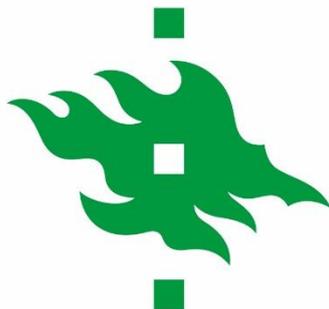




SELF EVALUATION REPORT 2019



UNIVERSITY OF HELSINKI
FACULTY OF VETERINARY MEDICINE

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INTRODUCTION

Brief history of the Establishment and of its previous ESEVT Visitations

The Faculty of Veterinary Medicine (FVM) is one of 11 Faculties of the University of Helsinki (UH). Established in 1640, the UH is the oldest, largest and most multidisciplinary institution of academic education in Finland. The FVM was established as an independent College of Veterinary Medicine in 1945, which was merged into the UH in 1995.

The previous ESEVT visitations were carried out in 1999 and in 2009. According to the Finnish Universities Act, Finnish universities must evaluate their education and research as well as regularly participate in external audits of their activities and quality assurance system. Since the latest ESEVT visitation, the following evaluations have been undertaken at the University:

- National audit by the Finnish Education Evaluation Council (FINEEC) in 2014-2015
- Evaluation of the doctoral education system in 2017
- Assessment of research in 2010-2012 and in 2018-2019

Main features of the Establishment

As the only veterinary faculty in Finland, the FVM is the most important veterinary educational and research institute in the country. The FVM operates in two different locations: in the multidisciplinary Viikki campus in Helsinki and the Saari campus in Mäntsälä. It has four departments and a Veterinary Teaching Hospital (VTH), comprising hospitals for small animals, equine and production animals.

The FVM has a six-year veterinary curriculum, which is divided into Bachelor and Licentiate of Veterinary Medicine programmes. The annual number of applicants has exceeded 700 in all recent years; the standard intake of new students is 68 each year. In addition to the undergraduate degrees, the FVM has national specialisation programmes in six different fields and a PhD programme. European Board Veterinary Specialist (EBVS) residency training is organised for nine Colleges. At the end of 2018, the FVM had 456 undergraduate students, 122 PhD students as well as 189 students in national and 13 in international specialisation programmes. The total number of staff was 274 persons, approximately one third of them working in the VTH.

Main developments since the last Visitation

Since the ESEVT visitation in 2009, the FVM has faced major changes, many of which have affected the whole UH:

- Financial cuts to the university sector decided and implemented by the Government of Finland in 2015 (overall budget cuts to the UH worth 100 million euros during the next five years) forced the University to balance its economy by cutting expenditures and by trying to increase income from different sources. The financial cuts meant that the University had to reduce its space and carry out staff reductions.
- Building the University Services (2016): all administrative staff at the University were transferred to work under a single centralised management structure. Services were regrouped into human resources (HR) services, teaching and learning services, research services, communications and community relations, administrative services, and operations management. University Services provide services through on-site teams on the campuses and centrally at the University level.
- Reform of the studies at the UH (the "Big Wheel") started in 2016, harmonising the structure of degree programmes within the University and highlighting career-relevant competences. Each degree programme has a Director and a Steering Group with staff and student representation.
- Helsinki One Health (HOH) is a network organisation led and launched by the FVM in 2018 to coordinate research actions within the area of One Health at the University. HOH has joined forces with four other faculties (medical, pharmacy, agriculture and social sciences) of the University. The network, together with its key partners within and outside academia, is committed to excellence in research to profile the UH as one of the top One Health universities in the world. HOH has a board with representatives from each of the participating Faculties and partners outside Helsinki University (Finnish Food Authority and Natural Resources Institute Finland).

During the last evaluation in 2009, no major deficiencies were found. A brief response to the flaws that were stated in the Executive Summary in 2009 is presented below:

- The whole chain “from farm to table” has been reconsidered to make it a visible and coherent continuum for the student. The animal production view is integrated into all courses related to production animals. Curriculum and course contents, including farm visits, have been reorganised to facilitate a species-specific view on animal production.
- The FVM has been able to create senior teacher positions in the areas that were found to be occupied by junior teaching staff.
- Several residency programmes have been established, with international co-operation. The Erasmus exchange programme has been used by staff and students. In association with HOH, a guest lectureship was established.
- The planned major renovation of the Production Animal Hospital was postponed for financial reasons between 2015 and 2019. In 2015, some repairs, including improvements in biosecurity, were carried out. The FVM obtained funding for 2016-2019 to support teaching and research in a private piggery and the co-operation will continue after that.

Major problems encountered by the Establishment

- The FVM budget is unbalanced at the moment. This causes uncertainty about the future, has an influence on planning future investments, and affects the well-being of staff and students.
- High turnover of staff in the VTH (recently regarding especially veterinary nurses)
- Difficulties in recruiting new staff in certain positions and getting European Diplomates in certain areas
- Difficulties in keeping foreign academic staff in Finland
- The attractiveness of research education and academic career is decreasing
- Changes in the surrounding society, such as a decreased number of slaughterhouses in the country and the disappearance of certain species of production animals in the FVM's practice area, make some aspects of veterinary education more difficult to carry through
- Increasing competition with decreasing public research funding

Version and date of the ESEVT SOP which is valid for the Visitation

Standard Operating Procedure (SOP) as approved at the Uppsala General Assembly, 12th May 2016.

