findings

VEE has two main strategic objectives: research and academic teaching. To ensure that scientific results and data are disseminated and used in society, VEE focuses on both these objectives. When hiring or promoting staff, there is a review of their achievements in teaching and research, which also determines their salary. The VEE professors are responsible for directing the research and requesting funding.

These programmes need to be approved by the Dean and the Vice-Rector as per the regulations of Swedish law. All programmes are assessed periodically and the results are communicated to both internal and external stakeholders. The VHF website, intranet, and media advertisements are utilised as a means of disseminating information. The Journal of the Swedish Veterinary Association is also used for this purpose.

#### 10.4.2. Analysis of the findings/Comments

The VEE has not established clear indicators and strategies to track important data such as the number of students participating in research projects and the number of published articles. This will help evaluate the integration of research activities in the training of students and the advancement of teachers. However, currently, the VEE has not outlined specific indicators or formulated a strategy to monitor these key data points for quality assurance of the active participation of university students in research activities.

#### **10.4.3.** Suggestions for improvement

It is suggested that the VEE establish clear indicators to track the aforementioned data.

#### 10.4.4. Decision

The VEE is compliant with Standard 10.4.

# **ESEVT Indicators**

ALVE		ESEVT Indica	tors	8				
	Name of the VEE:	Swedish University of Agric	ultu	ral Science	s (SLU)			
	Name & mail of the VEE's Hea	dRauni Niskanen; dekan.vh@	i)slu	.se				
	Date of the form filling:	13/01/24						
	Raw data from the last 3 comp	lete academic years		Year -1	Year -2	Year -3	Mean	
1	nº of FTE teaching staff involved in vet	erinary training		114	108	108	110,00	
2	n° of undergraduate students			557	567	572	565,33	
3	nº of FTE veterinarians involved in vete	rinary training		90	87	88	88,33	
4	n° of students graduating annually			78	83	104	88,33	
5	n° of FTE support staff involved in vete	rinary training		51	52	51	51,33	
6	nº of hours of practical (non-clinical) tra			837	837	837	837,00	
7	nº of hours of Core Clinical Training (C			912	912	912	912,00	
8	nº of hours of VPH (including FSQ) tra			336	336	336	336,00	
9	nº of hours of extra-mural practical train			80	80	80	80,00	
10	nº of companion animal patients seen in			4298	4336	4504	4379,33	
11	nº of individual ruminant and pig patien	ts seen intra-murally		163	114	140	139,00	
12	nº of equine patients seen intra-murally			2017	1799	1899	1905,00	
13	nº of rabbit, rodent, bird and exotic patie			246	706	604	518,67	
14	nº of companion animal patients seen ex			0	0	0	0,00	
15	nº of individual ruminants and pig paties	nts seen extra-murally		1438	1456	1310	1401,33	
16	nº of equine patients seen extra-murally			1367	1464	1654	1495,00	
17	nº of rabbit, rodent, bird and exotic patie	nts seen extra-murally		0	0	0	0,00	
18	n° of visits to ruminant and pig herds			168	161	155	161,33	
19	nº of visits to poultry and farmed rabbit	units		1	1	1	1,00	
20	nº of companion animal necropsies			152	213	179	181,33	
21	nº of ruminant and pig necropsies			95	90	83	89,33	
22	n° of equine necropsies			74	65	46	61,67	
23	nº of rabbit, rodent, bird and exotic pet a		$\rightarrow$	56	43	30	43,00	
24	nº of FTE specialised veterinarians invo	lved in veterinary training	+	58	60	61	59,67	
25	n° of PhD graduating annually		$\rightarrow$	19	17	16	17,33	



