

**European Association
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**Association Européenne
des Établissements d'Enseignement Vétérinaire**



VISITATION REPORT

**To the Faculty of Veterinary Medicine and Animal Science, SLU, Uppsala,
Sweden**

On 25-29 September 2017

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Introduction

The Faculty of Veterinary Medicine and Animal Sciences (VHF), established in 2004 is part of the Swedish University of Agricultural Sciences (SLU). The Veterinary School is dating back to 1775, when it was first established in Skara, from where it moved to Stockholm and finally to Uppsala in 1976. The VHF has recently moved into a new building, the Centre for Veterinary Medicine and Animal Science (VHC), which improved substantially the training and research process at SLU. The clinical training of the students is also being carried out at the University Animal Hospital (UDS). The Faculty is primarily located in Uppsala, with the Centre for Veterinary Medicine and Animal Science (VHC) at Campus Ultuna and the Swedish Livestock Research Centre 8 km east of Ultuna (Lövsta). There are departments linked to VHF in Skara, Alnarp and Röbbäcksdalen.

The strategic aim of the VHF for 2017–2020 relates to research, education, environmental monitoring and assessment and collaboration.

Presently the establishment has an average of 517 veterinary students and 162 active PhD students. The establishment admits 100 veterinary students annually and graduates an average of 75 veterinary students. In 2013, a "technical over admission" was established, this way the remaining number of students after the first term is 100. Due to the location of the establishment, pet animals are present in larger numbers, as well as horses, while farmed species are lesser except lamb and poultry production, which increased. At this point, the establishment has in the 5th year three elective, species oriented courses, two of which are Equine clinical science and Production animal clinical science also both including food safety, while the third is Small animal clinical science. A change in the curriculum was approved in 2016, to be implemented in the first year of studies 2017, but the detailed version is still not available for last years of the curriculum.

The establishment has already been EAEVE-visited twice, in 1997 and 2007; since then, the establishment has introduced major changes in its structure, such as the founding of an independent University Animal Hospital (UDS) in 2007, under the Vice-Chancellor, a new organisation for the administration and management of undergraduate education at SLU starting 2014, restructuring at SLU faculty level and two 'shared' departments added to VHF in the same year. The UDS is a commercial hospital partially supported by both the VHF, SLU (by the vice chancellor) and the main part from consultation and treatment fees from the clinics. Major investments for research and clinical activities were made by planning and building of a Centre for Veterinary Medicine and Animal Science (VHC) at the Ultuna campus and the new Swedish Livestock Research Centre in Lövsta. Moreover, in 2007 the curriculum was adapted to the Bologna process. Veterinary nursing and Ethology and animal welfare education programmes were moved from Skara to Uppsala, as decided by the board 2013. A strict financial allotment between education and research is in place since 2011. In order to graduate, students deliver a degree project and obtain the title "*Degree of Master of Science (MSc) in Veterinary Medicine*".

The SER of the establishment was prepared and the visitation took place according to the provisions of the 2016 Uppsala SOP.

1. Objectives and Organisation (see Standards 1.1 to 1.6)

1.1. Findings

1.1.1. Brief description of the Strategic Plan

The Strategic plan of the VHF sets the directions for development of the establishment for 2017-2020, under the umbrella of the SLU strategy and is ment to contribute to its development as a world-class university within life and environmental sciences, applying core values, ie, scientific approach, creativity, openness and responsibility. The main focus areas for SLU are: employees, students and education, research infrastructure, external collaborations and shared SLU. Within this framework, VHF set their own goals. The research of the faculty is carried out towards obtaining sustainable and secure food supply, stressing the importance of nature and companion animals for human health and well-being, bio-based materials, and economy. The general objectives of the faculty in the field of

education envisage the improvement of both undergraduate and post-graduate training, by increasing the student recruitment efforts and improving collaboration within the VHF and between the VHF and UDS. This strategy also includes the increased visibility and contribution of the Veterinary Medicine and Animal Science research school to improve the level of PhD graduates. In the area of Collaboration, the VHF set its objectives to develop multiple collaborations, support skills' development and organise strategic partnerships. The deadlines for these objectives are set to 2020, very similar to those of the SLU. Although there is no SWOT analysis carried out. Something similar to a SWOT analysis was provided for the UDS (University Animal Hospital) by an external evaluation body in the autumn of 2016, recommending some actions to be taken (14) of which a moratorium by the Vice-Chancellor for permanent contracts, including faculty positions, key training positions, residencies, pending other key measures that should be immediately implemented. Similarly, the external evaluators suggested that the Vice-Chancellor urgently convene with the USD Board to take the first steps in the reform process. The team was not informed about the outcome of that report at any level.

1.1.2. Brief description of the Operating Plan

The operating plan is based on the overall strategy of the VHF and consists of a list of the Dean's decisions, which set terms for various activities within certain objectives' framework and also appoint people responsible for each activity. The team was provided with the list (about 200 decisions along the year 2017) and the printouts of such decisions.

1.1.3. Brief description of the organisation of the Establishment

The VHF is part of the SLU, as presented in Fig. 1. VHF is the only educational establishment for veterinarians in the Sweden. It can be seen in this figure that the UDS is independent from the VHF body, even though part of the veterinary training is carried out there.

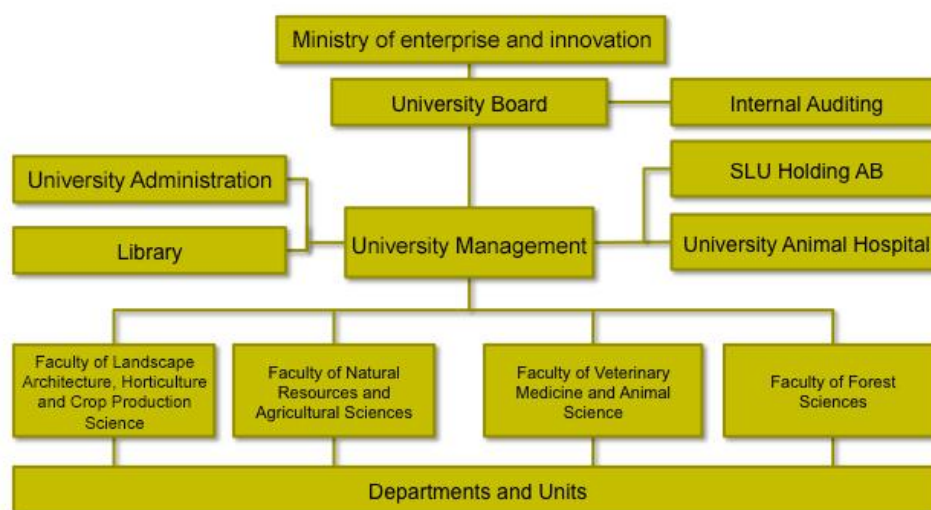


Figure 1. The place of the Veterinary Faculty within the SLU

The VHF has eight departments of which two are jointly organized by the VHF with the Faculty of Landscape Architecture, Horticulture and Crop Production Science (LTV) and the Faculty of Natural Resources and Agricultural Sciences (NJ) (Fig. 2 and Table 1).

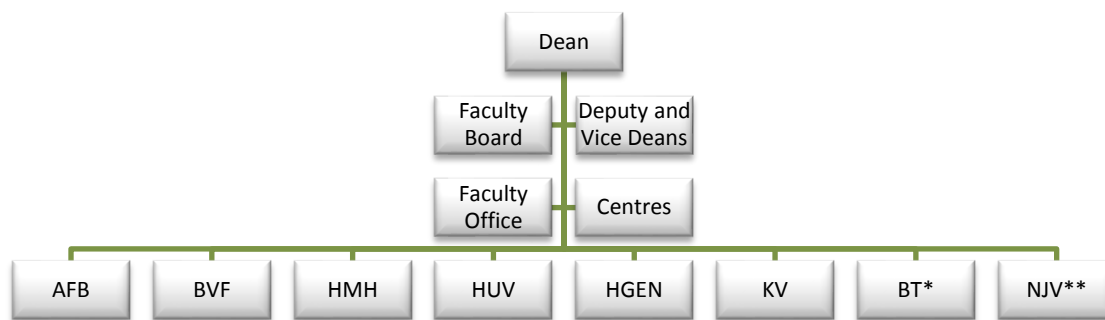


Figure 2. The organisational chart of the VHF, including the shared departments of SLU

Table 1. The structure of the VHF

Departments	Course assignment FTE		Employees
	Total	Vet	
Department of Anatomy, Physiology and Biochemistry (AFB)	221.6	94.7	37
Department of Biomedical Sciences and Veterinary Public Health (BVF)	163.6	137.6	60
Department of Animal Environment and Health (HMH), Skara and Ultuna	109.7	7.4	51
Department of Animal Nutrition and Management (HUV) Teachers from HUV participate in Veterinary Medicine Programme courses run by other departments	136.8	0	44
Department of Animal Breeding and Genetics (HGEN) Teachers from HGEN participate in Veterinary Medicine Programme courses run by other departments.	32.3	0	55
Department of Clinical Sciences (KV)	306.0	183.4 (62% of the VHF courses)	123
Department of Biosystems and technology (BT) Alnarp Campus			
Department of Agricultural Research for Northern Sweden (NJV) Umeå Campus			
The Swedish Centre for Animal Welfare, SCAW.	VHF is responsible for SCAW		
Seaparate structures involved in veterinary training		1 vet	
The University Animal Hospital			

SLU is being operated by a Board, consisting of a chair and no more than 14 other members of which 8 are external members appointed by the Government based on proposals from the HEI. The chairperson of the board is appointed by the Government, while the vice-chairman is elected by the board. A Vice-Chancellor is appointed by the Government to manage a HEI for a maximum of six years with a possibility of a three-year extension. A Pro-Vice-Chancellor is appointed for six years. The Management Group consists of the Vice-Chancellor; the Pro-Vice-Chancellor (also responsible for first and second cycle education); the Deputy Vice-Chancellors for Environmental Monitoring and Assessment, External Relations, and International Relations; the four Deans; the head of

University Administration; the head of the Division of Communication; and the Chair of Sluss (the Joint Committee of Student Unions at SLU). There also is a SLU Board of Education (UN) that handles strategic issues intended to support, coordinate, stimulate and develop first and second cycle education. Numerous other councils are involved in managing SLU (Council of PhD Education (Fur), Council for Environmental Monitoring and Assessment (Fomar), Student Welfare Council (Strå) and the Student Welfare Groups, Council of Researchers (For) and the Library Council (Bir).

At Faculty level, the highest decision-making body is the Faculty Board consisting of the Dean, eight representatives of the teaching staff and three from the students (including PhD), two substitute members academic staff, and additional three advisory representatives the profession, industry, public agencies, etc. The staff unions are entitled to participate in the Board meetings. One of the academic members of the Faculty Board is appointed Deputy Dean, other three are appointed by the Dean to handle for undergraduate and graduate, doctoral and third stream activities. The Faculty Board Executive Committee, advisory to the Dean, consists of the Dean, Deputy and Associate Deans, a student delegate and the Faculty Director.

Students (first, second and third cycle) are represented in most Faculty organs. The veterinary profession, the industry, governmental and non-governmental organisations are represented in some of the Faculty organs, e.g. in the Faculty Board and in the Committee for Research and Extension.

The head of the department is responsible for managing teaching and other activities at department level. Education is also managed by The Board of Education (UN)(chairperson, 5 teachers/researchers and 2 student representatives) at SLU level, VHF – Programme Board for education in Veterinary Medicine and Animal Science (PN-VH)(not more than 7 teachers and 3 students), Programme Directors of Studies and Programme Committees (Director, deputy, 8 representatives of departments, including the Departmental Directors of Studies, 2 students, 3 external sector representatives from the Swedish Board of Agriculture, the National Food Agency and the Swedish Association of Professional Veterinary Clinics and 2 administrative officers).

1.1.4. Brief description of the process and the implication of staff, students and stakeholders in the development, implementation, assessment and revision of the Strategic Plan and organisation of the Establishment

The SLU Board is the highest decision-making body at SLU and usually meets six times a year. At these meetings, the Board decides on general matters. Decisions on issues not reserved for the board, or delegated to the Faculty boards, are taken by the Vice-Chancellor. The establishment can make decisions about their organisation, allocation of funds, quality assurance, course and programme content, number of places on courses and programmes, admission and enrolment procedures, new professorships, research focus and contract education. The above mentioned Councils decide on specific issues (PhD training, research, student welfare, etc.).

Through their representatives, all categories involved (teachers, staff members, students, stakeholders) are informed and participate in the decision-making process at SLU and VHF levels. However, the level at which actual decisions are taken has shifted upwards in the new education organization, which means that students and staff now do not have the same influence at program level as before. There are communication channels such as separate websites for the public and external stakeholders, for employees, for prospective and active students, for library services, websites (including students' unions website, minutes of boards and committees which are public and can be accessed by staff through SLU's website for employees, internal newsletters, blog section, the electronic staff magazine "Resurs").

1.2. Comments

The investment in infrastructure to bring together the six different locations of the VHF into one, improved the collaboration and communication of the faculty staff. Nevertheless the responsibility and decisionmaking process of the UDS is completely separate from the VHF. It's rather commercial

focus instead of educational focus, the lack of control and participation of VHF on the decisional process within the UDS, create difficulties in the management of the teaching facilities and increases the pressure on the teaching staff, impedes on the students' access to clinical cases. The financial support for the veterinary teaching within the UDS still remains with the VHF.

1.3. Suggestions for improvement

A more inclusive decision-making process could be beneficial for cooperation. In addition, we suggest placing both the VHF and the UDS under the same decisional umbrella, which could also improve the access of students to clinical training, and acquisition of day one competences.

1.4. Decision

The Establishment is compliant with Standard 1.

2. Finances (see Standards 2.1 to 2.5)

2.1. Findings

2.1.1. Brief description of the global financial process of the Establishment and its autonomy on it

For higher education institution in Sweden, 85% of the funding comes from public resources, being added to from private funding agencies and financial revenues. The public service agreements with the Government are yearly renewed, comprising detailed obligations of the establishment, including special notice on research and third cycle study funding. For SLU, about 30% of the "state money" is directed to education and the remaining 70% to research and environmental monitoring and assessment (FOMA). State research funding bodies could provide governmental funding or it could also come from other sources (foundations, local governments, private sector) as mentioned in the SER.

The Swedish students, along with those from EEA and Switzerland benefit of an exemption from the tuition fee, therefore at SLU this segment of potential income is missing.

Mostly, faculties and departments are direct beneficiaries of the direct Government funding. The Dean takes the final decisions on the budget. The Faculty Board sets general guidelines and priorities. The financing of educational programs is decided by the University Board on the basis of suggestions from the Board of education.

The budget building scheme at SLU starts from department level, each year the budgets for their operations for the coming fiscal year being set in advance. Within the fiscal framework set by the University Board's budget directions, the departments' budgets give rise to the Faculty budget and the faculty budgets create the University's budget. The Vice-Chancellor finally determines the University's budget and the Board is informed in February.