1. OBJECTIVES AND ORGANISATION

1.1. Factual information

1.1.1. Details of the Establishment

Faculty of Veterinary Medicine	
P.O. Box 66 (Agnes Sjöbergin katu 2) FI-00014 University of Helsinki Finland	Tel.: +358 2941 911 (Switchboard) Email: el-hallinto@helsinki.fi Website: https://www.helsinki.fi/en/faculty-of-veterinary-medicine
Head of the Faculty Dean	Professor Antti Sukura, DVM, PhD
Other Members of the Leadership Vice-Dean in Charge of Research Vice-Dean in Charge of Education Vice-Dean in Charge of Bilingual and International Affairs	Professor Olli Peltoniemi, DVM, MVetSc, PhD, DiplECAR, DiplECPHM Professor Mirja Ruohoniemi, DVM, PhD, CertVR Professor Maria Fredriksson-Ahomaa, DVM, PhD, DiplECVPH
Persons responsible for the professional, ethical, and Education of the VTH	
Director of Veterinary Teaching Hospital Head of Small Animal Hospital Head of Equine Hospital Head of Production Animal Hospital	Timo Wahlroos, DVM, MBA Katariina Thomson, DVM, PhD Kati Niinistö, DVM, DiplECEIM Professor Juhani Taponen, DVM, PhD

Official authorities overseeing the Establishment

University of Helsinki , P.O. Box 3 (Fabianinkatu 33), FI-00014 UH, Finland Tel.: +358 2941 911 (Switchboard), Website: https://www.helsinki.fi/en	
Rector	Professor Jari Niemelä, PhD
Vice Rectors	Professor Sari Lindblom, PhD (education, quality assurance) Professor Paula Eerola, PhD (research, business collaboration, IT) Professor Hanna Snellman, PhD (international affairs, public engagement) Professor Tom Böhling, MD, PhD (bilingual affairs, social responsibility, wellbeing)
Head of Administration	Director Esa Hämäläinen, MSc
The Finnish Food Authority oversees the veterinary profession in Finland. At the graduation ceremony the FVM gives the diploma to graduating veterinarians and the Authority grants the license to practice veterinary profession. The Authority also controls the actions of veterinary surgeons and maintains a Register of Veterinary Surgeons.	

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

The operations of the University are governed by a strategic plan, approved by the Board. The current Strategic Plan of the UH is for the years 2017–2020. The Strategic Plan of the University consists of mission and values, vision and strategic objectives as well as development areas, measures to be taken, and monitoring and evaluation of the Strategic Plan.

According to the Strategic Plan, the UH is building a better, more sustainable world by involving itself more actively in the resolution of global problems. The mission of the University is high-quality research and education as well as active social interaction for a better world. The vision of the UH is global impact in interaction. The University will achieve its vision by engaging in increasingly close cooperation with both its established and new partners and stakeholders in Finland and abroad.

To achieve its vision for 2025 (“Global impact in interaction”), the University has selected three strategic objectives for the period 2017–2020: (1) A creative, international environment for learning and top-level research, (2) A focus on the student, and (3) Resources for reform. Each objective contains 3-5 main targets of development, of which each Faculty selects the most appropriate ones. It is also possible to add one’s own targets of development.



VISION FOR 2025 GLOBAL IMPACT IN INTERACTION



A CREATIVE, INTERNATIONAL ENVIRONMENT FOR LEARNING AND TOP-LEVEL RESEARCH

TARGETS FOR DEVELOPMENT



Profiling and recruitment



High-level and high-impact research



Open research



High-quality research infrastructure



International partnerships



FOCUS ON THE STUDENT

TARGETS FOR DEVELOPMENT



Competitive degrees



Interaction and learning in the scientific community



Digitisation of learning environments



RESOURCES FOR REFORM

TARGETS FOR DEVELOPMENT



An open and innovative operational culture



Development of human resources



Versatile and flexible funding

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In accordance with the Strategic Plan of the University, the Faculties have an implementation plan which contains the selected targets of development, a description of measures for obtaining them, responsible bodies and a timetable. The implementation plans of Faculties are prepared annually and approved by the Rector of the University. Recruitments are based on the personnel plan, which is part of the implementation plan of the Faculties and is revised yearly. The mission statement of the FVM, as stated in the implementation plan:

The main duties of the FVM are research, research-based education and related applied veterinary work. The FVM has an important role in educating specialists to maintain the health and welfare of both animals and humans. The FVM creates new knowledge and encourages scientific thinking. Ethical considerations direct the performance of duties. The FVM strives for high quality in all its activities.

The FVM educates veterinarians to respond to the changing demands of society, taking into account the demands of free movement within the profession and recognition of professional qualifications in the European Union (2005/36/EC and 2013/55/EU). The FVM secures the multifaceted veterinary know-how and development of the practice of veterinary medicine by educating its students and researchers to become versatile, competent professionals. FVM teachers and researchers act as experts in various roles in society.

The objectives of the FVM are in line with the Strategic Roadmap of the University. The FVM monitors the realization of the objectives given in the implementation plan annually, in association with drawing up the following year's implementation plan. The FVM's Management Group bears the main responsibility in preparing strategic documents to be further handled in the relevant FVM committees, before final handling in the Faculty Council. Moreover, FVM's strengths, weaknesses, opportunities, and threats (SWOT) are analysed approximately every other year, using collaborative methods in events where various staff is represented. The latest SWOT analysis ([Appendix 1](#)) was prepared together with teaching, research and support staff as well as student representatives on the FVM's Faculty Day in February 2019 to give a ground to implementation plan 2020. It was further analysed in the FVM's Extended Steering Group, discussed with the Board of the Veterinary Students' Association (EKY) and commented on by the new Director of the VTH.