ESEVT Indicators

Name of	f the VEE:					
Date of	the form filling:					
Calcul	ated Indicators from raw data		VEE	Median	Minimal	Balance <sup>3</sup>
			values	values1	values <sup>2</sup>	
I1	n° of FTE teaching staff involved in veterinary training / n° of undergraduate students		0,195	0,15	0,13	0,069
12	n° of FTE veterinarians involved in veterinary training / n° of students graduating annu	ally	1,000	0,84	0,63	0,370
13	n° of FTE support staff involved in veterinary training / n° of students graduating annu	ally	0,581	0,88	0,54	0,041
I4	n° of hours of practical (non-clinical) training		837,000	953,50	700,59	136,410
15	n° of hours of Core Clinical Training (CCT)		912,000	941,58	704,80	207,200
16	n° of hours of VPH (including FSQ) training		336,000	293,50	191,80	144,200
17	n° of hours of extra-mural practical training in VPH (including FSQ)		80,000	75,00	31,80	48,200
18	n° of companion animal patients seen intra-murally and extra-murally / n° of students g	aduat	49,577	67,37	44,01	5,567
19	n° of individual ruminants and pig patients seen intra-murally and extra-murally / n° of	studer	17,438	18,75	9,74	7,698
I10	n° of equine patients seen intra-murally and extra-murally / n° of students graduating ar	nually	38,491	5,96	2,15	36,341
I11	n° of rabbit, rodent, bird and exotic seen intra-murally and extra-murally/ n° of students	gradu	5,872	3,11	1,16	4,712
I12	n° of visits to ruminant and pig herds / n° of students graduating annually		1,826	1,29	0,54	1,286
I13	n° of visits of poultry and farmed rabbit units / n° of students graduating annually		0,011	0,11	0,04	-0,033
I14	n° of companion animal necropsies / n° of students graduating annually		2,053	2,11	1,40	0,653
I15	n° of ruminant and pig necropsies / n° of students graduating annually		1,011	1,36	0,90	0,111
I16	n° of equine necropsies / n° of students graduating annually		0,698	0,18	0,10	0,598
I17	n° of rabbit, rodent, bird and exotic pet necropsies / n° of students graduating annually		0,487	2,65	0,88	-0,393
	n° of FTE specialised veterinarians involved in veterinary training / n° of students gradu	ating	0,675	0,27	0,06	0,615
I19	n° of PhD graduating annually / n° of students graduating annually		0,196	0,15	0,07	0,126
1	Median values defined by data from VEEs with Accreditation/Approval status in May 2					
2	Recommended minimal values calculated as the 20th percentile of data from VEEs with	Accreditati	ion/Approval st	atus in May 20	019	
3	A negative balance indicates that the Indicator is below the recommended minimal value					
*	Indicators used only for statistical purpose					

All Indicators are above the minimal value, except I13 and I17.

#### Analysis of the findings/Comments

The low number of visits in poultry units (I13) is linked to regulation constraints and is compensated by video presentations.

The number of rabbit, bird and exotic pet necropsies (I17) has significantly increased and is currently above the minimal value.

Indicator 8 (caseload in pet patients) is currently above the minimal value but could fall below it in the future due to the planned 45% increase in the student number.

# Suggestions for improvement

It is suggested to develop a strategy to adapt the pet patient caseload to the planned 45% increase in student numbers.

# **ESEVT Rubrics** (summary of the Decision regarding the compliance of the VEE for each ESEVT Standard, i.e. (total or substantial) compliance (C), partial compliance (PC) (Minor Deficiency) or non-compliance (NC) (Major Deficiency))