2.1.2. Brief description of the budget (expenditures, revenues, balance) of the last 3 years

As from the SER, the University's assignment in first and second cycle education for 2016 to 2018, was set at 12 000 student FTEs (average of 4 000/year).

Specific amounts are set as targeted budget for Supplementary education for veterinarians with degrees from countries outside EU/EEA and Switzerland (TUVET) comprising 7 FTE and 0.4M€. Similarly, the BSc Equine Science programme receives 85 FTE and an amount of 2.0M€ and the Swedish Centre for Animal Welfare (SCAW) is allocated 0.53 M€.

Course assignments and stipend are allocated to the responsible departments in the Veterinary Medicine Programme by the Faculty Board/Dean, based on the type of training included in the course. VHF also allocates state grants for third cycle education and research to the departments.

Application of the common model for sharing indirect costs means that costs for university and faculty-based support are distributed to the departments, thus all financiers contribute to the costs for administrative, technical and infrastructure support. The VHF pays for the students that attend the

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clinical training at the UDS, generating about 25% of the UDS income. The rest is built up from the revenue from the clients.

2.1.3. Brief description of the projected budget (expenditures, revenues, balance) of the next 3 years

No provisions are made for the next three years. Based on the steadily increasing trend in the balance of the previous period 2014-2016 at the VHF, it could be forecasted that the input from the own income in the development of the VHF might increase. It is not the case for UDS, where the balance was negative for two of the three monitored years.

2.1.4. Brief description of the planned or on-going investments

No ongoing investments exist or are planned.

2.1.5. Brief description of the process and the implication of staff, students and stakeholders in the development, implementation, assessment and revision of the budget of the Establishment

Students and stakeholders are involved in financial decision making at the level where they are involved in various decisional bodies, without voting rights. It has not been specifically mentioned that these parties are able to decide about the different budget categories, the decision being rather a centralised one.

2.2. Comments

The separation between the functional parts of the VHF and the UDS creates financial problems. The centralized decision making process, disregarding the high costs for veterinary education, could lead to varied course remuneration levels. The lack of possibilities to transfer costs between the two segments financed publicly, from teaching to research, where the latter also benefits of grants, could further complicate the financial situation in certain years (ie, 2014, 2015 affected by the administrative changes and changes in location).

2.3. Suggestions for improvement

Finances should be more transparent and the responsibility of one common decision-making body. It would be beneficial for cooperation and more efficient use of finances and resources.

A point in the strategic plan on possibilities to increase the income of the establishment/departments via services could be a way to help to cope with the increasing costs.

2.4. Decision

The Establishment is partly compliant with Standard 2 because the instructional integrity of clinical resources at the UDS does not take priority over financial self-sufficiency of clinical services operations. Clinics are not run as efficiently as possible from the educational point of view.

3. Curriculum

3.1 General Curriculum

3.1.1 Findings

3.1.1.1. Brief description of the educational aims and strategy in order to propose a cohesive framework and to achieve the learning outcome

The Veterinary programme consists of theoretical and practical elements that are combined to gradually provide the students a more advanced understanding of the professional role of the veterinarian. The programme comprises compulsory courses during the first cohesive nine semesters.

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To become admitted to the Veterinary Medicine Programme there are, in addition to general entry requirements (completed upper secondary education), specific entry requirements with regards to Biology, Physics, Chemistry and Mathematics (minimum grade is a Pass).

The Veterinary training obtained in Uppsala is a Degree of Master of Science in Veterinary Medicine awarded upon completion of 330 ECTS. One academic year corresponds to 60 credits and is divided in first (semester 1-6) and second (semester 7-11) cycle courses and study programmes as described by the Swedish Higher Education Authority.

3.1.1.2. Brief statement if all EU-listed subjects are taught in the core curriculum to each student (independently of the tracking system)

This training meets the criteria of EU Directive 2005/36/EC amended by Directive 2013/55/EU. The curriculum is fully integrated and aligned with 'Bologna process' (Bachelor, Master, PhD). Students must complete a 15 ECTS degree project for first-cycle studies in the third year and a 30 ECTS degree project for second-cycle studies in the sixth year.

Although the programme, which is being evaluated, is valid from 2007 and revised in the academic year 2013/2014, a new syllabus (approved on 12 October 2016) will take effect as of the admission of new students in autumn 2017. A major difference for this new syllabus is that there will no longer be a Bachelor's degree project course within the programme. In the new syllabus, the 15 ECTS belonging to *Bachelor degree project in veterinary medicine* have been distributed in a new course "Scientific approach", held during the third year (9 ECTS) while 6 ECTS would be moved to pre-clinical subjects. Another major change is that the elective species-oriented courses will be omitted and time and credits moved to the compulsory clinical courses (Appendix 3.3. Fig 1).

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

The Programme Board for Education in Veterinary Medicine and Animal Sciences (PN-VH) approves the courses included in the Veterinary Programme, composed of at least 4, but no more than 7 teachers and 3 student representatives. The Board ensures that degree programmes and single-subject courses maintain high quality standards and take initiatives and are responsible for their regular evaluation.

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

The Degree of Master Science in Veterinary Medicine (330 credits) lasts for five and a half years (11 semesters). The program of the curriculum is organized into:

- compulsory programme courses (262 ECTS)
- courses on different groups of animal species (17 ECTS)
- elective programme courses (6 ECTS)
- degree project for first-cycle studies (15 ECTS)
- degree project for second-cycle studies (30 ECTS)

The curriculum balance and coverage seem to be correct with all listed subjects.

Before clinical immersion, the student has received theoretical practical training on dummies in the clinical training centre (KTC) and on organ specimens. Thereafter, they perform examinations and test procedures on teaching animals (dogs, horses, goats and cattle), animals of SLU's own herds (cattle and pigs), borrowed animals (sheep) and finally on patients. The responsibilities of students increase from Y3 to Y6. Furthermore, students from different years of studies work together.

The spring semester in year 5 is partly elective. There are three different species-oriented courses, of 17 ECTS each, followed by three elective subject courses, each worth 6 ECTS. The students must

attend one of the species oriented courses and can choose one of the elective ones. They also have the opportunity to transfer credits for courses with relevant topics for the veterinary profession.

3.1.1.5. A brief description of the process and the implication of staff, students and stakeholders in the development, implementation, assessment and revision of the curriculum

Initiatives for revision of the curriculum may come from course, department, faculty, and university levels or from outside the University.

Teachers and/or students commonly raise requests for changing the programme curriculum:

- a) The UN decides 'major' changes. The PN-VH is responsible for preparing and submitting supporting documentation.
- b) The PN-VH decides 'medium' changes of the programme, including courses' syllabi.
- c) The Programme Director of Studies may decide 'minor' revisions related to individual courses during the academic year.
- d) External stakeholders are often invited.

The ratios presented are calculated based on the 2013-14 academic year.

3.1.2 Comments

Curriculum includes the subjects listed in EU Directive 2005/36/EC and allows the acquisition of Day-One Competences. The number of hours allocated for practical (non-clinical work) are well above the minimum value.

In general, teaching seems to be well performed and reinforced by accessible on-line materials (Fronter).

It is highly valued that in the beginning of the first year the students are given an overview of the veterinary profession in the Swedish Society covering organisation, responsibilities and challenges, different areas of work, ethical considerations, etc.

It must be emphasized that the students have a suitable theoretical training for clinical rotations.

Safety routines and precautions are always explained to the students when they are introduced to a course or a new environment.

The students have a marked reduction of electives in the new curriculum and also in the old one during the interim period.

3.1.3. Suggestions of improvement

Broader opportunities for students to take elective subjects would improve their competence in a specific area. Mobility programmes such as Erasmus + should be encouraged, both outgoing and incoming.

3.2 Basic Sciences

3.2.1 Findings

3.2.1.1. Brief description of the theoretical and practical education in basic sciences

All subjects considered as Basic Sciences in EU- list are taught in Y1, Y 2 and autumn semester of Y 3. According to the SER, all subject related to Basic Subjects represent a total 63 hours (4 h supervised practical training and 59 h of theoretical training); Basic Sciences are represented by a number of 1173 hours (262 hours of supervised practical training and 911 of theoretical training (lectures and seminars)

Basic Sciences including Anatomy, Physiology and Histology are taught as an integrative subject although there is a separation for practical classes. There is a higher number of practical sessions for Anatomy and Histology than for Physiology.

Bacteriology, Parasitology and Virology use the same laboratory for the practical training. Students are introduced to the appropriate safety measures prior to working in the laboratory.

The necropsy facility has a well-equipped necropsy lab and a connecting amphitheatre with separate entrances for students and staff, one from the clean and one from the dirty area, and is also equipped with a high definition camera with zoom for a more detailed presentation of the cadaver or sample. The student logbooks are used to record attendance. Boots and protective clothing are available.

Animal Breeding and Genetics are very well oriented to veterinarians introducing students to *day-one* skills. Animal Nutrition is lacking practical training and the focus on small animal nutrition is insufficient. The number of allocated credits is considered to be too low by the teachers.

Pharmacology includes real-time interactive simulations for computer assisted-teaching of pharmacokinetics and pharmacodynamics. However it appears to be a disconnection between the therapeutical approach in the clinics and the theoretical Pharmacology course.

In general, the teachers develop their own teaching material, which is available for students in FRONTER.

All the students are covered by the personal injury insurances via Kammarkollegiet. The students must arrange insurance to cover leisure time. For foreign students, doctoral students and exchanges students, SLU arranges various supplementary insurances policies

3.2.2 Comments

The curriculum includes the major basic sciences required for veterinary training. Students in Basic Sciences spend an appropriate time in supervised practical training (D+E = 262 h). The first three years are mainly theoretical with minimum hands-on practical classes.

The on-site visit found that the students acquire adequate practical training in Diagnostic pathology which is included in the Clinical Pathology course.

3.2.3. Suggestions of improvement

The team recommends introduction of practical training hours in animal nutrition and to acquire collaboration with farms and small animal clinics.

3.3. Clinical Sciences in Companion Animals (incl. Equines)

3.3.1. Findings

3.3.1.1. Brief description of the theoretical, practical and clinical education in Clinical Sciences in companion animals

The clinical training consists of one and a half years (3 semesters) of compulsory core training (1 preparatory and 2 in a rotation) and one year (2 semesters) of elective track training (curriculum differentiation) including a degree project in Veterinary Medicine.

Students have orientation in clinical training in semester 6 with the “VM0098 *Clinical anatomy, introduction to clinical studies and animal nutrition*” (12 ECTS) during year 3. The course gives an introduction to the clinical consultation and clinical work, with anatomy as the underlying basis for clinical examinations and diagnostic imaging.

The course VM0098 also covers an introduction to diagnostic imaging. Lectures are given on techniques, methods and safety as well as interpretation of radiographs. Students work independently with web-based exercises, followed by mandatory follow-up seminars.

The course “VM0072 *Introduction to clinical studies*” (30 ECTS) is given during the autumn semester of year 4, immediately before the beginning of the clinical rotation year. The course provides basic knowledge and proficiency for the student to be able to assimilate theoretical and practical education in clinical sciences. It contains theoretical components such as lectures and seminars as well as practical exercises in the form of laboratory, handling, examination and sampling methods, basic training of anaesthesia induction, and handling and administration of pharmaceuticals.

3.3.1.2. Description of the core clinical exercises/practicals/seminars in companion animals prior to the start of the clinical rotations

Before the students are allowed to perform examinations and tests on live animals, they practice on dummies in the clinical training centre (KTC) e.g. on taking ECG and blood pressure in dogs, and performing clinical examinations, including palpation exercises, in horses and dogs and on organ specimens. Thereafter, they perform examinations and test procedures on teaching animals (dogs, horses, goats and cattle), animals of SLU's own herds (cattle and pigs), borrowed animals (sheep) and finally on patients.

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

The compulsory clinical rotation through the Small Animal and Equine Clinics occurs in semester 8 and 9. For the small animals the rotation is 8 weeks long and for the Equine surgery and medicine it is a 5 week rotation.

During the VM0076 *Small animal surgery and medicine*, a group of 19-23 students will be divided into 3 groups, which are taught at a time. Students spend time at different stations: the outpatient medicine clinic (6-7 students, 1 KV veterinarian and also UDS veterinarians), the outpatient surgery clinic (6-7 students, 1 KV veterinarian and also UDS veterinarians), the emergency unit (3-4 students and 1 veterinarian from KV or UDS) and the minor surgery clinic (3-4 students and 1 KV veterinarian). They have one on-call week during the course. The activities include clinical training in obtaining a case history, clinical examination, making a diagnosis, suggesting treatment strategies, performing medications and other treatments and keeping records. The course also includes performing a variety of surgical procedures under supervision as well as emergency and critical care procedures. Approximately 75% of the time in the clinics is hands-on training whereas the remaining 25% have a variable degree of hands-on versus observation.

During the VM0074 *Equine surgery and medicine* a group of 16-19 students will be divided into 2 groups who are taught at a time. Teaching includes seminars, demonstrations and training of clinically practical skills on teaching animals and at the equine clinic. At the stationary care unit there is 1 veterinarian (from KV or UDS)/2-3 students. Each student has the main responsibility for at least one patient per day and to monitor, medicate and keep records for this patient. He/she also participates in additional examinations and treatments that are performed during the day on this patient. At the outpatient clinic it can be 1 veterinarian/3-5 students. The group joins up with the veterinarian, who then appoints students to be responsible for different patients. All students will participate in at least four rounds of emergency services (evenings and weekends).

The first 9 semesters are followed by a spring semester in year 5 which is partly elective. There are three different species-oriented courses, each 17 ECTS, of which students attend one. The species-oriented courses are followed by three elective subject courses, each worth 6 ECTS. The species-oriented courses are: 1) Small animal clinical science; 2) Equine clinical science including food safety; and 3) Production animal science including food safety. First, second, and third choices have to be specified by the student. In the 5th year the students can choose Species oriented electives, in which the students have the possibility choose a voluntary placement in either a small animal clinic or another horse clinic.

3.3.2. Comments

It seems in general that the curriculum fulfills the requirements. The ratios or indicators of teaching (theoretical/practical hours) are adequate, and the theoretical skills of the students at the end of the studies are satisfactory. In relation to the practical skills, it seems as the students do have only a few cases although both hospitals have a high caseload. These patients will be handled by the staff at the different hospitals often without participation of the students. In some cases the students can auscultate/listen to the dialog and watch the examination. It is difficult to figure out from the SER, to

which extent the KV is a part of the small and equine hospital and as described, there is a strict separation between KV and UDS. In the report it is written that within VH/KV it is perceived that UDS does not contribute optimally to the task to participate in training of the veterinary students. Furthermore VH/KV feels that UDS emphasizes more on the economics of veterinary care than on the task to serve as an optimal training ground for undergraduate education. It is felt that the teaching at the hospitals will lower income as it takes time. The students can have the feeling of being in the way. Not all students will be able to castrate a horse or a dog. It has been suggested to take in stallions for castration for a cheaper cost, to fulfill that task but this interferes with the income of the hospital. Furthermore it seems as animal owners have the right to deny students to be a part of the examination and/or treatment of their animal.