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

The Strategic Plan of the University is operationalised in the annually drawn implementation plans, which describe the measures to be taken to achieve the goals defined in the Strategic Plan and include follow-up measures. The strategic objectives and topics of the main measures contributing to their achievement in 2019 are as follows (in more detail in [Appendix 2](#)):

<p>A creative, international environment for learning and top-level research: By 2025, the UH aims to have established itself as a cutting-edge research and learning environment that attracts students, researchers and partners from all over the world. A high-quality infrastructure and extensive digital resources will enable creative work in the academic community. The University will bolster its key research areas by collaborating with its international partners.</p>	
<p>Development targets selected by the FVM for the strategy period (2017-2020):</p> <ul style="list-style-type: none"> • Profiling and recruitment • High level and high-impact research • Open science • Competitive research infrastructure 	<p>Topics of main measures in 2019 include:</p> <ul style="list-style-type: none"> • HOH • Support for researchers in the generation of high-quality research • A strong focus on corporate cooperation • Open forums and materials in teaching and research • - Development and integration of research infrastructures into operations management
<p>A focus on student: The University will offer its students competitive degree programmes and degrees which have a broader scope than before. From the beginning of their studies, students will have the opportunity to participate in research.</p>	
<p>Development targets selected by the FVM for the strategy period (2017-2020):</p> <ul style="list-style-type: none"> • Competitive degrees • Interaction and learning in the scientific community • Digitisation of learning environments 	<p>Topics of main measures in 2019 include:</p> <ul style="list-style-type: none"> • Active participation of labour market partners in the degree programmes • Introduction of research-driven work methods to students • Teaching and evaluation methods in support of meaningful learning • Focus on academic ability • Creation of flexible and engaging learning environments
<p>Resources for reform: The UH will be acclaimed for its open and experimental culture. The staff will be offered opportunities for professional development to meet the changing needs of the operating environment. The University will be flexible in seeking funding from various sources.</p>	
<p>Development targets selected by the FVM for the strategy period (2017-2020):</p> <ul style="list-style-type: none"> • An open and innovative operational culture • Development of HR • Versatile and flexible funding 	<p>Topics of main measures in 2019:</p> <ul style="list-style-type: none"> • Creation of innovative operating environments • Promotion of digital competence • Management of objectives and workplace wellbeing • New policies for and sources of external funding

The implementation of the Strategic Plan is monitored with the help of indicators and their target values, set by the UH. The electronic monitoring tool RAPO shows the realisation of the target values in real time. The monitored quantitative objectives and indicators for the FVM, defined in the implementation plan for the three strategic objectives, are the following:

A creative, international environment for learning and top-level research

Strategic indicators	Target values	Monitoring
High-quality international publications	Target value for 2020 is 170	once a year
Open Access publications	(no target value specified)	once a year
Full-time equivalent and ratio of international teaching and research staff	Target ratio of 13% to total FTE	once a year

A focus on the student

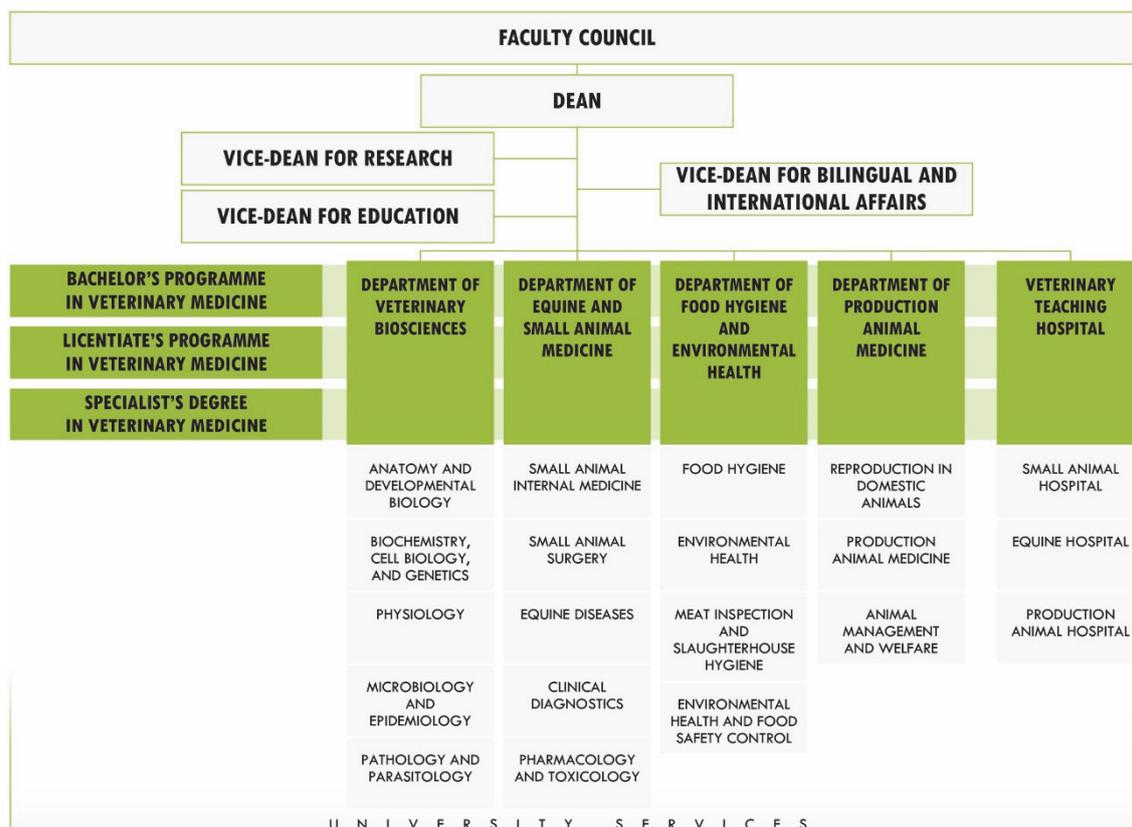
Strategic indicators	Target values	Monitoring
Response rate to the Bachelor's Graduate Survey in the whole target group	Target ratio of 80% for the whole target group	quarterly
Number and ratio of students with 55 completed credits per academic year to all attending students	(no target value specified)	once a year
Ratio of international doctoral students to all doctoral students	Target ratio 35%	once a year
Completed doctoral degrees	Target of 16 degrees annually	once a year