Area 1. Objectives, Organisation and Quality Assurance Policy	С	PC	N C
Standard 1.1: The VEE must have as its main objective the provision, in agreement with the E Directives and ESG Standards, of adequate, ethical, research-based, evidence-based veterina			
training that enables the new graduate to perform as a veterinarian capable of entering a			
commonly recognised branches of the veterinary profession and to be aware of the importance			
lifelong learning.	_		
The VEE must develop and follow its mission statement which must embrace the ESEV Standards.	т		
Standard 1.2: The VEE must be part of a university or a higher education institution providing training	g X		
recognised as being of an equivalent level and formally recognised as such in the respective country.	е		
The person responsible for the veterinary curriculum and the person(s) responsible for the	e		
professional, ethical, and teaching affairs of the Veterinary Teaching Hospital (VTH) must hold	а		
veterinary degree. The decision-making process, organisation and management of the VEE must allo			
implementation of its strategic plan and of a cohesive study programme, in compliance with the			
ESEVT Standards.			
Standard 1.3: The VEE must have a strategic plan, which includes a SWOT analysis of its curre		Х	
activities, short- and medium-term objectives, and an operating plan with a timeframe ar indicators for its implementation. The development and implementation of the VEE's strategy mu			
include a role for students and other stakeholders, both internal and external, and the strateg			
must have a formal status and be publicly available.	-		
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 QA within the VEE.			
achieve this, the VEE must develop and implement a strategy for the continuous enhancement			
quality.			
The VEE must have a policy for academic integrity, i.e. the expectation that all staff and studen act with honesty, trust, fairness, respect and responsibility.	.S		
Standard 1.5: The VEE must provide evidence that it interacts with its stakeholders and the wide	er X		
society. Such public information must be clear, objective and readily accessible; the information			
must include up-to-date information about the study programme.			
The VEE's website must mention the VEE's ESEVT status and its last Self-Evaluation Report ar Visitation Reports must be easily available to the public.	d		
Standard 1.6: The VEE must monitor and periodically review its activities, both quantitative ar	d	Х	
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 utilise			
in the further development of its activities and provide evidence as to the involvement of bo students and staff in the provision, analysis and implementation of such data. Evidence must b			
provided that the QA loops are fully closed (Plan Do Check Adjust cycles) to efficiently enhance			
the quality of education.			
Any action planned or taken as a result of this data analysis must be communicated to all those concerned.	e		
Standard 1.7: The VEE must undergo external review through the ESEVT on a cyclical basis. Evidence	e X		
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.			
Area 2. Finances Standard 2.1: Finances must be demonstrably adequate to sustain the requirements for the VEE	_	Х	
meet its mission and to achieve its objectives for education, research and services. The		~	
description must include both expenditures (separated into personnel costs, operating cost			
maintenance costs and equipment) and revenues (separated into public funding, tuition fee services, research grants and other sources).	5,		
Standard 2.2: Clinical and field services must function as instructional resources. The instruction	al X		
integrity of these resources must take priority over the financial self-sufficiency of clinical service			
operations.			
The VEE must have sufficient autonomy in order to use the resources to implement its strateg plan and to meet the ESEVT Standards.	с		
Standard 2.3: Resources allocation must be regularly reviewed to ensure that available resources me	et X		
the requirements.			
Area 3. Curriculum Standard 3.1: The curriculum must be designed, resourced and managed to ensure all graduates have	e X		
achieved the graduate attributes expected to be fully compliant with the EU Directive 2005/36/E			
(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 the ESEVT SOP Annex 2.	e		
This concerns:			
Basic Sciences		1	

<ul> <li>Clinical Sciences in companion animals (including equine and exotic pets)</li> <li>Clinical Sciences in food-producing animals (including Animal Production and Herd Health Management)</li> </ul>			
<ul> <li>Veterinary Public Health (including Food Safety and Quality)</li> <li>Professional Knowledge (including soft skills, e.g. communication, team working skills, management skills).</li> </ul>			
When part of the study programme cannot be organised because of imposed regulations or constraints, convincing compensations must be developed and implemented.			
If a VEE offers more than one study programme to become a veterinarian, e.g. in different languages or in collaboration with other VEEs, all study programmes and respective curricula must be described separately in the SER. For each Standard, the VEE must explain if there are differences or not with the basic programme and all this information must be provided as a formal annex to the SER. Similarly, if a VEE implements a tracking (elective) system in its study programme, it must provide a large enterpendent of the tracking system in the SER.			
a clear explanation of the tracking system in the SER. 3.1.1. General findings			
3.1.2. Basic sciences	Х		
3.1.3. Clinical Sciences in companion animals (including equine and exotic pets)		х	
3.1.4. Clinical Sciences in food-producing animals (including Animal Production and Herd Health Management)	Х		
3.1.5. Veterinary Public Health (including Food Safety and Quality)	Х		
3.1.6. Professional Knowledge (including soft skills, e.g. communication, team working skills, management skills)	Х		
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. The VEE must provide proof of a QA system that promotes and monitors the presence of a teaching environment highly conducive to learning including self-learning. Details of the type, provision and updating of appropriate learning opportunities for the students must be clearly described, as well as the involvement of students.	x		
<ul> <li>The VEE must also describe how it encourages and prepares students for lifelong learning.</li> <li>Standard 3.3: Programme learning outcomes must:         <ul> <li>ensure the effective alignment of all content, teaching, learning and assessment activities of the degree programme to form a cohesive framework</li> <li>include a description of Day One Competences</li> <li>form the basis for explicit statements of the objectives and learning outcomes of individual units of study</li> <li>be communicated to staff and students</li> <li>be regularly reviewed, managed and updated to ensure they remain relevant, adequate and creative achieved</li> </ul> </li> </ul>	X		
<ul> <li>are effectively achieved.</li> <li>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: <ul> <li>determine the pedagogical basis, design, delivery methods and assessment methods of the curriculum</li> <li>oversee QA of the curriculum, particularly gathering, evaluating, making change and responding to feedback from stakeholders, peer reviewers and external assessors, and data from examination/assessment outcomes</li> <li>perform ongoing reviews and periodic in-depth reviews of the curriculum (at least every seven years) by involving staff, students and stakeholders; these reviews must lead to continuous improvement of the curriculum. Any action taken or planned as a result of such a review must be communicated to all those concerned</li> <li>identify and meet training needs for all types of staff, maintaining and enhancing their competence for the ongoing curriculum development.</li> </ul> </li> </ul>	X		
<ul> <li>Standard 3.5: Elective Practical Training (EPT) includes compulsory training activities that each student must achieve before graduation to complement and strengthen their core theoretical and practical academic education, inter alia by enhancing their experience, professional knowledge and soft skills. Like all elective activities, its contents may vary from one undergraduate student to another.</li> <li>EPT is organised either extra-murally with the student being under the direct supervision of a qualified person (e.g. a veterinary practitioner) or intra-murally, with the student being under the supervision of a teaching staff or a qualified person.</li> <li>EPT itself cannot replace the Core Clinical Training (CCT) under the close supervision of teaching staff (e.g. ambulatory clinics, herd health management, practical training in VPH (including Food)</li> </ul>	X		