The students have lectures in anesthesiology, but they do not receive actively any practical training of the anesthesia of either small animals or horses. In small animals the anesthesia is done by nurses, who are not part of the teaching staff, and therefore do not teach.

The current curriculum is under change and from 2017 a new curriculum has been implemented. The grading system for the exams is either pass or fail.

3.3.3. Suggestions

Cooperation between KV and UDS should be integrated so that teaching and treatments at the hospital are following the highest standards. It is important that the clinical training of the veterinary students is in a close relationship between the hospital and research and education at the KV.

The students should have a higher case-load reflecting the numbers treated at the hospital.

The animal owners should in advance be informed that they are in a University Hospital which includes participation of students. An anesthesiologist should be appointed in the hospital with direct responsibility for both the safe anesthesia of all patients and the teaching of students.

3.4. Clinical sciences in food-producing animals (including animal production)

3.4.1. Findings

3.4.1.1. Brief description of the theoretical, practical and clinical education in Clinical Sciences in food producing animals

Clinical subjects regarding food-producing animals as well as subjects concerning Animal Production are delivered at the end of the 2nd, 3rd, 4th and 5th years.

The different subjects are collected into courses. During the visitation the team received the list of all the subjects. All courses do consider a practical part. However, the courses of the first three years are mainly based on the so-called “auscultation (=listening)” and not on the direct hands-on experience with the animal.

3.4.1.2. Description of the core clinical exercises/practicals/seminars in food-producing animals prior to the start of the clinical rotations

Before beginning any activity on live animals students can exercise with the help of models and other equipment at the Clinical Training Centre (KTC). Here there are also various digitalised education resources that are not freely available on the Internet.

In particular, the course “VM0098 Clinical anatomy, introduction to clinical studies and animal nutrition” (3rd year, 12 ECTS) introduces students to clinical experience. For the practical training of this course students have access to the building 3 of the VHC.

The course “VM0072 Introduction to clinical studies” (4th year, 30 ECTS) includes the main part in theoretical and practical education in clinical sciences.

The course is divided into subjects: propaedeutics; medicine and surgery incl. anaesthesiology; obstetrics, reproduction and reproductive disorders; diagnostic pathology incl. clinical pathology; diagnostic imaging; state veterinary services and public health.

The course also includes 24 practical sessions, six of them devoted to ruminants and one to pigs. The practical parts are carried out at building 3 of the VHC or at the Swedish Livestock Research Centre in Lovsta.

3.4.1.3. Description of the core clinical rotations, emergency services (both intramural VTH and ambulatory clinics) and herd health visits in food-producing animals (i.e. ruminants, pigs and poultry) and the direct involvement of undergraduate students in it (responsibilities, hands-on versus observation, report writing)

The clinical rotation (all together 60 ECTS, 4th and 5th years) include species-oriented and discipline-oriented courses. The different subjects of the clinical rotation are summarized below:

VM0069 Ambulatory clinic = 7,5 ECTS;

VM0070 Pig diseases = 3 ECTS;

VM0071 Ruminant Medicine = 9 ECTS;

VM0073 Diagnostic imaging = 3 ECTS;

VM0074 Equine surgery and medicine = 9ECTS;

VM0075 Animal reproduction = 6 ECTS;

VM0076 Small animal medicine and surgery = 15 ECTS;

VM0077 Diagnostic pathology = 4,5 ECTS;

VM0078 Food safety, meat inspection (Slaughterhouse) = 1,5 ECTS;

VM0078 Food safety, meat inspection (Theory and study visits) = 1,5 ECTS;

In respect to food-producing animals, 3/60 ECTS are devoted to pig diseases (*VM0070: medicine and surgery incl. anaesthesiology; clinical practical training*), 9/60 ECTS are devoted to ruminant medicine (*VM0071: medicine and surgery incl. anaesthesiology; clinical practical training*).

Both the subjects “animal reproduction (*VM0075*)” and on “diagnostic imaging (*VM0073*)” do include a part of teaching on food-producing animal.

The clinical rotation includes the 7.5 ECTS of the ambulatory clinics (*VM0069*).

Besides the subjects included in the clinical rotation, food-producing animals are also taught in the course “*VM0090 VPH with epidemiology and epizootology*” (5th year, 7 ECTS) and in the species-oriented electives courses (17 ECTS).

Elective courses are allocated by percentage: for the elective species-oriented course Production animal clinical science including food safety (*VM0092*), the allocation rate amounts to 40%. This course includes two weeks of mandatory external practical training in a veterinary practice with a focus on production animals. 1.8 ECTS can be obtained attending the discipline-oriented elective courses in Production animals.

Extramural clinics may be attended on a voluntary basis, by following veterinarians at work (*VM0055 Structure and function of the body systems; VM0098 Clinical anatomy, introduction to clinical studies and animal nutrition*) as alternative to practical work at SLU.

3.4.1.4. Brief description of the theoretical and practical education in Animal Production

Courses on animal production are delivered at the 2nd, 3rd, 4th and 5 years. During the 2nd year, within the course “*VM0058 Population Medicine (16 ECTS)*” students spend one week in Skara dealing with farming and husbandry system in different animal species. This course (*VM0058*) also includes *Animal Husbandry* and *Animal Production and Breeding*

As well as a mandatory self-directed practice for at least 15 hours (2 days) on a cattle, sheep or pig farm.

“*VM0097 Animal Welfare, Legislation and epizootology*” (5ECTS) is taught at the 3rd year.

Animal nutrition, in the amount of 1 ECTS is taught in the course “*VM0098 Clinical anatomy, introduction to clinical studies and animal nutrition*” (3rd year, 12 ECTS).

Moreover, “*Economics*” and “*Animal Husbandry*” are also offered as electives (*A2 Production animal clinical sciences incl. food safety, VM0092*).

All-together, considering the subject listed in Annex V of EU directive 2005/36, the hours devoted to animal production amount to a total of 110 hours.

3.4.2. Comments

Among the EU-listed subjects (Annex V.4.1 of EU Directive 2005/36/EC as amended by EU Directive 2013/55/EU) the curriculum provides all subjects related to Clinical Sciences in food-producing animals. The ambulatory clinic offers an efficient and practice oriented teaching in food-producing animals, mainly cattle. The ambulatory clinic is organized with 8 veterinarians who take turns to drive to the farms with “rotating” students. During the visitation, two cars visited some farms with students. According to ESEVT SOP, in respect to food-producing animals the activity of the ambulatory clinic can be considered also an extramural activity.

The patients are recorded directly from the students into a computer assisted database, and their report is checked by the staff. The students do have the possibility of hands-on activity when visiting the farms.

Pig farms are visited during the two weeks rotation at least six times; students have the possibility of having very useful hands on activity.

During the visitation the team had the impression that a better collaboration, integration and clarification of the different responsibilities (eventually with a centralized one) are needed among the ambulatory clinic, the academic staff and the ruminant clinic in Building 3. This might promote a higher number of patients at the ruminant clinic and the case load in general as well as the development of the herd health concept in ruminants, that seems worth of being emphasized both at the level of the clinical activities and at the level of the teaching. In this sense a better collaboration also with the Research Centre in Lövsta might also be very useful.

Talking to the students, the team noticed the desire of some of them to have more possibilities for attending the activity of the ambulatory clinic and of the ruminant clinic.

During the visitation at the facility of the ambulatory clinic it was obvious that the journal system used for reporting the cases (“Sanimalis”) has numerous weak points. It seems that the system is time consuming and moreover is not efficient in respect to the mandatory reports to the Swedish Board of Agriculture that should be sent when a bovine is treated with prescription drugs.

Among the EU-listed subjects (Annex V.4.1 of EU Directive 2005/36/EC as amended by EU Directive 2013/55/EU) the curriculum provides all subject also related to Animal production. Some subjects are included as sub-subjects in other courses.

Although the numbers related to Animal Production might be increased, all together it can be said that the students have the possibility of gaining quite good experience in the animal production, especially by the way of the “teaching” farm used for this purpose. The Livestock Research Centre offers a unique opportunity, but might be better attended by the students on a more frequent regular basis.

3.4.3. Suggestions of improvement

The Visitation team suggests to:

-) stimulate a better collaboration among a) the ambulatory clinic veterinarians, b) the academic staff in ruminant medicine and c) the staff at the ruminant clinic.
-) integrate academic and hospital staff in the activity of both the ambulatory clinic and the ruminant clinic
-) reconsider the responsibilities in the management of the above mentioned units
-) improve the collaboration of all staff in order to make better use of the ruminants and swine in the Livestock Research Centre

-) start initiatives to increase the number of intramural bovine patients at the ruminant clinic (e.g. accepting “hopeless” animals from local farms or local practitioners, increasing the awareness of the importance of having more in depth diagnosis not feasible in the field (also by the way of postmortem diagnostic)
-) increase the flow of cattle that have to be culled at the Livestock Research Centre by “transiting” through the ruminant clinic (building 3 VHC) before being slaughtered
-) consider to replace the current computer assisted journal system (“Sanimalis”) with a new one completely integrated with the intranet system and programmed to include the automatic report of the treatments (reports to the Swedish Board of Agriculture)
-) emphasize the unique opportunity that the Livestock Research Centre may offer in the teaching of Animal production and related subjects by increasing the possibility for students to attend the facility.

3.5. Food Safety and Quality (FSQ)

3.5.1. Findings

3.5.1.1. Brief description of the theoretical and practical education in FSQ

The teaching about FSQ is distributed throughout the curriculum but the main courses are delivered in the second year (7 weeks, 11 ECTS) and during semester 8 and 9 (2 weeks, 3 ECTS). A small supplement in food safety is given in the fifth year in the optional courses, mostly in the option "production animals" (11 hours), a little in the option "horses" (3 hours) and not at all in the option "companion animals". Education includes slaughterhouse and cutting room visits, ante-mortem and post-mortem inspection at the University slaughterhouse, group exercises and case studies.

The training provides all the theoretical foundations necessary for the management of food safety in the meat sector and some concepts on milk and dairy products and on fish and fishery products. On the other hand very few elements are taught concerning the quality of the food and technologies of processing of food of animal origin. Very little teaching is being carried out on methods of control, inspection, audit and certification.

It's very interesting for teaching to have an university-owned slaughterhouse in the immediate vicinity and with annually slaughter of 26,000 pigs, 6,000 bovines and 5,500 small ruminants. This is an undeniable asset for training in this discipline. The building is designed to observe operations without entering the production area. The slaughterhouse is used to monitor the slaughter process of cattle, pigs and small ruminants under good conditions for students. The slaughtered animals are usually healthy and therefore few non-conformities are detected at the ante and post-mortem inspection. The interior condition of this new building is rather degraded and access to the different areas is not very well maintained and does not meet presently all the legal requirements. No poultry slaughterhouse and poultry meat plant visits are organized and no inspection in premises for the processing, distribution/sale or consumption of food of animal origin are performed.

Except for ante-mortem and post-mortem examinations, the practical aspects of training are limited to group exercises carried out by students at the Faculty. The HACCP exercises carried out on processed products are interesting but too basic scientifically. Practical works on sampling, sample transport and interpretation of results are not organized.

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

This discipline represents 209 hours on the curriculum including 110 hours of theory, 62 hours of supervised self-learning and hands-on and directed work, 32 hours of inspection at the slaughterhouse, and 5 hours of field visits. The visits of the second year are carried out in groups of

25 students. Further work is done in groups of 5 students for a teacher. A lot of lectures and exercises are provided by lecturers and not be one of the three main senior teachers.

3.5.2. Comments

Students have virtually no contact with official meat/food inspection services, while this represents a significant number of jobs in Sweden (> 100FTE, employed by the National Food Agency). Students interested in FSQ can work during the summer after year 3 of the veterinary program as "official assistant" at a slaughterhouse employed by the National Food Agency.

3.5.3. Suggestions of improvement

The theoretical teaching and especially the practical teaching in FSQ should be reinforced (see above) to follow the evolutions of this discipline and to answer the "Day One Competences". Greater collaboration with official control services and the agro-food industry should be encouraged to achieve this objective. Similarly, a more integrated approach taking into account the whole food chain from primary production to consumption should be put in place.

3.6. Professional knowledge

3.6.1. Findings

3.6.1.1. Brief description of the theoretical and practical education in professional knowledge

During the preclinical years students are exposed to some animal handling courses, theoretical diagnostic imaging, practicing clinical examinations on in-house animals (dogs/goats). They are also taken to the outside farm Lövsta for observation and interaction with the animals. Some theoretical and practical training is done in the clinical training centre (KTC) on dummies and where there is also the possibility to record and evaluate different scenarios presented to the students. Also, computer simulations are used to train students in clinical, anaesthetic and diagnostic imaging protocols.

Further practical and clinical education is provided in the equine and SA clinical track, the participation in the Ambulatory clinic, which is mandatory for all students.

Lectures and discussions about the role of veterinarians are also provided, covering ethical issues, different fields of work, legislation, welfare of animals and lessons in communication.

3.6.1.2. Brief description of the organisation, selection procedures and supervision of the EPT

There is a mandatory self-directed EPT in the second year on a cattle, sheep or pig farm anywhere in Sweden during the Population Medicine course (VM0058), and a mandatory 2 week EPT during the elective of Production animals in the 5th year, though an EPT in both the equine and SA elective course is voluntary. The clinics for EPT are either provided by the institute or can be suggested by the student. Supervision is done by documentation provided by the student after EPT.

3.6.1.3. Description of the procedures (e.g. logbooks) used to ascertain the achievement of each core practical/clinical activity (pre-clinical, clinical, ambulatory clinics, EPT) and professional knowledge by each student (independently of the tracking system)

The students provide details on the EPT course followed, by written documentation, case studies and oral presentations to the relevant course leaders. Evaluation is done based on this information, and the course leader decides if this meets the requirements.

3.6.2. Comments

While some competences have been taught, the team feels some others (e.g. castration horse, caesarean cow/sheep, ovariohysterectomy dog) are not done by the majority of the students routinely as part of the course. While video presentations of many of these procedures are available, this cannot

replace the hands-on experience. No clinical training in anaesthesia is provided. The proper management of drugs is not done, neither taught in the clinics. There is no pharmacologist available for advice on treatment choices or supervising the proper setup of the pharmacies and controlled drug use.

3.6.3. Suggestions of improvement

A clear list of clinical procedures taught to all students prior to graduating should be finalised and adhered to by the institute.

An anaesthesiologist should be available for teaching of the students and supervise the safety of anaesthetised patients. The pharmacy professor should have direct responsibility and control over storage, use of medications and adhere to EU regulations regarding the documentation and storage of all drugs and narcotics in particular.