Resources for reform

Strategic indicators	Target values	Monitoring
Workplace wellbeing survey	Target 3.5/5	once every two years
Amount of flexible funding (international research funding, fundraising)	Target for international research funding 1 200 000 EUR (target for fundraising set at University level)	once a year

Additionally, the FVM has other performance indicators presented in the implementation plan that are monitored annually, such as the amount of domestic funding and the number of completed undergraduate degrees (Bachelor and Licentiate).

1.1.4. Organisational chart of the Establishment (also in [Appendix 3](#))



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

The FVM has four departments, which are each responsible for 3-5 disciplines (presented in 1.1.4). An essential part of the FVM is the VTH, which has its own rules of procedure, approved by the Rector, and statutes, approved by the Faculty Council. The FVM has the following official bodies:

Body	Composition	Responsibilities
Faculty Council	Dean (chair) + 10 Faculty members (each having a deputy member): 4 professors, 3 non-professorial teaching and research staff and other staff, 3 students	Develop the FVM's operations comprehensively in accordance with the University's strategic plan, operational and financial objectives as well as with the FVM's objectives. Decide on the curricula of the degree programmes and grant degrees. The specific duties include, e.g. deciding annually on the FVM's implementation plan, operational objectives, and the focus areas for the development of staff structures and budget grounds as well as monitoring their implementation, and on the FVM's operational units and their operational grounds. Highest decision-making body in the FVM.
Faculty Management Group	Dean and Vice-Deans (3), representatives of University Services appointed by the Dean (2)	Supports the Dean in Faculty leadership and decision making, provides a clear connection between strategic objectives and actual operations. Defines policies and actions to develop the FVM according to the strategic policy of the University. Monitors realisation of the key strategic indicators, organises interaction forums to analyse the data, set objectives, implementing actions and anticipates future needs. Engages staff and students in the FVM's development by organising open discussions on matters of importance to the Faculty.
Extended Management Group of the Faculty	The Dean, Vice-Deans, Heads of all four departments, Director of VTH, Directors of the degree programmes and representatives of University Services appointed by the Dean.	See above.
Steering Group of Degree Programme (separate groups for Bachelor and Licentiate degrees)	Programme Director and 6 members representing teaching and research staff, 2 student members. Each student member is assigned a deputy. Programme coordinator acts as the secretary.	Submits a proposal for the three-year curriculum of the programme and decides on the annual teaching programme. Prepares the proposals for the maximum number of students admitted to the programme as well as the admission criteria. Sees to the organisation of Swedish-language instruction in the programme. Ensures that the parties involved in the degree programme are consulted appropriately.
Steering Group of National Specialisation Programmes	Programme Director and 6 members representing each of the national specialising programmes. Programme coordinator acts as the secretary.	Organises and oversees continuation education and practical training of national specialisation. Submits a proposal for the educational requirements of specialisation programmes to the Faculty Council.
Committee for Research and Research-oriented Postgraduate Education	Vice-Dean for Research (chair) + 2 representatives from each department, one representative from the Finnish Food Authority, and a Senior Advisor in Research Administration (secretary)	Prepares the plan for implementing the Faculty's research policy and contributes to the development and improvement of research conditions in the Faculty. Recommends applications for the title of docent and the nominations for pre-examiners of Doctoral candidate's dissertation manuscripts for the Faculty Council. Is in charge of the Faculty-level guidelines on scientific postgraduate studies in veterinary medicine.
Community Relations Committee	Dean (chair) + one representative from each department, 4 representatives from communications and community relations, and the head of alumni affairs (secretary).	Processes all matters concerning the Communications and Community Relations sector, as well as any other related matters.
Teaching Skills Committee	The Chair representing teaching and research staff of the FVM, 5 other representatives of FVM's teaching and research staff, senior lecturer in university pedagogy, a student representative, and an HR specialist (secretary). Additionally, 4 deputy members for teaching and research staff, one deputy student member.	Promotes the development of high quality and diverse teaching skills among the Faculty's teaching and research staff. Assesses the teaching skills of applicants for a professorship or other teaching or research position as well as when examining the qualifications for the title of docent.
The Board of the Veterinary Teaching Hospital	The Rector appoints one of the members to be chair of the Board. 8 members, each member has a deputy. One of the members is a representative of the VTH's support staff and one is a student representative.	Makes a proposal to the Faculty Council on the rules of the VTH and its distribution to units. Accepts the publicity strategy on the activities of the VTH. Discusses the operation plan of the VTH. Discusses the pricing principles of VTH's services.