Safety and Quality (FSQ)). A comparison between CCT and EPT is provided in Annex 6, Standard 3.5.			
	V		
Standard 3.6: The EPT providers must meet the relevant national Veterinary Practice Standards, have	Х		
an agreement with the VEE and the student (stating 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.			
There must be a member of the teaching staff responsible for the overall supervision of the EPT,			
including liaison with EPT providers.			
Standard 3.7: Students must take responsibility for their own learning during EPT. This includes	Х		
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. Students must be allowed to			
complain officially and/or anonymously about issues occurring during EPT. The VEE must have a			
system of QA to monitor the implementation, progress and then feedback within the EPT activities.			
Area 4. Facilities and equipment			
Standard 4.1: All aspects of the physical facilities must provide an environment conducive to learning,	Х		
including internet access at all relevant sites where theoretical, practical and clinical education			
takes place. The VEE must have a clear strategy and programme for maintaining and upgrading			
its buildings and equipment. Facilities must comply with all relevant legislation including health,			
safety, biosecurity, accessibility to people including students with a disability, and EU animal			
welfare and care standards.			
Standard 4.2: Lecture theatres, teaching laboratories, tutorial rooms, clinical facilities and other	Х		
teaching spaces must be adequate in number and size, equipped for instructional purposes and			
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			
teaching and support staff to support their teaching and research efforts.			
Standard 4.3: The livestock facilities, animal housing, core clinical teaching facilities and equipment	Х		
	^		
used by the VEE for teaching purposes must:			
<ul> <li>be sufficient in capacity and adapted for the number of students enrolled in order to allow</li> </ul>			
safe hands-on training for all students			
<ul> <li>be of a high standard, well maintained and fit for the purpose</li> </ul>			
<ul> <li>promote best husbandry, welfare and management practices</li> </ul>			
ensure relevant biosecurity			
<ul> <li>take into account environmental sustainability</li> </ul>			
•			
be designed to enhance learning			
Standard 4.4: Core clinical teaching facilities must be provided in a veterinary teaching hospital (VTH)		Х	
with 24/7 emergency services at least for companion animals and equines. Within the VTH, the			
VEE must unequivocally demonstrate that the standard of education and clinical research is			
compliant with all ESEVT Standards, e.g. research-based and evidence-based clinical training			
supervised by teaching staff trained to teach and to assess, availability for staff and students of			
facilities and patients for performing clinical research and relevant QA procedures.			
For ruminants, on-call service must be available if emergency services do not exist for those			
species in a VTH.			
The VEE must ensure state-of-the-art standards of teaching clinics which remain comparable with			
or exceed the best available clinics in the private sector.			
The VTH and any hospitals, practices and facilities which are involved with the core curriculum			
must be compliant with the ESEVT Standards and meet the relevant national Veterinary Practice			
Standards.			
Standard 4.5: The VEE must ensure that students have access to a broad range of diagnostic and	Х		
therapeutic facilities, including but not limited to clinical skills laboratory, diagnostic imaging,			
clinical pathology, anaesthesia, surgeries and treatment facilities, intensive/critical care,			
ambulatory services, pharmacy and necropsy facilities. Procedures and facilities should also be			
available for soft skills training, e.g. communication skills training through role-play.			
Standard 4.6: Appropriate isolation facilities must be provided to meet the need for the isolation and	Х		
containment of animals with communicable diseases. Such isolation facilities must be properly	~		
constructed, ventilated, maintained and operated to provide for the prevention of the spread of	~		
oblighted, ventuated, maintained and operated to provide for the prevention of the opread of	~		
infectious agents, animal care and student training. They must be adapted to all animal species			
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Area 5. Animal resources and teaching material of animal origin         Standard 5.1: The number and variety of healthy and diseased animals, first opinion and referral cases, cadavers, and material of animal origin must be adequate for providing the practical and safe hands-on training in all relevant areas 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.	Х	
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 the supervision of teaching staff and follows the same standards as those applied in the VEE.	Х	
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.	Х	
Standard 5.4: Medical records for patients seen intra- and extra-murally under Core Clinical Training (CCT) must be comprehensive and maintained in an effective retrieval system to efficiently support the teaching and learning, research, and service programmes of the VEE.	X	
Area 6. Learning resources		
Standard 6.1: State-of-the-art learning resources must be adequate and available to support veterinary education, research, services and continuing education. Learning resources must be suitable to implement teaching facilities to secure the 'never the first time on a live animal' concept. 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, together with basic	x	
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English teaching if necessary. 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 a qualified IT person, an e- learning platform, and 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 maintenant of the forest electronic information.	X	
available for students and staff both in the VEE's core facilities via wireless connection (Wi-Fi) and from outside the VEE through a hosted secured connection, e.g. Virtual Private Network (VPN).		
Standard 6.3: The VEE must provide students with unimpeded access to learning resources, internet and internal study resources, as well as facilities and equipment for the development of procedural skills (e.g. clinical skills laboratory). 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.	X	
Area 7. Student admission, progression and welfare		
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 the educational programme in all advertisements for prospective national and international students. Formal cooperation with other VEEs must also be clearly advertised.	X	
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.	Х	
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 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.	×	
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.	X	
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.	X	
Standard 7.6: Mechanisms for the exclusion of students from the programme for any reason must be explicit. The VEE's policies for managing appeals against decisions, including admissions, academic and progression decisions and exclusion, must be transparent and publicly available.	Х	
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 for disabled students, consistent with all relevant equality, diversity and/or human rights legislation.	X	