3.7. Decision

The Establishment is not compliant with Standard 3 because of insufficient number of hours in practical training in Food Hygiene and Food Safety and absence of practical training in anaesthesiology.

4. Facilities and equipment (see Standards 4.1 to 4.15)

4.1. Findings

4.1.1. Brief description of the location and organisation of the facilities used for the veterinary curriculum

SLU's main campus is in Ultuna, five kilometers south of Uppsala.

The Centre for Veterinary Medicine and Animal Science (VHC) is newly opened in 2014 and is the shared workplace for the departments from The Faculty of Veterinary Medicine and Animal Science (VHF) and University Animal Hospital (UDS).

The building consists of six connected sections which can be seen from the site plan page 30 SER1. Access to the entrance level of VHC is controlled by the entrance door opening hours Monday – Friday 7.30-17.30. Admission outside opening hours and to other parts of VHC is controlled by access card authorisation. Depending on course attended, students will have access to different parts of the building.

The hospital facilities are connected to the rest of the VHC. The clinical facilities for both small animals as equine are new. The clinics have 24-hour service all year round and seven days a week. All clinics accept both first line and referral cases.

The Veterinary teaching hospital is now a separate unit placed directly under the Vice-Chancellor. This means that the UDS is an independent entity, with its own clinical director.

4.1.2. Description of the adequacy for the veterinary training of the premises for:

The student facilities are very well developed and do have a lot of rooms for different purposes. Some of these are mentioned below:

-) lecturing, group work and practical work

Next to the entrance hall of Bldg. 5 there are five auditoriums/lecture halls (40-150 seats, totally 470), two computer labs (2x25 seats) and one large “wet lab” (60 seats). In Bldg. 4 there are two amphitheatres for anatomy and pathology demonstrations respectively.

On the entrance level of Bldg. 5 and in Bldg. 4 there are twenty group rooms for 6-12 persons that are used for teaching and which can also be booked by students using the room booking system.

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In the clinical area, close to the stables in Bldgs. 2 and 3, there are two divisible seminar rooms with 25+25 seats each and a group room with 16 seats. The students can wear their clinic clothes in these rooms.

The Anatomy contains one amphitheatre for 60 students (video equipment) and upstairs six dissection rooms with two tables each (and video screens). For carcasses and organs there is a reception area, a large frozen storage (-18 °C), cooled storage, a preparation/thawing room, rooms for specimen preparation and handling (e.g. plastination) and two cooled waste rooms. Furthermore here are 3 group study rooms with 20-24 seats each.

-) housing healthy, hospitalised and isolated animals

VHC Bldg. 3 includes a sealed-off area with separate stables for healthy animals used for teaching and research purposes. There are five stables for horses (total 22 boxes), one large ruminant/horse stable (5 boxes), one large ruminant stable (4 boxes), one tied-cow stable (8 places), one calf/small ruminants stable (6 boxes) and four swine stables (10 boxes each). There is also a large section housing a goat herd and stables for 25-30 dogs. The housing facilities for the cows are well below optimal and the isolation unit, housed in a wooden shed without washing & changing facilities, is insufficient.

The Swedish Livestock Research Centre – Lövsta It is a nationally important resource for research and education on dairy cattle, pigs and poultry. The cattle facility has room for 300 dairy cattle plus replacement animals. The pig herd comprises 110 sows in integrated production. The pig facility also has 960 slaughter pig places and 96 recruitment places. The poultry facility allows for research with free-range laying hens, laying hens in cages and broiler chickens.

Furthermore facilities are found in Röbbäcksdalen, Götala Beef and Lamb Centre and Alnarps Södergård.

At the hospitals the isolation units for both the Small Animal Clinic and Equine Clinic are both well separated from the rest of the hospital with full biohazard controls. Only the outside cages and dog-walking area for the SA isolation unit are not properly fenced off for the general public.

In UDS Large Animal facilities there are currently five nursing stables for in-patients with places for 25 horses and one outdoor stable with 4 boxes. Furthermore, there are 8 closed isolation boxes for patients with possible contagious diseases and two stables with 18 boxes for outpatients. The clinic also contains an intensive care unit with 6 boxes, stocks and an observation room, and an emergency ward with two boxes and a treatment room with stocks.

Three stables in the part of the stables for teaching and research animals are during the clinical rotation course used for incoming ruminant patients. The ruminant clinic has a separate intake for outpatients. Access to the ruminant clinic area is restricted in accordance with the infection prevention and hygiene plan for the building. The ruminant clinic run by KV and only open during part of the year. There is no 24 hours service available for ruminant patients at the hospital.

-) clinical activities, diagnostic services and necropsy

The pathology part includes one amphitheater for 60 students (with video equipment) and two necropsy rooms (one large and one small). For carcasses there is a reception and preparation area, a cold storage, rooms for specimen preparation and a cooled waste room. The passage into the pathology area includes changing rooms (lockers), a hygiene barrier and rest rooms.

The hospital facilities are connected to the rest of the VHC. The clinical facilities for both Small Animal and Equine are new. The clinics have 24-hour service all year round and seven days a week. All clinics accept primary and referral cases.

Since the clinical hospital UDS now is a separate unit, placed directly under the Vice-Chancellor, this means that the UDS performs independent activities, managed by their own director and does not contribute optimally to the task of participating in the training of future veterinarians and animal nurses, as stated in the Final report concerning the evaluation of operations at the UDS.

The Large Animal Clinic (Equine) is open 24 hours a day, all year round.

The hospital includes a very advanced part for orthopedic and locomotive examinations. It consists of two lameness investigation areas 40x4 m (Bldg. 1), one riding hall 20x30 m and an indoor lunging area 12x12 m. Furthermore the clinic has advanced equipment for lameness diagnostic work. The hospital does also have a farrier facility.

The large animal diagnostic imaging area includes two radiography, one ultrasonography, one CT, one MRI and one Nuclear Medicine unit. The number equine visits is around 5000.

The Small Animal Clinic is open 24 hours a day, all year round. The clinic conducts emergency and planned veterinary care for primary and remitted patients. The clinic has an outpatient clinic and patients that need further care or investigation can be hospitalized. The general section is divided into a surgical, a medical unit, and an intensive care unit and consists of eight rooms with a total of 30 places for dogs and 14 for cats. The number of visits in 2016 was 21.000.

-) *FSQ & VPH*

Lövsta Kött AB leases SLU's slaughterhouse in Funbo-Lövsta where approximately 26 000 pigs, 6 000 cattle and 5 500 lambs are slaughtered each year. The meat from cattle and sheep is cut, but no further meat processing is performed at the site. The lease agreement includes allocating space for teaching and for students doing practical work in the slaughterhouse. There are observation rooms allowing visitors to view the stable, and the various steps of slaughter and meat cutting without having to enter the production facilities.

-) study and self-learning, catering, locker rooms, accommodation for on call students and leisure

The passages for students and staff into the Ymer "wet lab", the anatomy and pathology facilities, are all provided with gender separated changing rooms (lockers). To enter the stables in Bldg. 3 and the UDS clinics, students and staff have to change into clinic clothes in changing rooms (lockers) situated on the first floor of Bldg. 4

There are several restaurants and cafés at different places of the Campus. On the left-hand side within the main entrance to VHC there is a lunch room for students, which can seat fifty. It is equipped with microwave ovens and fridges. There is also a coffee machine as well as snack and sandwich dispensers, which accept payment by card

4.1.3. Description of the adequacy for the veterinary training of the vehicles used for students' transportation, ambulatory clinic, live animals and cadavers' transportation

For transport to extramural facilities, three 9-seats minibuses are used. The ambulatory clinic owns five MPV-cars. SLU does also run an Ambulatory Clinic, which treats the production animals on farms.

Closed stainless steel containers are used for the transport of cadavers, organs and biological waste within VHC and from VHC to the incinerator at SVA (500 m away). Hazardous waste (pathology, microbiological, animal hospital) is transported separately

Live animal transportation - With the exception of some cattle, the clinics do not provide any transport services for sick animals.

4.1.4. Description of the adequacy for the veterinary training of the equipment used for teaching purposes and clinical services

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At the KV there is a selection of standard type equipment, which should fulfil the requirements. Furthermore there are 168 microscopes, shared by two departments (AFB and BVF). SLU has as one of the first Sectra tables for 3D visualisation. SLU has a clinical training centre where the students can practice skills with the help of models and other equipment.

4.1.5. Description of the adequacy of the biosecurity rules in the Establishment

VHC has over 70 emergency points which have a fire extinguisher and a fire blanket, while over 40 of them also have First Aid kits. A map showing evacuation routes can also be found at each point. There are two assembly points, one just north of the main entrance to the VHC and one outside the UDS small animal entrance. Defibrillators are located in the reception area at the main entrance to Bldg. 5, at UDS's reception and at 3 other places in VHC. Fire detectors and sprinkler systems are installed in all parts of the VHC buildings. All departments have trained Fire Safety Agents.

4.1.6. Brief description of the process and the implication of staff, students and stakeholders in the development, implementation, assessment and revision of facilities, equipment and biosecurity rules of the Establishment

These issues are handled in a similar way to other decision-making, consultation and information issues within SLU and have been summarised in Chapter 1.1.6.

4.2. Comments

Implementation of protocols for students and staffs and guidelines for visitors/owners should be in place.

As stated there is no experience within the faculty to run a complicated hospital. Furthermore it is stated that there are too many internal conflicts.

The housing facilities for the cows are subpar and the isolation unit in a wooden shed without washing & changing facilities is insufficient. The outside cages and dog-walking area for the SA isolation unit are not properly fenced off for the general public.

4.3 Suggestions for improvement

A facility to collect patients for the clinics and/or cadavers for pathology could increase the availability of animals for education and research. The housing for cattle at the facility should be improved and the isolation units in the teaching stables drastically improved, while the isolation unit for the SA should be properly fenced off.

4.4. Decision

The Establishment is not compliant with Standard 4 because of inappropriate isolation facilities for companion and food-producing animals.

5. Animal resources and teaching material of animal origin (see Standards 5.1 to 5.6)

5.1. Findings

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

The establishment provides the students with animal and material of animal origin for clinical and preclinical training using both the caseload deriving from the activity of the University Animal Hospital (UDS) and animals or material specifically introduced for teaching purposes. A document issued by the Vice Chancellor of the SLU regulates and gives instructions on the activities involving the use of animals and material of animal origin.

The high number of patients admitted to the small and large animal clinics (horses) enables to reach the requested amount of material quite easily. Moreover, the Department of Clinical Sciences does maintain in building 3 of the VHC also goats, dogs (around 25 beagles), horses (around 15) and cattle (6 to 8) for carrying out the practical training of both the preclinical and clinical courses.

The establishment has been experiencing difficulties in housing farm animals (especially cattle) intramurally (only about 25 cattle patients) and therefore some hands on activities (propaedeutics) are performed at the Livestock Research Centre whereas the clinical activities are delegated to the ambulatory clinic.

The Livestock Research Centre is particularly used for introduction to animal husbandry, teaching clinical propaedeutics in cattle, teaching herd health procedures, gynecological exercises (incl. cow pregnancy diagnosis) and it is also visited by the Ambulatory Clinic.

At the moment of the visitation 8 healthy cows were present in building 3 of the VHC for didactic purposes. These animals are used for teaching in anatomy, physiology, and handling of animals. They were bought from the Livestock Research Centre and were expected to remain for the entire semester. The cows were housed in a tie-stall stable. The Livestock Research Centre is also used for training in swine husbandry and medicine.

The slaughterhouse in Lövsta provides the material for teaching subjects related to meat processing. The number of animals slaughtered is more than adequate.

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

In respect to the number of cadavers, healthy animals, patients and material of animal origin used in the training, although with weak point in respect to food animal, altogether it is clear the effort of the establishment to guarantee animals and material available for veterinary training.

In particular:

-) *number and diversity of cadavers and material of animal origin used in anatomy, necropsy and FSQ;*

This kind of material derives from organs of cattle, sheep, pigs and horses collected in the nearby slaughterhouses. Organs from slaughterhouses are also used for training in clinical sciences (female genital apparatus, dead calves, feet and skulls from horses and feet, udders, skulls and tails from cows). As mentioned in the SER, the number of cattle cadavers used for practical anatomical training is few (not more specified).

At the moment of the visitation students were carrying out training in dentistry by using heads of dead dogs.

During the course “VM0077 Diagnostic pathology” necropsies are performed on material from the UDS clinics. This is the only source for cadavers to be examined. The autopsy room is open only during the semesters, and no post-mortem diagnostic is provided during the summer (3 months).

In this period carcasses as well as biopsy specimens must be submitted to the nearby National Veterinary Institute (SVA), in which case the diagnostic service is paid for.

Both in the case of “intramural” necropsy and in the case of necropsy at the SVA, the cadavers are disposed upon payment at the same SVA. Also other biological material is disposed here upon payment.

The ratio between the number of companion animal necropsies and the number of students graduating annually is 2,427 (above the median value).

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The ratio between the number of equine necropsies and the number of students graduating annually is 0,853 (clearly above the minimal value).

The ratio between the number of ruminant and pig necropsies and the number of students graduating annually is 0,933, below the recommended minimal value. In this respect, the number of necropsies of farm animals (cattle, small ruminants and pigs) has a clear negative trend along the last three years.

-) number and diversity of healthy live animals used for pre-clinical training;

Different animal species are made available for students for pre-clinical training: cattle, sheep, goats, pigs, dogs (also belonging to the students), horses, rats and mice. These animals are situated in the building 3 of the VHC, and are managed as a whole.

The Swedish Livestock Research Centre –Lövsta and other facilities are also used for preclinical training.

-) number of visits in herds/flocks/units of food-producing animals;

Beside the Swedish Livestock Research Centre, students have the possibility of visiting farms with the ambulatory clinic. The total number of cattle in the practice area is approximately 15000. Similarly, small ruminant flocks and pig herds are visited by 8 FTE veterinarians with the five vehicles of the ambulatory clinic.

The ratio between the number of visits to ruminant and pigs herds and the number of students graduating annually is 1,840 (clearly above the median value).

The ratio between the number of visits of poultry and farmed rabbit units and the number of students graduating annually is 0,013 and therefore below the recommended minimal value.

Visits to farms are allowed by the participation to the activity of the ambulatory clinic and by the participation at the clinical rotations (course “VM0069 Ambulatory clinic”). 6-8 pig units are also visited on a regular basis during the rotation. Students have the possibilities on these occasions of carrying out efficient hands on training.

-) number and diversity of patients examined/treated by each student;

Although the majority of the patients admitted to the UDS are companion animals and horses, the ambulatory clinic allows the student to get experience also with production animals.

Students have the possibility of directly participating in the examination and treatment of patients mainly during the clinical rotation. In spite of the problems already mentioned in the reciprocal relationship of the UDS and the academic staff and the incomplete use of the entire caseload at the UDS, the number of patients examined/treated by each student is more than sufficient. Especially when supervised by the academic staff, students have active role in the examination, treatment and follow-up of patients. In respect to the farm animals, students experience the possibility of suggesting and performing treatment during the activity of the ambulatory clinic on the farm, under supervision of a veterinarian. The ambulatory clinic refers more complicated cases (e.g. RDA) to the ruminant clinic in building 3 VHC, whereas carry out directly in the field operations such as LDA or caesarean section.