When appointing a committee, gender balance as well as balance between different fields of research and education, the departments of the FVM, and representation of different staff groups and students is considered. Students are represented in all relevant bodies. The term of office for most official bodies is four years. Most of the bodies meet on a monthly basis.

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

	What/how	By who
Strategic planning	Series of events, surveys Meetings and workshops	All members of the University community Alumni, stakeholders Relevant university and Faculty-level bodies
Decision	University's operational structure Strategic Plan and the implementation plan of the University	The Board of the UH
	FVM's and VTH's operational structure FVM's implementation plan	Faculty Council
Implementation	University FVM Everyday work	Rector Faculty Council, Management Group The whole University community
Assessment	Monitoring of strategic indicators Reports, annual discussions	Management of the University Faculty Management Group, Faculty Council Rector with the FVM's leadership Rector to the Board of the University
Revision	Next year's implementation plan	Board of the UH Faculty Council < FVM's (Extended) Management Group
Communication	University's strategy/ University webpages, intranet Implementation plans/ Intranet Open events, Faculty Days	University services Management of the University and the FVM The Dean

The committees, their composition, responsibilities, meeting schedules and contact information are available at University intranet Flamma. The minutes and decisions are archived in Wiki platform or in the document management system Riihi, where they are available for all staff. Specific matters that need to be notified to the staff, students, or stakeholders are communicated to relevant persons or targeted groups through mailing lists, directly by email, and/or Flamma news.

1.2. Comments

The organisation is clear and the present groups and committees appear relevant. The connection between the VTH and other parts of the FVM is functional. The involvement of key external stakeholders will be formalized by nomination of a new Advisory Stakeholder Group of the FVM (autumn 2019).

1.3. Suggestions for improvement

The internal organization of the VTH should be reconsidered based on teaching needs.

2. FINANCES

2.1. Factual information

2.1.1. Description of the global financial process of the Establishment

Main sources of revenues to the FVM are core funding from the UH, income of veterinary services run by the VTH, direct governmental support to the VTH, external research grants, and contract research, diagnostic and other services by research groups.

The UH obtains funding from the government budget, as competitive external research funding (domestic and international), other external funding, income from business activities, and income from investments. From the main budget the University covers all centralised services including administration and allocates funds for Faculties and other budgetary units.

Public funding is used to finance research and teaching at the departments of the FVM and partly at the VTH, where clinical training is conducted. The main part (approximately 70-75 %) of the costs for the VTH is covered by the fees collected from customers. The VTH is part of the FVM and FVM holds the responsibility for the use of funds in order to ensure that instructional integrity always remains the first priority for the teaching hospital. The FVM covers the potential loss for the VTH and manages its potential surplus. The Director of the VTH ensures that the daily operations run as efficiently as possible.

External research funding is appointed for specific research projects. All the projects are implemented, monitored and reported according to the requirements of the financier and the University's accounting practices.

University financial services assist and support the Dean, project and department managers and the Director of the VTH to ensure that finances are adequate to sustain the requirements for the FVM.

2.1.2. Degree of autonomy of the Establishment on the financial process

The Board and the Rector share the overall responsibility for the HU's finances and performance. Faculties negotiate annually with the Rector concerning their targets and resources. The HU allocates an annual budget to the FVM to cover personnel, facility rentals, operating costs and investments in equipment.

The Dean is responsible for the Faculty-level finances, HR and the overall performance. Budgets within the FVM are prepared based on negotiations with Department Heads and the Director of the VTH. The VTH has its own budget, which is a part of the Faculty budget. The Dean is responsible for the FVM's budget to the Rector and the Director of the VTH is responsible to the Dean for the VTH budget. Every discipline gets some operating money to be used for its own needs, but salary costs and bigger equipment are at Faculty level. The Dean ensures that finances are monitored at the Faculty level and that the necessary measures are taken. The Dean is responsible for the achievement of set targets and for the efficiency, economy and effectiveness of Faculty operations.

2.1.3. % of overhead to be paid to the official authority overseeing the Establishment on revenues from services and research grants

Until very recently, an overhead of 5% for external funding (including business activities) was charged and subsumed into the main budget for the UH. From the beginning of 2019 Faculties have the right and the responsibility to charge the needed overheads from externally funded projects and business activities but they are not transferred to the main University budget.

Up to 2019 the FVM has charged an approximately 13% overhead on its own budget in addition to the 5% University-level overhead. At present, the Rector's 5% goes directly to the FVM's budget and also the previous 13% increased in March 2019 to 15% on new funding, and thus, the Faculty overhead is 20%. The VTH was not earlier charged the Faculty-level overhead; however, from the beginning of 2019 it is charged a 7% overhead (this includes the previous 5% to the University). The Faculty-level overhead is used to cover e.g. rental costs of the facilities, infrastructure costs and general operating costs.

In the case of externally funded research projects where the full cost model is applied, the real audited overhead was 110% in 2018 (calculated on the personnel costs of the projects). The percentage is verified annually. In these projects the department usually covers the share of its own funding, e.g. 30-40% of the project budget.