There must be effective mechanisms for the resolution of student grievances (e.g. interpersonal conflict or branssment).         X           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 with, to offer suggestions, comments and complaints regarding the compliance of the VEE with national and international legislation and the ESEVT Standards.         X           Area 8. Student assessment and complaints regarding the compliance of the VEE with national and international legislation and the ESEVT Standards.         X           Standard 51: The VEE must ensure that there is a clearly identified atructure within the VEE showing lines of responsibility for the assessment strategies development across the programme towards sumplexity consistently, clearly identified and available to students in a timely manner well in advance of the assessment. Requirements to pass must be explicit.         X           Standard 5.3: The VEE must have a process in place to review assessment outcomes, to change assessment strategies must alow the VEE to procedures wher required. Programme learning outcomes covering the full range of professional knowledge, skills, competences and attributes must form the basis for assessment during of aduards 14: Assessment of learning process and landerpin decisions on programs.         X           Standard 5.4: Assessment strategies must allow the VEE to casessment of subunts reflects this approach.         X           Standard 5.4: Assessment strategies assessment that the programme basis for assessment of subunts of study. The view assessment is the view and and inderipin decisions on progression.         X			
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Standard 9.5: A system for assessment of teaching and teaching staff must be implemented on a cyclical basis and must formally include student participation. Results must be communicated to			rd 9.5: A system for assessment of teaching and teaching staff must be implemented on a