-) balance between species, between clinical disciplines, between first opinion and referral cases, between acute and chronic cases, between consultations and hospitalisations, between individual medicine and population medicine

The University Animal Hospital (UDS) is the main actor in providing clinical cases to the students. It is divided into the a) UDS Small and Large Animal Clinics and the b) UDS ambulatory Clinic.

The first (with a 24/365/7 service) has a very high case load, both in respect to the companion animals (about 22,000/year) and the horses (about 5,000/year). Between 10 and 20% of these cases are referral cases. It offers the students possibilities to train in all disciplines.

The ambulatory clinic supplies the lack of intramural cattle patients.

The ratio between the number of companion animal patients seen intra-murally and the number of students graduating annually is 34,900, therefore below the recommended minimal value. However, as specified during the visitation, for the hands-on training of individual students, an average of 2,618 dogs and cats were selected each year. These patients fulfill the ESEVT requirements concerning individual examination/treatment by at least 1 student under the supervision of at least 1 member of staff and were recorded.

Despite the fact that the admission of farm animals as patients at the campus is prevented by strict biosecurity rules, the ratio between the number of ruminant and pig patients seen intra-murally is 0.770 and therefore above the minimum recommended value.

The ratio between the number of equine patients seen intra-murally and the number of students graduating annually is 7.930 (clearly above the median value).

On the contrary, the ratio between the rabbit, rodent, bird and exotic seen intra-murally and the number of students graduating annually (1.409) is below the requested value.

An adequate number of ruminant, pigs and horses are also seen extra-murally.

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

The Swedish Livestock Research Centre –Lövssta (8 km from the main campus) is widely used for teaching activity, both in respect to clinical sciences of food producing animals and animal production. 300 cattle, 110 sows, 2,500 fattened pigs/year, and chicken (both hens and broilers) are kept in the facility. The farm is very well equipped and has great potential for research and student training.

5.1.3b. Description of the organization and management of the VTH and ambulatory clinics

The University Animal Hospital (UDS) is administratively placed under the Vice-Chancellor and is not part of the Faculty of Veterinary Medicine (VHF). However, the staff of the Department of Clinical Sciences participates in the clinical work as part of their teacher's role.

The UDS is divided into the a) UDS Small and Large Animal Clinics and the b) UDS ambulatory Clinic.

The UDS Small and Large Animal Clinics is open H24, 7/7, 365/year. It includes diagnostic imaging and diagnostic clinical pathology.

The UDS Ambulatory Clinic serves the Uppsala and Knivsta municipalities. The practice area is about 60 km from north to south and 80 km from east to west. The total number of cattle in the practice area is approximately 15 000 and the number of horses more than 12 000. The Ambulatory clinic provides a 24-hour on-call duty all year round. The veterinarians at the clinic also function as officials according to EU standards and serves as border veterinarians at the major Swedish international airport Stockholm-Arlanda. The staff consists of 8 FTE veterinarians.

During the visitation the team filed complaints on the ineffective relationship between the UDS and the VHF academic staff. The consequence is a lesser use of the high potential offered at all levels by the UDS in the training of the students. The priority of the UDS seems to be a business oriented management rather than the training of the students.

5.1.4. Description of the group size for the different types of clinical training and of the hands-on involvement of students in clinical procedures in the different species

The group size varies depending on the courses and type of involvement, but it is always small enough to enable the students to have an efficient hands-on activity. The SER provides some details on that. All activities are practically reported in personal logbooks or in specific data books.

The students play an active role in the clinical rotations and in the practical part of the clinical electives. During the rotation the groups are constituted by 10-12 students.

When during the clinical activities they are assigned to patients, they have to follow the clinical case from the beginning to the end.

Students complain about the fact that they cannot properly benefit of the clinical potential of the UDS.

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

The two patient record systems (one for large and small animal clinics and another for the Ambulatory Clinic) are accessible to students to write their report based on them.

However, the team had the impression that a new, more integrated recording system may be needed.

This concern has particularly been reported by the ambulatory clinic. The computer assisted reporting of the treatments seems also to be a weak point of the system.

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

The Animal Welfare Act (SFS 1988: 534) establishes the rules for the use of animals in research and education. A specific internal policy (issued by the Vice-Chancellor in 2007 and updated in 2015) is addressed to regulate the use of animals and materials of animal origin for educational purposes. It strongly supports low numbers of animals used, alternatives to the use of animals, and to reduction in stress and restraint (“suffering”) as much as possible.

An Advisory Committee is responsible for strengthening animal welfare for animals used in research and education at SLU. An audit on regular basis is conducted by the County Council.

An ethical permit/license is granted by an external ethical committee and needs to be requested for carrying out animal experiments and some educational activities.

Students are made aware from the beginning of their studies of the importance of animal welfare and how this is regulated at the SLU. Before being introduced to practical or clinical activities with animals, students are instructed on ethical behaviour in order to reduce stress both for them and for the animals.

During the visit 8 cows were present at the Centre for Veterinary Medicine and Animal Science (VHC) in the tie-stall barn. The team was informed that these 8 animals were purchased for didactical purposes from the Swedish Livestock Research Centre in Lovsta and will be kept at the facility for the entire semester. Although the animals were kept in compliance with regulation the team evidenced that the barn did not have any windows and keeping cows permanently tied, without natural light for six months does not meet the animal welfare and handling requirements.

5.1.8. Brief description of the process and the implication of staff, students and stakeholders in the development, implementation, assessment and revision of the number and variety of animals and material of animal origin for pre-clinical and clinical training, and the clinical services provided by the Establishment

The teachers propose the number and variety of animals and animal materials to be used for optimal training. The material derives mainly from the slaughterhouse (animal materials), the Livestock Research Centre (healthy animals for preclinical hands on) or from the clinical activity of the UDS. It doesn't seem that the students are involved in the recruitment of this kind of material.

5.2. Comments

At the moment of the visitation the team was concerned about the fact that the 8 cows used for teaching purposes would have been kept for the entire period tied and moreover in a barn without windows. The cows might have been kept in another free stall barn in order to comply with the best welfare quality standard as expected in a facility with the characteristic of those in the building 3 of the VHC. Moreover, a more frequent replacement of culled cows from the Livestock Research Centre, and used for teaching purposes in building 3 of the VHC, might on one side increase the type of animal available for the students and on the other side reduce the permanence of the animals at the clinic (and consequently reduce the entity of the procedures they should undergone from the students).

Also the ratio between the number of ruminant and pig necropsies and the number of students graduating annually is below the recommended minimal value and moreover there is a concern due to the fact that the necropsies of farm animals have been reducing in the last years. The visitation team noticed that the pathology service is open only during the semesters and that no post-mortem diagnostic is provided during the summer intervals. Although it is clear that the teaching activity is diminished during summer, the team considered that year round extended post-mortem diagnostic service for both the ambulatory clinic and for external stakeholders (practitioners, farmers) might directly and/or indirectly promote an increase of the necropsies. In this sense the service should consider of “opening the door” to extramural cases, with the collaboration of external stakeholders such as farmers association or the Swedish Board of Agriculture. In this sense the extramural acceptance of cadavers for post-mortem diagnostic as well as the acceptance of “hopeless” animals from local farms or local practitioners would be very effective in increasing the caseload and also the appeal to the students. A virtuous system of increasing the incoming of cattle at the clinic may be useful also for enabling the practical anatomical training to have more bovine. The number of cattle cadavers used for practical anatomical training is in fact recognized low also by the establishment.

Whereas the visits to ruminant and pigs herd might be considered sufficient, the number of visits of poultry and farmed rabbits units is below the ESEVT recommended minimal value. Also the ratio between the rabbit, rodent, bird and exotic seen intramurally and the number of students graduating annually is below the requested value. In this sense a major attention to the herd health management in food-producing animal should be in general considered.

Generally speaking the clinical case load is more than sufficient. In respect to farm animals, the scarce number of patients admitted to the main campus is compensated by the elevated number of cases visited by the ambulatory clinic. Altogether, students actively participate in the workup of patients, including physical diagnosis and diagnostic problem oriented decision making.

5.3. Suggestions for improvement

The Visitation team suggests the establishment to increase the replacement of culled cows from the Livestock Research Centre. The post-mortem service to external stakeholders (farmers, practitioners) should be opened and extend all over the year. The establishment should start and/or improve collaborations/agreements with external stakeholders such as farmers association or the Swedish Board of Agriculture for increasing the incoming flow of clinical cases or cadavers of food-producing animals. The training in herd health management should be improved by increasing the number of farms visit (especially poultry and farmed rabbits units). In this sense a better collaboration with farmers associations might also be helpful.

5.4. Decision

The Establishment is not compliant with Standard 5 because of insufficient number of healthy and diseased companion animals and of cadavers in food-producing animals.

6. Learning resources

6.1 Findings

The veterinary library is situated in the central part of SLU Ultuna Campus, 300 m from the VCH main entrance. It includes more than 100 seats; there are eight bookable group study rooms with 6-10 places (total 54) in the library building. For literature search, 35+ public computer stations and a number of “all-in-one printers” are available. The two computer labs adjacent to the reading rooms are accessible for students to use when they are not booked for teaching purposes. Students have

printing facilities from the SLU library's collections without charge. Loans within Sweden and the Nordic countries are also free of charge.

The library is divided in two departments one of Scholarly Communication and one of Research and Learning Support.

It is accessible all days from 06:00 a.m.-23:00 p.m. and is staffed from 09.00-16.00 Monday to Friday by permanent member of the staff. Students use their key card to get access outside the library's regular staffed hours. There is access to Wi-Fi and the university network at Ultuna campus, as well as off-campus (VPN) access to databases, e-journals and e-books that the library subscribes to, which are restricted by licence agreements and can only be used within the university.

The library OH for 2016 was 3.2 % of direct payroll costs for research, postgraduate education and environmental monitoring and assessment, and 436 € per student FTE to cover costs for the library's support to education.

SLU has adopted the Fronter platform as a virtual learning environment for the distribution of compendium, lecture hand-outs, quizzes and video recordings to students. Fronter is accessible from any networked computer on campus (including wireless), while off-campus students connecting to the Internet can access Fronter through VPN.

The library's collections cover the field of veterinary books and periodicals (not including animal science, zoology, etc.) with more than 2,000 book titles, 5 printed periodicals, 900 e-books, 123 e-periodicals (90 with full archives), and 90 open access journals.

SLU students and employees can find most of the material (printed books, e-books, journals, scientific articles, dissertations, database, etc.) in library's search tool *PRIMO*. Also assists with renewing loans, creating favourites' lists, saving searches and giving alerts when new content is available, as well as exporting citations to reference management software.

Library suggests using some databases: Web of Science, Scopus, ProQuest, PubMed and Google Scholar. Within the subject area veterinary medicine, more than 20 more or less specialised databases are also available.

The Division of IT offers new students a brief introduction to the computer environment: the web-based self-service system where, via their user account, they can access the student portal, e-mail, user folders on the file server, the computer labs, the printing system and the student network, as well as learn how to connect to the network from home. There are a range of information skills training courses from 1st to last year.

Students who feel insecure with language can book language support in English or Swedish.

SLU library is staffed by around professional librarians (40 FTE, spread over the different campuses) and there are also systems specialists and information officers.

Learning resources are decided by Library Council who regularly consults programme directors of studies and course leaders in order to be able to provide copies of recommended course literature, both for loans and as reference copies. Students and staff can also propose new acquisitions using a web form

Library has a 70% research service and 30% Learning service. They give support to veterinary students in Year 1 and Year 3 in order to show how to handle e-learning, gather and compile information, management of references etc. Students can book a librarian for 40 minutes.

Library provides a good learning environment for students. They can book a Group-room if it is needed. Students are very delighted with the opportunities of e-learning and accessibility on the Fronter.

6.2 Comments

The library is represented in PN-VH, the library facilities are excellent and SLU has a remarkable collection in the field of veterinary medicine for use by student and faculty.

Library and Information Resources staff is responsive to student and faculty needs.

There are some applications specially designed for people with a disability, which work very well for all users. Text books are available and a large number of them are provided via QR code online too. VHF has invested in Education programmes, which is positive for both students and teachers. They take into account the QA and legal certainty.

6.3 Suggestions of improvements

Having an on-site veterinary library could support easy access to relevant publications and provides opportunity to look up on questions within the everyday student's veterinary questions.

6.4. Decision

The Establishment is fully compliant with Standard 6.

7. Student admission, progression and welfare (see Standards 7.1 to 7.15 in Chapter 3)

7.1. Findings

7.1.1. Brief description of the admission procedures for standard and for full-fee students

There are no special admission procedures for the Establishment. Admission criteria are set forth and the admission procedure is managed by the Swedish Council for Higher Education. Students have to meet admission criteria in four subjects: biology, physics, chemistry and mathematics. However, it is the SLU Board which decides on the number of students to be admitted each year upon the proposal of the Programme Board for Education in Veterinary Medicine and Animal Science. Since the veterinary programme attracts a large number of applicants (an average of 1733 of which 902 first hand applicants) – also due to an intensive visibility and advertising activity of the Establishment -, there is no difficulty in filling up the places.

There are no special procedures for full-fee students at VHF, and there were nor full fee students.

7.1.2. Description of how the Establishment adapts the number of admitted students to the available educational resources and the biosecurity and welfare requirements

For the past ten years ca. 100 students/year were admitted, which has been raised by 10% as a „technical over-intake”, thus after the first term the average 101 students remain in the programme. With the exception of one survey by Swedish Board of Agriculture, several sources claim that the amount of graduating veterinarians is in balance with the demands of the labour market, thus the established quota can be accepted, and the personnel, facilities and resources of the Establishment are also suited for this amount of students.

Guidelines related to the security of students are available. Where applicable, there is a training e. g. in the safe handling of animals. Participation is documented. There are safety guidelines available electronically in the frontier room to the clinic. Equipment (eye-washes, emergency showers) and signals are available in laboratories, and emergency stations with bandaging material, defibrillators, fire extinguishers can be found at the corridor of every level and at several places in the clinics. Students and staff have a lot of space for group discussions, coffee breaks, lunch, etc.

7.1.3. Description of the progression criteria and procedures, the available remediation and supports, the rate and main causes of attrition

Students get an overview of their study life at the beginning of their first year. Progression criteria are well defined for the whole programme (cf. 7.1.5.1 of the SER) and for each course, as are the conditions of re-entering the courses after study breaks. Students can sit for an exam 5 times. The

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participation of students at practicals is recorded centrally and uploaded with the grades to a central databank of students' achievements. Students who do not perform adequately are warned by the Programme Director of Studies, and help is offered and provided by study and career advisors. It is up to students then to seek advice or help.