2.1.4. Annual tuition fee for national and international students

There is no tuition fee for national students and students from other EU and EEA countries, and the FVM has no undergraduate programmes directed to students outside the EU. However, there are international postgraduate students in the FVM but they are not charged tuition fee. Although tuition is free, students have to pay an obligatory student union fee (100 €/year in 2018-2019) which includes students' health care fee to the Finnish Student Health Services (FSHS) foundation.

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

UH Properties Ltd or UH Funds own real estate used by the University (a very small proportion is rented by the Properties Ltd). The University also has a company called UH Property Services Ltd to take care of the maintenance of property. The rent paid to UH Property Services Ltd covers all the utility and maintenance costs (see Table 2.1.1.) of the property that the FVM uses. The University administration, libraries, IT services, etc. are resourced separately and offer services to all units of the University and it is not possible to estimate the FVM's share of those expenditures.

2.1.6. List of the ongoing and planned major investments for developing, improving and/or refurbishing facilities and equipment, and origin of the funding

The decision to renovate the clinic building in the Production Animal Hospital (also used by the Department of Production Animal Medicine) has been made by the University and the actual work will start in 2019. In the renovation, a new isolation unit for large animals will be constructed, and the functions of the clinic reorganised (including new facilities for the small animal clinic run in the unit to serve local customers).

2.1.7. Prospected expenditures and revenues for the next 3 academic years (euros €)

Fiscal year	Total expenditures	Total revenues	Balance
2019	25 826 753	24 729 480	- 1 097 273
2020	26 095 530	25 345 745	- 749 785
2021	26 477 606	26 228 806	- 248 800

During the ongoing and following years the FVM balance is heavily in minus, due to the reduced core funding from the UH, which is, in turn, due to the State Government cuts on higher education funding. All previous surpluses will be used in 2019.

2.1.8. Description of how and by whom expenditures, investments and revenues are decided, communicated to staff, students and stakeholders, implemented, assessed and revised

The annual budget is prepared by the Dean, with the support of centralised University financial services. The budget is made based on the amount of funds allocated to the FVM as well as estimated external funding.

The Dean negotiates the budget with the Department Heads and the Director of the VTH. The Director of the VTH is responsible for preparing the VTH's budget after negotiation with the Dean. The Faculty Council discusses the FVM budget and plans of the staff. According to the Regulations of the University, the Faculty Council decides the grounds or rationales of the budget but not exact numbers. In the annual negotiations with the Rector, the budget is commented on and finally, the University Board decides on it as part of the University budget. The Dean assesses the budget monthly, the Faculty Management Group every quarter of a year and the Faculty Council twice a year.

In the annual Faculty Day(s) the Dean briefly introduces the finances to the staff and student representatives. The finances may also be discussed in the Dean's meetings with the Board of the student association.

Table 2.1.1. Annual expenditures during the last 3 fiscal years (euros €)

H90 = Total budget; H901 = Departments of the FVM without VTH; H902 = VTH

Area of expenditure H90	2018	2017	2016	Mean
Personnel	14 768 673	15 160 667	15 799 480	15 242 940
Operating costs	4 848 238	4 545 374	4 704 089	4 699 233
Maintenance costs	5 302 015	5 337 309	5 526 713	5 388 679
Equipment	563 799	416 430	303 405	427 878
Total expenditure	25 482 724	25 459 781	26 333 686	25 758 731
Area of expenditure H901	2018	2017	2016	Mean
Personnel	9 547 384	9 988 533	10 623 916	10 053 278
Operating costs	1 140 038	1 390 014	1 755 013	1 428 355
Maintenance costs	3 469 805	3 465 397	3 661 119	3 532 107
Equipment	245 484	245 444	144 442	211 790
Total expenditure	14 402 711	15 089 388	16 184 491	15 225 530
Area of expenditure H902	2018	2017	2016	Mean
Personnel	5 221 289	5 172 134	5 175 563	5 189 662
Operating costs	3 708 200	3 155 361	2 949 075	3 270 878
Maintenance costs	1 832 209	1 871 912	1 865 594	1 856 572
Equipment	318 315	170 986	158 963	216 088
Total expenditure	11 080 013	10 370 393	10 149 195	10 533 200

Table 2.1.2. Annual revenues during the last 3 fiscal years

H90 = Total budget; H901 = Departments of the FVM without VTH; H902 = VTH

H90 Revenues source	2018	2017	2016	Mean
Public authorities	13 059 113	13 940 642	15 031 656	14 010 470
Clinical services (VTH)	8 244 000	7 596 958	6 771 336	7 537 431
Diagnostic services*	120 000	112 716	130 744	121 153
Other services**	468 877	563 722	523 152	518 583
Research grants	3 161 697	3 031 890	3 240 397	3 144 661
Continuing education	43 996	65 172	64 560	57 909
Donations and other	267 000	267 000	not specified	267 000
Total revenues	25 364 683	25 578 100	25 761 844	25 568 209
H901 Revenues source	2018	2017	2016	Mean
Public authorities	10 082 248	11 200 091	12 005 546	11 006 962
Diagnostic services*	120 000	112 716	130 744	121 153
Other services**	468 877	563 722	523 152	518 583
Research grants	3 161 697	3 031 890	3 240 397	3 144 661
Continuing education	43 996	65 172	64 560	57 909
Donations	267 000	267 000	not specified	267 000
Total revenues	14 143 819	14 973 591	15 964 396	15 027 269
H902 Revenues source	2018	2017	2016	Mean
Public authorities	2 976 864	3 007 551	3 026 110	3 003 508
Clinical services	8 244 000	7 596 958	6 771 336	7 537 431
Total revenues	11 220 864	10 604 509	9 797 446	10 540 939