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the relevant staff and commented upon in reports. Evidence must be provided that this system contributes to correcting deficiencies and to enhancing the quality and efficiency of education.			
Area 10. Research programmes, continuing and postgraduate education			
Standard 10.1: The VEE must demonstrate significant and broad research activities of teaching staff that integrate with and strengthen the study programme through research-based teaching. The research activities must include veterinary basic and clinical sciences. Evidence must be provided that most teaching staff are actively involved with research programmes (e.g. via research grants, publications in congress proceedings and in peer-reviewed scientific journals).	X		
Standard 10.2: All students must be trained in scientific methods and research techniques relevant to evidence-based veterinary medicine and must have opportunities to participate in research programmes.	Х		
Standard 10.3: The VEE must provide advanced postgraduate degree programmes, e.g. PhD, internships, residencies and continuing education programmes that complement and strengthen the study programme and are relevant to the needs of the profession and society.	Х		
Standard 10.4: The VEE 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 study programme.	Х		
C: (total or substantial) compliance; PC: partial compliance; NC: non-compliance			

# **Executive Summary**

Veterinary training in Sweden was created in Skara in 1775. It was later moved to Stockholm, before arriving in Uppsala (Ultuna campus) in 1977. Since then, the Faculty of Veterinary Medicine and Animal Science (called the VEE in this report) has been part of the Swedish University of Agricultural Sciences (SLU), which is the only university in Sweden to offer veterinary education.

The VEE has been positively evaluated by EAEVE in 1997, 2007 and 2018.

The SER was provided on time and written in agreement with the SOP 2023, although some data had to be corrected or added during the visitation process. Replies to the pre-visitation questions from the experts were provided before the start of the Visitation.

The Liaison Officer did an excellent job adapting the Visitation schedule, searching for the requested information, organising relevant meetings and ensuring the health and safety of the visitors.

Several areas worthy of praise have been identified:

- Collegiate and supportive environment between staff and students
- Strong involvement of students in the VEE committees
- Comprehensive review and enhancement of the curriculum
- Well-designed and well-implemented pre-clinical training
- Innovative student-driven clinic
- Well-developed ambulatory clinic
- Outstanding intramural and extramural facilities with excellent equipment and maintenance
- Attractive and numerous student meeting and resting facilities
- Access to dairy cattle and pig units for excellent hands-on training
- Extensive online teaching material.

Additional commendations are described in the Visitation Report.

The VEE is compliant with most ESEVT Standards. However, some areas of concern have been identified.

Several Minor Deficiencies have been identified:

- The VEE is partially compliant with Standard 1.3 because of the operating plan not including a timeframe and indicators for the increase in student numbers.
- The VEE is partially compliant with Standard 1.6 because of suboptimal involvement of recent graduates in the design of the new curriculum.
- The VEE is partially compliant with Standard 2.1 because of suboptimal funding for the clinical training.
- The VEE is partially compliant with Standard 3.1.3 because of suboptimal clinical training in exotic pets.
- The VEE is partially compliant with Standard 4.4 because of suboptimal training in pet emergency cases.
- The VEE is partially compliant with Standard 4.9 because of suboptimal posting of biosecurity rules in some rooms.

Two Major Deficiencies have been identified:

- The VEE is not compliant with Standard 9.2. because the number and range of skills of teaching staff at the VTH-pet clinic are insufficient.
- The VEE is not compliant with Standard 9.4 because of insufficient involvement of teaching staff in designing the VTH's contribution to clinical teaching and research and in its day-to-day management.

Additional suggestions for improvement are described in this Visitation Report.

# Glossary

**CCT: Core Clinical Training D1C: ESEVT Day One Competences** EAEVE: European Association of Establishments for Veterinary Education EBVS: European Board of Veterinary Specialisation ECOVE: European Committee on Veterinary Education **EPT: Elective Practical Training** ESEVT: European System of Evaluation of Veterinary Training ESG: Standards and Guidelines for Quality Assurance in the European Higher Education Area FSQ: Food Safety and Quality FTE: Full-Time Equivalent IT: Information Technology OSCE: Objective Structured Clinical Examination PDCA: Plan Do Check Adjust QA: Quality Assurance SER: Self Evaluation Report SLRC: Swedish Livestock Research Centre SLU: Swedish University of Agricultural Sciences SOP: Standard Operating Procedure (2023 version) **VEE: Veterinary Education Establishment** VHC: Centre for Veterinary Medicine and Animal Science **VPH: Veterinary Public Health** VTH: Veterinary Teaching Hospital

# **Decision of ECOVE**

The Committee concluded that two Major Deficiencies had been identified.

The Veterinary Education Establishment (VEE) of the Swedish University of Agricultural Sciences is therefore classified as holding the status of: **PENDING ACCREDITATION**.