Attrition or study breaks are relatively infrequent (10–20 student/yr), occur mostly in the first three grades, and are due to a change in the direction of studies, or failed exams. During the examined years, a decrease can be seen in the rate of attrition.

One of five students complete their studies a year later than they should which is normally due to a delay in the completion of their thesis.

Student complaints are handled directly, at the lowest possible level. Only cases which cannot be solved locally are directed to the management. Complaints are rarely submitted in writing (electronically or in print). There is no place for anonymous submission of suggestions or complaints. Communication via the student unions is preferred and is considered more effective.

The Higher Education Expulsions Board makes decisions regarding expulsion from higher education in severe cases. Though there is no time limit for expulsion, the student may appeal to the Board for reconsideration after two years, and any decision may be appealed against at the Administrative Court. The process of appeal is described together with all decisions and also appear on course pages, and the SLU Students' website.

7.1.4. Brief description of the services available for students

Different problems that would hinder the studies of students are handled in different ways.

There is a system of financing – mostly the cost of living – during higher education studies through grants or loans, as well as some special arrangements.

The university provides insurance for study-related accidents, etc. for all students, and helps doctoral or visiting students to find an insurance covering their spare time as well. Students with health issues can turn to the Student Health Centre and are given opportunities to have a study break for one year at a time in case of a lasting illness. The Centre also offers advice and stress-management course to improve the psychological study environment.

Students with learning difficulties, mental health problems or disabilities can ask for help from a special coordinator of related affairs. Besides mentoring programmes, study aids (like taking notes, sign-language interpreting, etc.), adapted examinations are also available for those involved. All these and the procedure of asking for the services are described in detail on the homepage, the chapters of which offer a “listen” option, i.e. reading of the site loud. There are coordinators available at working hours after booking a 45 minutes session on the website, and course coordinators/administrators also help in arranging adapted learning and/or exams.

7.1.5. Brief description of the process and the implication of staff, students and stakeholders in the development, implementation, assessment and revision of the admission procedures, the admission criteria, the number of admitted students and the services to students

The admission procedures and criteria are not determined by the Establishment, however, the number of admitted students is decided by the University Board, and has been considered adequate and appropriate.

There is a well-developed system of services available for students, who have one unions, the Veterinarmedicinska Föreningen which is part of the overall union SLUSS, with authority to take part in the formation of the study programmes as well as any issues related to student life.

7.2. Comments

The admission procedure is managed at a national level. Positive features are that 1/3 of the places are reserved for those who have passed the Swedish Scholastic Aptitude Test which is a possible way of assuming students with different cultural backgrounds in line with political expectations.

The activity of the Student Recruiting Group is many folded and seems to be effective from the veterinary point of view. Student blogs, which introduce visitors of the blogs to the everyday life of the different programmes in a personal tone can be an example of the good practice. There is a rich choice of services for students to handle any kind of difficulty they may face during their studies.

Responsibility of students for their own progress and studies is made explicit.

7.3. Suggestions for improvement

There should be a formal mechanism in place for non-study related complaints as well.

Students should have the opportunity to indicate suggestions, opinions, and complaints anonymously to the management.

7.4. Decision

The Establishment is fully compliant with Standard 7.

8. Student assessment (see Standards 8.1 to 8.9 in Chapter 3)

8.1. Findings

8.1.1. Brief description of the student's assessment strategy of the Establishment

The Establishment has clear regulations (<https://student.slu.se/globalassets/sw/regler/6-assessment-and-grades.pdf>) regarding the assessment and grading procedures, and examinations based on a well-defined set of knowledge, skills and competences as learning outcomes. Each course has a detailed description on the homepage including the overview, course message, timetable, literature, links, syllabus, grading criteria, and evaluation. Different parts of the course description are made public 8/4 weeks before the start of the course. Compulsory elements and requirements for a pass grade must be communicated by the beginning of the course.

In veterinary training two grades are used: pass or fail. Criteria for passing are clearly established.

Students have an opportunity to sit for an exam five times. The anonymity of the written exams is ensured. Many assessments are complex containing different practical parts as well. Students can ask for another examiner after they had failed twice with the same teacher. However, they cannot make a complaint against the grade they receive, they can only ask for a reconsideration. It is possible to take an adapted examination if the student has some functional disability.

Examiners, department heads, course administrators down to invigilators all have a well-defined responsibility and function in the assessment of students. The whole process is supervised by the Programme Director of Studies. It is also the Programme Director of Studies who makes qualitative and quantitative assessment of the academic progression of the students and report to the Programme Board.

8.1.2. Description of the assessment methodology to ensure that every graduate has achieved the minimum level of competence, as prescribed in the ESEVT Day One Competences.

Students' progress in their studies and the acquisition of practical skills and competences are tested in several different ways. While theoretical courses are followed typically by written exams, achievements in different (laboratory, histology, histopathology, clinical, etc.) practices are evaluated by methods focusing on practical skills (written reports, oral reports, compulsory attendance, dissection tasks, laboratory tests performed, exercises, group work, projects, etc.). There are individual and group evaluations, however, the assessment of each student must be provided for. Test banks are provided within the e-learning framework for many subjects so that student can make self-testing.

The objectives in terms of skills to be practiced at each practical are included in the syllabus. The record of students' participation and the uploading of all these results in the central registry makes it possible to follow their progress.

In 2016 a project was initiated to review how far veterinary training meets the requirements inferred from Day One Competences as listed in the ESEVT SOP. Competences were matched against corresponding EU Directives and Swedish legislation (Ordinance for the Swedish University of Agricultural Sciences, as well as the present outcomes of veterinary training. The results give an opportunity for the Programme Board for education in Veterinary Medicine and Animal Science (PM-VH) to find the fields that require strengthening and development.

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

Exams must be assessed as soon as possible, but not later than 15 workdays after the exam. After communicating the results, the first retake of the exam should be within 10–25 days. A second retake must be announced within a year of the start of the course. The departments can decide on the way of course feedback, e.g. the provision of correction templates. The students are entitled to discuss issues of exam assessment with the examiner.

In case of study difficulties of different causes, student services and help is provided (see chapter 7.).

8.1.4. Brief description of the process and the implication of staff, students and stakeholders in the development, implementation, assessment and revision of the student's assessment strategy

Assessment strategies, processes and review of outcomes fit into the general decision making processes of SLU. According to these, decisions regarding strategic issued related to programme syllabuses are made by the Board of Education upon the proposal of The Programme Board for education in Veterinary Medicine and Animal Science (PN-VH). In turn decisions regarding course syllabuses – including assessment – are made by PN-VH. It is the Programme Directors of Studies who follow up and report on the academic progression of students to the Programme Board. Data on students' achievements are included in the management information system.

Students can voluntarily express their experiences and opinion regarding courses and programmes via evaluation forms which include questions related to the assessment as well. Results are evaluated together with a student representative, and feedback is provided at the beginning of the next similar course.

8.2. Comments

The deductive approach to the reformation and development of courses in the light of Day One Competences seems to be promising, and ensures that the training of veterinarians is organised in an

efficient way. The considerable weight and variety of practical tasks and “hands-on experiences” in the evaluation of students also demonstrate the efforts of the Establishment towards a competence-based educational model.

Examining teachers have to attend a mandatory course for examiners besides basic pedagogical training for the academic staff, and there are efforts made for the introduction of a variety of appropriate methods of assessment.

The specific features of veterinary education may require solutions which are special as compared to the basic set of regulations by SLU, however, the framework for communicating exam schedule, the method of assessment and the grading criteria is provided for.

8.3. Suggestions for improvement

None

8.4. Decision

The Establishment is fully compliant with Standard 8.

9. Academic Teaching & Support Staff

9.1. Findings

The total number of teachers are 126.4 FTE. This does not include PhD students. 83.2 (68.6%) of the staff are teachers engaged in the Veterinary Medicine Program. The percentage of veterinarians in VHF academic teacher staff is 53.8 %. There are no academics employed at the UDS.

Staff and students

I1 n° of FTE academic staff involved in veterinary training / n° of undergraduate students	0.195
I2 n° of FTE veterinarians involved in veterinary training / n° of students graduating annually	0.960
I3 n° of FTE support staff involved in veterinary training / n° of students graduating annually	0.600

The different ratios can be seen above.

There is admission of 100 students

There are 4 different categories for positions: Professor, senior lecturer, lecturer and veterinary clinician. Academic staff holding a PhD degree can apply to be assessed by the Research Fellowship Award Board as associate professor (in Swedish “docent”). At the moment the VHT/UDS has 53 recognized veterinary specialists.

For the professors and senior lectures the recruitment time takes at least a year. In the meantime the position is vacant. It is requested that the professors have a diplomate degree, though the KV does not have an official strategy for a residency program.

The professors have 90% research time and 10% time for teaching. For the senior lecturer it is 20% research and 80% teaching. The lecturer has more than 80% teaching and could fulfill this position for their entire life.

The university has introduced a new position category as there can be shared positions between KV and UDS. This though, has its challenges, due to different heads at Faculty and at the Hospital.

9.2. Comments

For the academic staff the separation between UDS and KV is felt as an odd construction. The KV veterinarians when teaching at the hospitals are not allowed to schedule their own patients for teaching purposes. They feel that they have lost their influence in animal treatment due to the

commercial management of the hospital. It is also pointed out, that VHF has a limited opportunity to influence the recruitment of veterinarians to UDS.

The artificial separation between hospital and KV is not appropriate in relation to teaching and challenges between KV and UDS are felt. Due to the construction of KV and UDS, it was indicated that KV teachers at the small animal hospital were not well skilled to be teaching in the clinic.

The technical staff at the UDS is not a part of the teaching of students.

9.3. Suggestions

There should be a better corporation between VHF and UDS and academic veterinarians should be a natural part of the teaching at the hospital as well as being a part of the strategy of the hospital.

Important teaching hospital tasks such as supervision of students and research activities are not given appropriate attention in the recruitment process. The cooperation between UDS and VHF in this regard must be improved. A deadline should be stated for the implementation of the recommended actions for KV and UDS.

9.4. Decision

The Establishment is fully compliant with Standard 9.

10. Research programmes, continuing and postgraduate education

10.1 Findings

Research and doctoral education account for 70% of SLU's turnover. The level of research within VHF is very good, recognized in international rankings.

Although VHF is involved in the four 'Future' research platform (strategy 2017-2020) of SLU, it is responsible for only one segment, "Future Animals and Health".

SLU has four priority research areas (Bio-based materials, Sustainable and secure food supply, Economics and The significance of experiencing nature and of companion animals on human health and well-being). VHF highlights research in Animals for their own sake, but also where animals can serve as models for human diseases (including Translational Medicine), Reduced Use of Antimicrobials (One Health Perspective), Complex Diseases and Diagnosis, Wildlife Research, System Biological Studies, Sustainable Production Systems, and New Animal Feeds, as well as Continued and Developed International Cooperation.

An operational plan for 2017-2020 was established last June, where research activities in the field of first and second cycle education and goals of third cycle are identified.

A significant majority of the teachers are scientifically credited. Research activity in the undergraduate curriculum is present because of teaching that includes many examples from ongoing research and development work. It not only widens the professional perspective of the students and can attract students to research, but also helps the students in critical reading and understanding research papers.

A doctoral degree holds 240 ECTS. Research studies are finalized when the student presents a written thesis and defends it at a public seminar with an examining committee appointed by the faculty.

VHF offers 7 doctoral education subjects (*Animal Sciences, Bioinformatics, Biology, Biomedical sciences, Technology, Veterinary Nursing Science and Veterinary Sciences*) with the aim of giving the doctoral students a scientific way of working, subject knowledge and training in pedagogics and leadership.

Since 2016 a 'research school' (GS-VMAS) within VHF supports all graduate students and research topics at the Faculty, coordinates a number of PhD courses, and arranges seminars and workshops.

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Very few veterinary graduated students continue directly to PhD studies after graduation; most PhD-students with a DVM have worked a couple of years before starting their PhD. About 5 from each year continue to a PhD but, in addition, a lot of DVMs from abroad are doing PhD studies in VHF. Approximately 30% of PhD-students are veterinarians. In 2016, 171 PhDs, 24 admissions and 31 examinations distributed among all VHF departments were registered.

Master's degree project in veterinary Medicine is 30 ECTS. It mainly consists of a supervised scientific experimental research project within veterinary science. A large number of scientific publications are generated by this work. The oral presentation is conducted for an academic audience and students are appointed as "opponents" at each other's presentations.

In Sweden Veterinarians do not need to prove that they spent a minimum number of hours each year or during a certain period of time on Continuing Professional Development (CPD) in order to retain their licence to practise.

The reason why there has been a drastic drop of VHF's own range of CPD courses is because a veterinarian who is employed by or runs a firm can "buy" a course place at courses arranged by Swedish Higher Education Institutions, while other veterinarians cannot do so. Furthermore many teachers, researchers and clinicians at SLU are engaged in courses organised by external parties, such as SVF/SVS, VeTA-bolaget, Gård och Djurhälsan, and the major veterinary companies (e.g. AniCura, Evidensia).

SLU at Utuna Campus hosts the annual two-days Veterinary Congress, which is the major CPD meeting for Swedish veterinarians. Veterinarians employed by SLU can attend this congress at the department's expense. In 2016 there was an increase in the number of attendees to continuing education courses for veterinarians provided by VHF and UDS.

10.2 Comments

The third cycle education in Veterinary Medicine at VHF is of high quality.

Funding for the fourth year of the PhD is often problematic and often requires combinations with the status of a teacher or resident. VHF would like, if authorized by College, to combine third cycle studies with European specialist education in order to increase young veterinarians' interest towards the academic sphere. Residency programs are not financed by SLU or VHF. Some disciplines lack residents, in spite of being run by diplomate professors.

It is very valuable that the students act as "opponents" of their colleagues in their oral presentation of the degree project. It is a praiseworthy procedure to promote the discussion on a scientific topic between students.

There is no coordination between CDP activities in VHF and UDS.

10.3 Suggestions for improvement

Clearly outlined programmes for PhD and residents should be designed and financially supported by the SLU.

There should be a better coordination between CDP activities in VHF and UDS for increasing the quality and the quantity of continuing education.

10.4. Decision

The Establishment is fully compliant with Standard 10.

11. Outcome Assessment and Quality Assurance (see Standards 11.1 to 11.10 in Chapter 3)

11.1. Findings

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

-) *has a culture of QA and continued enhancement of quality;*
-) *operates ad hoc, cyclical, sustainable and transparent outcome assessment, QA and quality enhancement mechanisms;*
-) *collect, analyse and use relevant information from internal and external sources for the effective management of their programmes and activities (teaching, research, services);*
-) *informs regularly staff, students and stakeholders and involves them in the QA processes;*
-) *closes the loop of the QA Plan-Do-Check-Act (PDCA) cycle;*
-) *is compliant with ESG Standards.*

The Establishment accepts international standards (ESG, ESEVT) and follows national initiatives and regulations in the field of QA. It has undergone several external audits both on behalf of national higher education authorities and by international bodies.