* includes pathology diagnostic and other service ** includes clinical microbiology, clinical chemistry and food microbiology, etc. business revenues

Table 2.1.3. Annual balance between expenditures and revenues

Fiscal year	Total expenditures	Total revenues	Balance
2016*	26 333 686	25 761 844	-571 842
2017	25 459 781	25 578 100	+118 319
2018	25 482 724	25 364 683	-118 041

*The centralisation of administration in 2016 had an effect on the expenditure for the following years

2.2. Comments

The negative financial balance is a major obstacle for the FVM. This is not due to increasing expenditures by renting more space or hiring extra staff but due to cuts in core funding. The FVM has run saving programmes since 2015 by giving up 10% of its space, being very reserved about personal planning and also made cuts to some staff. The decrease in space has e.g. resulted in restricted places for students to work on their group assignments and in loss of meeting rooms for staff. Office space has also been reduced. At the same time, the VTH's profitability has increased, and good quality research and teaching has been continuously carried out.

Being more successful in external research funding will provide some help with overheads but to balance the budget with the present expenditure structure, the core funding has to increase as well. However, the FVM is part of the University, our total budget is 3.5% of the University's total budget and the main factor will be the State's support to higher education.

An important balancing effect is funding to the HOH initiative from the Finnish Academy, companies and several foundations. The Finnish Academy funding is for 2018-2022 but other Faculty fundraising is ongoing and will be further intensified to balance finance.

2.3. Suggestions for improvement

Only an increase in the University's core funding to the FVM and intensive searches for external funding will balance the economy. Internal discussion for modifying the money allocation model at the UH has started as part of the new Strategy planning for 2021-2030. The University offers support for fundraising from the EU and abroad as well private companies. These sources will be utilised to increase external funding.

3. CURRICULUM

3.1. Factual information

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

The pedagogical approach of the FVM is in line with that of the UH: teaching is research-based, based on constructive alignment and student-centred. Teaching is based on appropriate methods that draw on the research and development of university-level teaching and learning. Several research projects on teaching and learning have been performed, most of them in collaboration with the University's Centre for Research and Development of Higher Education. The results have been useful for improving everyday teaching and studying as well as for quality enhancement at the Faculty level.

Constructive alignment refers to teaching where the objectives are appropriate and clear to the students, and the teaching methods and assessment encourage students to engage in learning activities in order to gain the desired understanding and skills. The principle of student-centredness means that the student is an active and responsible participant in the academic community. The collective creation of knowledge, supported by teaching methods that rely on seeking, producing and evaluating information in collaboration, is increasingly used in teaching. Clearly expressed objectives for the programmes and learning outcomes for each course help students to take responsibility for their own learning and studying.

The objective of the Bachelor's degree is to provide knowledge of the basics of the discipline as well as the ability to follow developments in the field. The Bachelor's degree encourages the ability to engage in scholarly thinking and scientific work, developing an eligibility for studies, which lead to the degree of Licentiate of Veterinary Medicine. The degree provides the prerequisites for life-long learning and develops good language and communication skills.

- The four main themes in the Bachelor's programme are: 1) Functional body; 2) Welfare, management and feeding of domestic animals; 3) Causes, consequences and prevention of disease; 4) Introduction to clinical veterinary medicine

The objective of the Licentiate degree is to provide students with broad-based fundamental skills in the fields of science that form the foundation for veterinary practice. These skills include:

- * the ability to make independent judgements and scientifically and ethically justified decisions
- * versatile communication and cooperation skills
- * the competencies required to perform professional veterinary duties and to independently practise the profession of a veterinarian
- * the ability to follow developments in the field and engage in lifelong learning, as well as the skills needed for academic and professional further education.

The Licentiate of Veterinary Medicine degree provides students with the skills and knowledge needed to be licensed as a veterinary surgeon in compliance with Finnish legislation, and to work as an official veterinarian in various fields of veterinary medicine, as referred to in EU regulations.

- The three main themes in the Licentiate's programme are: 1) Animal health management; 2) Practical training in veterinary profession; 3) Food safety, food quality and a healthy living environment.

One of the main aims of the curriculum is that all areas important for to graduate as a veterinarian are introduced in the Bachelor's degree and revisited from different perspective(s) in the Licentiate degree. The degrees are introduced in detail in [Appendix 4](#). The FVM has also actively striven to implement a high-level pedagogical approach to curriculum development: by research on teaching and learning, by figuring out the big pictures horizontally and vertically within the curriculum, and by trying to encourage students to be actively involved in studying throughout the course and not just before the examination. Overlapping courses were seen to impede students' learning and made them feel overburdened (Ruohoniemi and Lindblom-Yläne 2009), and the curriculum is now based on larger modules where students have a better opportunity to concentrate on one subject at a time while perceiving large (structural) entities of the curriculum. E.g. in the fourth year, all small animal courses are in the autumn term and large animals in the spring term. The use of assignments, seminars and alternative assessment methods serves as a means to place the focus on studying and learning rather than on only passing an examination.

The curriculum aims to provide a strong base for a variety of careers immediately after graduation. The need for tracking was evaluated in 2010-2011. No strict tracking was implemented but the elective courses were grouped so that students who are interested in certain areas or animal species (e.g. small animals, food hygiene and environmental health or veterinary research) can more easily see the available options.