The Establishment has a mission statement, a vision, and a set of values defined and shared, as well as a strategic plan and related operational plan for the period 2017–2020. These documents are made public together with reports of quality related activities partly on the open, partly on the internal website. Among them, there is a risk analysis from 2016 (<https://internt.slu.se/globalassets/mw/org-styr/planering-utveckling/verksamhetsplanering-budget-strategi/vh-faks-risker-2016.pdf>).

The Deputy Vice-Chancellor has recently introduced the so-called quality dialogues which are expected to contribute to quality enhancement in the field of education.

The obligation to offer high quality courses is emphasized together with the shared responsibility of both the staff and students for the achievement of this goal.

There are four follow-ups in the field of education such as new arrival survey for new programme students (semester 1), student social survey for all programme students, every other year, course evaluations, study programme evaluations.

Course evaluations are explicitly used for the improvement of teaching quality: “At the start of the course, the results from previous course evaluations shall be presented, along with possible changes that have been implemented due to the course evaluations.” Students have the right to be represented and participate at the discussion of the results of course/programme evaluations.

The field of SLU research will be surveyed from the quality point of view in 2018 (<https://internt.slu.se/Organisation-och-styrning/KoN2018/>). Preparations have been made for this.

The Establishment gathers a variety of data for indicators which make the drawing of trends and comparison with other higher education institutions in Sweden possible. These indicators (2016) are also made public, together with an analysis based on them.

11.1.2. Brief description of the specific QA processes for each ESEVT Standards

The SER describes a number of different processes and a series of methods used for QA. The process for the QA of programmes/courses is clear. There are specific assessments which contribute to the enhancement of the six quality areas defined by the Establishment.

- admission statistics

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- data of student achievements available in the management information system
- monitoring of curriculum (teacher, student, external)
- course and program evaluations by students, results are reported in a common electronic course evaluation system (Evald in Slunik) and made available via student web
- student survey of satisfaction with services (<https://internt.slu.se/globalassets/mw/org-styr/univadm/utb-avd/studiesocial-rapport-2016.pdf>)
- evaluation of the University Animal Hospital (2016)
- analysis of training in the light of Day-One-Competences and development of the veterinary programme accordingly (ongoing project)

Statistical data are gathered in the management information system of SLU, and is also stored in the central higher education statistical databank, which makes benchmarking possible.

Staff is considered the key element to quality work, and a number of assessments are made in connection with them:

- competence development and pedagogical training for teaching and (student-related) staff
- annual salary reviews containing performance assessment of employees by department head
- promotion: based on external expert evaluation
- individual teachers' education efforts analysed: National quality assessment of the veterinary medicine programme (Swedish Higher Education Authority, 2014)
- staff survey (https://internt.slu.se/globalassets/mw/stod-serv/hr-fragor/filer-hr/arbetsmiljo/medarbetarundersokning/totalrapport_slu_2016_2.pdf)

If considered necessary or upon the law/ordinance on higher education, the Establishment invites outside quality experts.

11.1.3. Brief description of the process and the implication of staff, students and stakeholders in the development, implementation, assessment and revision of the QA strategy of the Establishment

External stakeholders are represented in different boards. Veterinarians hold their annual conference at SLU in which students may also participate. In general practitioners seem to be satisfied with the competences of students, the only thing lacking being "self-confidence".

Every staff member has to play a role in the quality assurance of the Establishment and students are also represented and involved. The framework of the QA of courses and study programmes is described in Appendix 11.2 of the SER. The Establishment is about to introduce some changes in the QA field: one is the introduction of quality dialogues which will show the involvement of the top level management in the quality enhancement of the Establishment. Another change may be expected in relation to the assessment of the quality system of the Establishment by the Higher Education Authority in 2019.

11.2. Comments

The management of the Establishment shows a clear involvement in the maintenance and improvement of the quality of education, research and services, and in principle the internal stakeholders, employees and students have the forums to express their opinions, and suggestions. However, decision making seems to be based on the input of a limited circle of staff (the management), while others feel they have no impact on matters which affect their worklife and the development of the Establishment.

11.3. Suggestions for improvement

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Even though the Establishment is part of a larger academic institution, it should have a separate quality policy and quality processes more tailored to the needs of veterinary training, with the responsibilities in the maintenance of the quality system of the Establishment made explicit.

From among the external stakeholders professional organisations and institutions, representing actual labour market demand in the elaboration of goals, outcomes, curriculum, etc. should be stronger.

The involvement of non-senior staff in decision making is necessary to ensure participation, and cooperation in the efforts for development and correction, and to make the quality policy of the Establishment work.

Wherever possible, objective criteria, and qualitative data and indicators should be used for monitoring the development and corrective measures.

Quality assessment should embrace the animal hospital and other external partners as well (with special respect to clinical shifts and the hospital's role in training).

The Establishment should provide career patterns for non-teaching staff as well as younger teaching staff and ensure their long-term attachment to the faculty.

11.4. Decision

The Establishment is fully compliant with Standard 11.

12. ESEVT Indicators

12.1. Findings

The ESEVT indicators calculated for the establishment based on raw data matched the list provided by the establishment in SER. Most of the indicators were above the minimal value, some of them exceeding this considerably (I10, I14, I15, I19) some were beyond the lower limit (I8, I11, I12, I16, I18, I20).

Name of the Establishment:					
Faculty of Veterinary Medicine and Animal Science, SLU, Uppsala, Sweden					
Date of the form filling: September 25, 2017					
		Establishment values	Median value	Minimal value	Balance
I1	n° of FTE academic staff involved in veterinary training / n° of undergraduate students	0.195	0.16	0.13	0.069
I2	n° of FTE veterinarians involved in veterinary training / n° of students graduating annually	0.960	0.87	0.59	0.370
I3	n° of FTE support staff involved in veterinary training / n° of students graduating annually	0.600	0.94	0.57	0.034
I4	n° of hours of practical (non-clinical) training	1155.000	905.67	595.00	560.00
I5	n° of hours of clinical training	821.000	932.92	670.00	151.00
I6	n° of hours of FSQ & VPH training	209.000	287.00	174.40	34.600
I7	n° of hours of extra-mural practical training in FSQ & VPH	35.000	68.00	28.80	6.20
I8	n° of companion animal patients seen intra-murally / n° of students graduating annually	34.900	70.48	42.01	-7.109
I9	n° of ruminant and pig patients seen intra-murally / n° of students graduating annually	0.770	2.69	0.46	0.306
I10	n° of equine patients seen intra-murally / n° of students graduating annually	7.930	5.05	1.30	6.632
I11	n° of rabbit, rodent, bird and exotic seen intra-murally / n° of students graduating annually	1.410	3.35	1.55	-0.135
I12	n° of companion animal patients seen extra-murally / n° of students graduating annually	0.000	6.80	0.22	-0.223
I13	n° of individual ruminants and pig patients seen extra-murally / n° of students graduating annually	13.040	15.95	6.29	6.745
I14	n° of equine patients seen extra-murally / n° of students graduating annually	14.150	2.11	0.60	13.555

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I15	n° of visits to ruminant and pig herds / n° of students graduating annually	1.840	1.33	0.55	1.293
I16	n° of visits of poultry and farmed rabbit units / n° of students graduating annually	0.013	0.12	0.04	-0.032
I17	n° of companion animal necropsies / n° of students graduating annually	2.427	2.07	1.40	1.027
I18	n° of ruminant and pig necropsies / n° of students graduating annually	0.933	2.32	0.97	-0.037
I19	n° of equine necropsies / n° of students graduating annually	0.853	0.30	0.09	0.760
I20	n° of rabbit, rodent, bird and exotic pet necropsies / n° of students graduating annually	0.253	2.05	0.69	-0.440
I21*	n° of FTE specialised veterinarians involved in veterinary training / n° of students graduating annually	0.773	0.20	0.06	0.710
I22*	n° of PhD graduating annually / n° of students graduating annually	0.400	0.15	0.09	0.312

12.2. Comments

The low values for I8 (n° of companion animal patients seen intra-murally / n° of students graduating annually) was due to the fact that these patients were seen in the UDS, where the total of patients examined exceeded 20,000, but the students had access only to 2000, due to the more commercial attitude of the hospital. No clinical training was carried out extramurally by the students on small animals (I12, n° of companion animal patients seen extra-murally / n° of students graduating annually). Indicators I11 and I16 (n° of rabbit, rodent, bird and exotic seen intra-murally / n° of students graduating annually and n° of visits of poultry and farmed rabbit units / n° of students graduating annually) were slightly below the limit because these species are less represented in the area and because of the less efficient use of the Swedish Livestock Research Centre facilities. The number of ruminant and pig necropsies was also low, mainly due to the decreasing number of ruminants in the area and lack of interest and high costs of transportation for the farmers to provide dead animals in order to obtain a diagnosis. Exotic animals (rabbits included as pets) were less represented in the pathology room (I20, n° of rabbit, rodent, bird and exotic pet necropsies / n° of students graduating annually).

12.3. Suggestions for improvement

A better use of the UDS patients and giving access to students into the UDS facilities during the teaching program would increase the caseload for both small animals and rabbits. The number of necropsies in ruminants, pigs and chicken could be increased by using the facilities of the National Veterinary Institute (SVA). Keeping the pathology department open during the summer could also be of help.

13. ESEVT Rubrics (summary of the decision of the Visitation Team of the Establishment for each ESEVT Standard, i.e. (total or substantial) compliance (C), partial compliance (PC) (Minor Deficiency) or non-compliance (NC) (Major Deficiency))

Standard 1: Objectives and Organisation	C	PC	NC
1.1. The Establishment must have as its main objective to provide, in agreement with the EU Directives and ESG recommendations, 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.	X		
1.2. The Establishment must develop and follow its mission statement which must embrace all the ESEVT standards.	X		
1.3. The Establishment 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.	X		
1.4. The person responsible for the veterinary curriculum and the person(s) responsible for the professional, ethical, and academic affairs of the Veterinary Teaching Hospital (VTH) must hold a veterinary degree.	X		
1.5. The organisational structure must allow input not only from staff and students but also from external stakeholders.	X		
1.6. The Establishment must have a strategic plan, which includes a SWOT analysis of its current activities, a list of objectives, and an operating plan with timeframe and indicators for its implementation.	X		
Standard 2: Finances			
2.1. Finances must be demonstrably adequate to sustain the requirements for the Establishment to meet its mission and to achieve its objectives for education, research and services.	X		
2.2. The finance report must include both expenditures and revenues and must separate personnel costs, operating costs, maintenance costs and equipment.	X		
2.3. Resources allocation must be regularly reviewed to ensure that available resources meet the requirements.	X		
2.4. Clinical and field services must function as instructional resources. Instructional integrity of these resources must take priority over financial self-sufficiency of clinical services operations. Clinics must be run as efficiently as possible.		X	
2.5. The Establishment must have sufficient autonomy in order to use the resources to implement its strategic plan and to meet the ESEVT Standards.	X		
Standard 3: Curriculum			
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.	X		
3.2. The learning outcomes for the programme must be explicitly articulated to form a cohesive framework.	X		
3.3. Programme learning outcomes must be communicated to staff and students and: -) underpin and ensure the effective alignment of all content, teaching, learning and assessment activities of the degree programme; -) form the basis for explicit statements of the objectives and learning outcomes of individual units of study; -) be regularly reviewed, managed and updated to ensure they remain relevant, adequate and are effectively achieved.	X		
3.4. The Establishment must have a formally constituted committee structure (which includes effective student representation), with clear and empowered reporting lines, to oversee and manage the curriculum and its delivery. 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, -) review the curriculum at least every seven years by involving staff, students and stakeholders, -) identify and meet training needs for all types of staff, maintaining and enhancing their competence for the on-going curriculum development.	X		
3.5. The curriculum must include the subjects (input) listed in Annex V of EU Directive 2005/36/EC and must allow the acquisition of the Day One Competences (output) (see Annex 2). This must concern all groups of subjects, i.e. Basic Sciences, Clinical Sciences, Animal Production, Food Safety and Quality, and Professional Knowledge.			X
3.6. External Practical Training (EPT) are training activities organised outside the Establishment, the student being under the direct supervision of a non-academic person (e.g. a practitioner). EPT cannot replace the core intramural training nor the extramural training under the close supervision of academic staff (e.g. ambulatory clinics, herds visits, practical training in FSQ).	X		
3.7. Since the veterinary degree is a professional qualification with Day One Competences, EPT must complement and strengthen the academic education by enhancing for the student the handling of all common domestic animals, the understanding of the economics and management of animal units and veterinary practices, the communication skills for all aspects of veterinary work, the hands-on practical and clinical training, the real-life experience, and the employability of the prospective graduate.	X		
3.8. The EPT providers must have an agreement with the Establishment and the student (in order to fix 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 Establishment on the EPT programme.	X		
3.9. There must be a member of the academic staff responsible for the overall supervision of the EPT, including liaison with EPT providers.	X		
3.10. 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 Establishment and evaluating the EPT. Students must be allowed to complain officially or anonymously about issues occurring during EPT.	X		
Standard 4: Facilities and equipment			
4.1. All aspects of the physical facilities must provide an environment conducive to learning.	X		
4.2. The veterinary Establishment must have a clear strategy and programme for maintaining and upgrading its buildings and equipment.	X		

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4.3. Lecture theatres, teaching laboratories, tutorial rooms, clinical facilities and other teaching spaces must be adequate in number, size and equipped for the instructional purposes and must be well maintained. The facilities must be adapted for the number of students enrolled.	X		
4.4. Students must have ready access to adequate and sufficient study, self-learning, recreation, locker, sanitary and food services facilities.	X		
4.5. Offices, teaching preparation and research laboratories must be sufficient for the needs of the academic and support staff.	X		
4.6. Facilities must comply with all relevant legislation including health, safety, biosecurity and EU animal welfare and care standards.	X		
4.7. The Establishment's livestock facilities, animal housing, core clinical teaching facilities and equipment must: -) be sufficient in capacity and adapted for the number of students enrolled in order to allow hands-on training for all students -) be of a high standard, well maintained and fit for purpose -) promote best husbandry, welfare and management practices -) ensure relevant biosecurity and bio-containment -) be designed to enhance learning.	X		
4.8. Core clinical teaching facilities must be provided in a VTH with 24/7 emergency services at least for companion animals and equines, where the Establishment can unequivocally demonstrate that standard of education and clinical research are compliant with all ESEVT Standards, e.g. research-based and evidence-based clinical training supervised by academic staff trained to teach and to assess, availability for staff and students of facilities and patients for performing clinical research and relevant QA procedures. For ruminants and pigs, on-call service must be available if emergency services do not exist for those species in a VTH. The Establishment must ensure state-of-the-art standards of teaching clinics which remain comparable with the best available in the private sector.	X		
4.9. The VTH and any hospitals, practices and facilities (including EPT) which are involved with the curriculum must meet the relevant national Practice Standards.	X		
4.10. All core teaching sites must provide dedicated learning spaces including adequate internet access.	X		
4.11. The Establishment must ensure students have access to a broad range of diagnostic and therapeutic facilities, including but not limited to: pharmacy, diagnostic imaging, anaesthesia, clinical pathology, intensive/critical care, surgeries and treatment facilities, ambulatory services and necropsy facilities.	X		
4.12. Operational policies and procedures (including biosecurity, good laboratory practice and good clinical practice) must be taught and posted for students, staff and visitors.	X		
4.13. Appropriate isolation facilities must be provided to meet the need for the isolation and containment of animals with communicable diseases. Such isolation facilities must be properly constructed, ventilated, maintained and operated to provide for animal care in accordance with updated methods for prevention of spread of infectious agents. They must be adapted to all animal types commonly handled in the VTH.			X
4.14. The Establishment must have an ambulatory clinic for production animals or equivalent facilities so that students can practise field veterinary medicine and Herd Health Management under academic supervision.	X		
4.15. The transport of students, live animals, cadavers, materials from animal origin and other teaching materials must be done in agreement with national and EU standards, to ensure the safety of students and staff and to prevent the spread of infectious agents.	X		
Standard 5: Animal resources and teaching material of animal origin			
5.1. The number and variety of healthy and diseased animals, cadavers, and material of animal origin must be adequate for providing the practical training (in the area of Basic Sciences, Clinical Sciences, Pathology, Animal Production, Food Safety and Quality) and adapted to the number of students enrolled.			X
5.2. It is essential that a diverse and sufficient number of surgical and medical cases in all common domestic animals and exotic pets be available for the students' clinical educational experience and hands-on training.	X		
5.3. In addition to the training provided in the Establishment, experience can include practical training at external sites, provided this training is organised under direct academic supervision and at the same standards as those applied in the Establishment.	X		
5.4. The VTH must provide nursing care skills and instruction in nursing procedures.	X		
5.5. Under all situations students must be active participants in the workup of patients, including physical diagnosis and diagnostic problem oriented decision making.		X	
5.6. Medical records must be comprehensive and maintained in an effective retrieval system (preferably an electronic patient record system) to efficiently support the teaching, research, and service programmes of the Establishment.	X		
Standard 6: Learning resources			
6.1. State-of-the-art learning resources must be available to support veterinary education, research, services and continuing education. 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.	X		
6.2. Staff and students must have full access on site to an academic library, which is administered by a qualified librarian, an Information Technology (IT) unit, which is managed by an IT expert, an e-learning platform, and the relevant human and physical resources necessary for development by the staff and use by the students of instructional materials.	X		
6.3. The Establishment must provide students with unimpeded access to learning resources which include scientific and other relevant literature, internet and internal study resources, and equipment for the development of procedural skills (e.g. models). The use of these resources must be aligned with the pedagogical environment and learning outcomes within the programme, and have mechanisms in place to evaluate the teaching value of innovations in learning resources.	X		
6.4. The relevant electronic information, database and other intranet resources must be easily available for students and staff both in the Establishment's core facilities via wireless connection (Wi-Fi) and from outside the Establishment via Virtual Private Network (VPN).	X		
Standard 7: Student admission, progression and welfare			
7.1. The selection criteria for admission to the programme must be consistent with the mission of the Establishment. The number of students admitted must be consistent with the resources available at the Establishment for staff, buildings, equipment, healthy and diseased animals, and materials of animal origin.	X		

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7.2. In relation to enrolment, the Establishment must provide accurate information in all advertisements regarding the educational programme by providing clear and current information for prospective students. Further, printed catalogue and electronic information must state the purpose and goals of the programme, provide admission requirements, criteria and procedures, state degree requirements, present Establishment descriptions, clearly state information on tuition and fees along with procedures for withdrawal, give necessary information for financial aid programmes, and provide an accurate academic calendar.	X		
7.3. The Establishment's website must mention the ESEVT Establishment's status and its last Self Evaluation Report and Visitation Report must be easily available for the public. Not applicable.	X		
7.4. The selection and progression criteria must be clearly defined, consistent, and defensible, be free of discrimination or bias, and take account of the fact that students are admitted with a view to their entry to the veterinary profession in due course.	X		
7.5. The Establishment must regularly review and reflect on the selection processes to ensure they are appropriate for students to complete the programme successfully, including consideration of their potential to meet all the ESEVT Day One Competences in all common domestic species (see Annex 2).	X		
7.6. Adequate training (including periodic refresher training) must be provided for those involved in the selection process to ensure applicants are evaluated fairly and consistently.	X		
7.7. There must be clear policies and procedures on how applicants with disabilities or illnesses will be 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		
7.8. The basis for decisions on progression (including academic progression and professional fitness to practise) must be explicit and readily available to the students. The Establishment 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.	X		
7.9. The Establishment 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		
7.10. Mechanisms for the exclusion of students from the programme for any reason must be explicit.	X		
7.11. Establishment policies for managing appeals against decisions, including admissions, academic and progression decisions and exclusion, must be transparent and publicly available.	X		
7.12. Provisions must be made by the Establishment to support the physical, emotional and welfare needs of students. This includes, but is not limited to, learning support and counselling services, careers advice, and fair and transparent mechanisms for dealing with student illness, impairment and disability during the programme. This shall include provision of reasonable accommodations/adjustments for disabled students, consistent with all relevant equality and/or human rights legislation.	X		
7.13. There must be effective mechanisms for resolution of student grievances (e.g. interpersonal conflict or harassment).	X		
7.14. Mechanisms must be in place by which students can convey their needs and wants to the Establishment.	X		
7.15. The Establishment must provide students with a mechanism, anonymously if they wish, to offer suggestions, comments and complaints regarding compliance of the Establishment with the ESEVT standards.	X		
Standard 8: Student assessment	X		
8.1. The Establishment must ensure that there is a clearly identified structure within the Establishment 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.	X		
8.2. The assessment tasks and grading criteria for each unit of study in the programme must be clearly identified and available to students in a timely manner well in advance of the assessment.	X		
8.3. Requirements to pass must be explicit.	X		
8.4. Mechanisms for students to appeal against assessment outcomes must be explicit.	X		
8.5. The Establishment must have a process in place to review assessment outcomes and to change assessment strategies when required.	X		
8.6. 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.	X		
8.7. Students must receive timely feedback on their assessments.	X		
8.8. Assessment strategies must allow the Establishment to certify student achievement of learning objectives at the level of the programme and individual units of study.	X		
8.9. Methods of formative and summative assessment must be valid and reliable and comprise a variety of approaches. Direct assessment of clinical skills and Day One Competences (some of which may be on simulated patients), must form a significant component of the overall process of assessment. It must also include the quality control of the students logbooks in order to ensure that all clinical procedures, practical and hands-on training planned in the study programme have been fully completed by each individual student.	X		
Standard 9: Academic and support staff			
9.1. The Establishment must ensure that all staff are appropriately qualified and prepared for their roles, in agreement with the national and EU regulations. A formal training (including good teaching and evaluation practices, learning and e-learning resources, biosecurity and QA procedures) must be in place for all staff involved with teaching. Most FTE academic staff involved in veterinary training must be veterinarians. It is expected that greater than 2/3 of the instruction that the students receive, as determined by student teaching hours, is delivered by qualified veterinarians.	X		
9.2. The total number, qualifications and skills of all staff involved with the programme, including teaching staff, 'adjunct' staff, technical, administrative and support staff, must be sufficient and appropriate to deliver the educational programme and fulfil the Establishment's mission.	X		
9.3. Staff who participate in teaching must have received the relevant training and qualifications and must 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, residents, interns or other postgraduate students, adjuncts or off-campus contracted teachers.	X		
9.4. Academic positions must offer the security and benefits necessary to maintain stability, continuity, and competence of the academic staff. Academic staff should have a balanced workload of teaching, research and service depending on their role; and should have reasonable opportunity and resources for participation in scholarly activities.	X		
9.5. The Establishment must provide evidence that it utilises a well-defined, comprehensive and publicised programme for the professional growth and development of academic and support staff, including formal appraisal and informal	X		

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mentoring procedures. Staff must have the opportunity to contribute to the Establishment's direction and decision making processes.			
9.6. Promotion criteria for academic 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.	X		
Standard 10: Research programmes, continuing and postgraduate education			
10.1. The Establishment must demonstrate significant and broad research activities of staff that integrate with and strengthen the veterinary degree programme through research-based teaching.	X		
10.2. All students must be trained in scientific method and research techniques relevant to evidence-based veterinary medicine.	X		
10.3. All students must have opportunities to participate in research programmes.	X		
10.4. The Establishment must provide advanced postgraduate degree programmes, e.g. PhD, internships, residencies and continuing education programmes that complement and strengthen the veterinary degree programme and are relevant to the needs of the profession and society.	X		
Standard 11: Outcome Assessment and Quality Assurance			
11.1. The Establishment must have a policy for quality assurance that is made public and forms part of their strategic management. Internal stakeholders must develop and implement this policy through appropriate structures and processes, while involving external stakeholders.	X		
11.2. The Establishment must have processes for the design and approval of their programmes. The programmes must be designed so that they meet the objectives set for them, including the intended learning outcomes. The qualification resulting from a programme must be clearly specified and communicated, and 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.	X		
11.3. The Establishment 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.	X		
11.4. The Establishment must consistently apply pre-defined and published regulations covering all phases of the student "life cycle", e.g. student admission, progression, recognition and certification.	X		
11.5. The Establishment must assure themselves of the competence of their teachers. They must apply fair and transparent processes for the recruitment and development of staff.	X		
11.6. The Establishment must have appropriate funding for learning and teaching activities and ensure that adequate and readily accessible learning resources and student support are provided.	X		
11.7. The Establishment must ensure that they collect, analyse and use relevant information for the effective management of their programmes and other activities.	X		
11.8. The Establishment must publish information about their activities, including programmes, which is clear, accurate, objective, up-to date and readily accessible.	X		
11.9. The Establishment must monitor and periodically review their programmes to ensure that they achieve the objectives set for them and respond to the needs of students and society. These reviews must lead to continuous improvement of the programme. Any action planned or taken as a result must be communicated to all those concerned.	X		
11.10. The Establishment must undergo external quality assurance in line with the ESG on a cyclical basis.	X		
<i>C: (total or substantial) compliance; PC: partial compliance (Minor Deficiency); NC: non-compliance (Major Deficiency)</i>			

Executive Summary

The Faculty of Veterinary Medicine and Animal Sciences (VHF), established in 2004 is part of the Swedish University of Agricultural Sciences (SLU). The Veterinary School is dating back to 1775, when it was first established in Skara, from where it moved to Stockholm and finally to Uppsala in 1976. The VHF has recently been added a Centre for Veterinary Medicine and Animal Science (VHC), which improved substantially the training and research process at SLU. The clinical training of the students is also being carried out at the University Animal Hospital (UDS). The Faculty is primarily located in Uppsala, with the Centre for Veterinary Medicine and Animal Science (VHC) at Campus Ultuna and the Swedish Livestock Research Centre 8 km East of Ultuna (Lovsta). The last EAEVE visitation was in 2007 and major changes have since been made to the facilities and structure of the establishment.

The SER was well written, complete and provided on time to the Visitation Team. Since the Establishment is in a transition period for adapting a new curriculum, additional information was provided to the team on site.

We would like to thank everybody who made this visitation possible. The Visitation was well prepared, well organised and carried out in a cordial and professional atmosphere. The liaison officer and his team were efficient and always helpful. The programme of the Visitation was easily adapted when requested by the Visitation Team who had full access to all the information, facilities and individuals they asked for.

Commendations

The Visitation Team was very impressed overall and would like to mention the following strong points of the establishment:

- staff & students are proud of their Establishment
- the facilities are excellent for both clinical and preclinical segments
- there is a positive interaction between teaching staff and students
- the high commitment of the teachers from the VHF to improve teaching and research
- the high number of equine cases seen both intramural and extramural
- the high quality and availability of the learning resources

Recommendations (Minor Deficiencies)

One Minor Deficiency has been identified:

-) Instructional integrity of the VTH resources does not take priority over financial self-sufficiency of clinical services operations (partial compliance with Standard 2).

Major Deficiencies

Three Major Deficiencies have been identified:

-) insufficient number of hours in practical training in Food Hygiene and Food Safety and absence of practical training in anaesthesiology (non compliance with Standard 3);

-) inappropriate isolation facilities for companion and food-producing animals (non compliance with Standard 4).

-) insufficient number of healthy and diseased companion animals and of cadavers in food-producing animals (non compliance with Standard).

Glossary

(Please use the same terminology and abbreviations as in the ESEVT SOP when possible)

EAEVE: European Association of Establishments for Veterinary Education

EBVS: European Board of Veterinary Specialisation

ECOVE: European Committee on Veterinary Education

EPT: External 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

QA: Quality Assurance

SER: Self Evaluation Report

SOP: Standard Operating Procedure

VPH: Veterinary Public Health

VTH: Veterinary Teaching Hospital

Standardised terminology

Accreditation: status of an Establishment that is considered by ECOVE as compliant with the ESEVT Standards normally for a 7 years period starting at the date of the last (full) Visitation;

Establishment: the official and legal unit that organise the veterinary degree as a whole, either a university, faculty, school, department, institute;

Ambulatory clinic: clinical training done extra-murally and fully supervised by academic trained teachers;

Establishment's Head: the person who officially chairs the above described Establishment, i.e. Rector, Dean, Director, Head of Department, President, Principal, ...;

External Practical Training: clinical and practical training done extra-murally and fully supervised by non-academic staff (e.g. practitioners);

Major Deficiency: a deficiency that significantly affects the quality of education and the Establishment's compliance with the ESEVT Standards;

Minor Deficiency: a deficiency that does not significantly affect the quality of education or the Establishment's compliance with the ESEVT Standards;

Visitation: a full visitation organised on-site in agreement with the ESEVT SOP in order to evaluate if the veterinary degree provided by the visited Establishment is compliant with all ESEVT Standards; any chronological reference to 'the Visitation' means the first day of the full on-site visitation;

Visitation Report: a document prepared by the Visitation Team, corrected for factual errors and finally issued by ECOVE; it contains, for each ESEVT Standard, findings, comments, suggestions and identified deficiencies.

Decision of ECOVE

The Committee concluded that the following Major Deficiencies had been found:

-) The Establishment is not compliant with Standard 3 because of insufficient number of hours in practical training in Food Hygiene and Food Safety and absence of practical training in anaesthesiology.
-) The Establishment is not compliant with Standard 4 because of inappropriate isolation facilities for companion and food-producing animals.
-) The Establishment is not compliant with Standard 5 because of insufficient number of healthy and diseased companion animals and of cadavers in food-producing animals.

The 'Faculty of Veterinary Medicine and Animal Sciences, Swedish University of Agricultural Sciences' is therefore classified as holding the status of: **NON-ACCREDITATION**.