The timing of the courses is also considered annually. Orientation is possible to some extent by selecting elective courses, elective parts of the clinical rotation and the subjects of these according to the students' own preferences (11 ECTS in the Bachelor's and 43 ECTS in the Licentiate Degree in total).

The Finnish veterinary undergraduate curriculum takes six years to complete. However, students who have completed all the courses of the first five years can receive a temporary license to practise as a deputy veterinarian. The temporary practice is not a part of the studies and is controlled by the Finnish Food Authority. The license is valid for three years but most students return to their final study year after a summer in practice. Nearly all students take advantage of this opportunity.

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

In addition to the European directives 2005/36/EC and 2013/55/EU, there are several national and university level acts and decrees, regulations and decisions, such as:

- Universities Act (558/2009) and its amendments (2011, 2013, 2014, 2015)
- Government Decree on University Degrees (794/2004), amended in 2009, 2010 and 2013
- University Decree (770/2009) and its amendment (1034/2011)
- Administrative procedure act (434/2003)
- Act on the Knowledge of Languages Required of Personnel in Public Bodies (424/2003)
- Act on Access to and Pursuit of the Profession of Veterinary Surgeon (29/2000)
- Ministry of Agriculture and Forestry's Decree on the Required studies of a veterinary medicine student to get a temporary right to practice the Profession of Veterinary Surgeon; Available only in Finnish. (MMMä 19/15, 24.9.2015)
- Regulation of the UH (15.4.2015)
- Regulations on Degrees and the Protection of Students' Rights at the UH (15.4.2015)
- Decisions of the UH (by the Rector and Director of Development); e.g. on degrees and studies (19.6.2017)

The national legislation also regulates the supervision regarding external slaughterhouse practice. Academics are responsible for the theoretical and practical training that takes place at the FVM prior to and after the EPT, but are not allowed to act as teachers in the slaughterhouses. The practical training in meat inspection in the third year and in the control measures in slaughterhouse hygiene in the fifth year takes place in slaughterhouses around the country under the guidance of official meat inspection veterinarians.

In Finland, veterinary officials have a large responsibility in the public health sector at the national, regional and municipal levels, covering entire food chains from primary production to retail sale and consumer health. Notably, the safety and quality of all kinds of foods and food products of animal and non-animal origin are under veterinary control. The range of tasks in the environmental health and food control sector include control of food safety, health protection (control of indoor air, drinking water and swimming water), animal health and welfare (municipal veterinary services, control of infectious diseases) and control measures related to the Tobacco Act. About 30% of the veterinarians in Finland work in this sector, and about 50% of the heads of the local control units are veterinarians. Consequently, training in this sector needs to be more extensive than that required by ESEVT to provide students with the competences required to fulfil the demands of society. Environmental health is a valuable adjunct to the national public health concept and broadens the students' understanding of the One Health concept.

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

The feedback collected from all students at the end of each academic year is important in revealing curricular overlaps, redundancies, omissions and lack of consistency from the students' point of view. In this whole-year feedback, students also score the internal alignment of each academic year and the continuity within and between the degrees. This feedback is reflected by the Steering Groups of the Degrees and by teachers responsible for courses, and is complemented with other types of feedback, such as the feedback collected from work life. The feedback system is presented in [Appendix 5](#).

The correction of identified small overlaps, redundancies or lacks that can be made within individual courses are matters for the responsible teacher concerned (without comprising the workload or markedly changing the learning outcomes) but all major issues and those affecting more than one course or threatening Day One Competences need to be taken to the Steering Groups of the Degrees.

Increasing vertical integration, without forgetting the value of horizontal integration, has been one of the FVM's main aims during the last few years. This has been enhanced in several ways, e.g. in teachers' meetings and workshops, collecting teachers associated with the same topic area throughout the curriculum around the same table, and joint teaching. Creating a new course called Introduction to Production Animal Medicine in the third year (3 ECTS credits, from topics previously taught in the fourth and fifth year) and extending the anatomy, physiology and biochemistry studies over the whole Bachelor's degree are examples of bringing basic and clinical studies closer to support each other. Students are well aware of this concept and occasionally make suggestions concerning further integration in their feedback.

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

Year	Clinical exercises, practicals and seminars before the clinical year
Year 1	Blood pressure measurement, cardiac auscultation, peripheric pulse and cardiopulmonary resuscitation in the dog; Palpation exercises on healthy dogs; Neurological and ophthalmological examination of healthy dogs; Palpation exercises on limbs of healthy horses; Handling of cattle; Auscultation and palpation of healthy cows; Handling of pigs (arranged in Ollikkala pig herd)
Year 2	Handling of horses (arranged in Police Horse stables); Pig and cattle management and care (EPT at private farms); Group seminars in Management, welfare and nutrition of common domestic species
Year 3	Small animal propaedeutics: Triage exercise and presentation of the hospital premises; Surgical suture techniques; Small animal general examination and injection techniques; Client communication skills; Clinical laboratory practicals
	Simulated clinical case-based seminars on anatomy, biochemistry and physiology; Radiography and ultrasonography practicals and seminars; Prescription writing
	Equine propaedeutics: Handling and use of restraints, Clinical examination practical
	Production animal propaedeutics (handling, clinical examination, injection techniques, welfare including environmental factors, and management): Porcine (sow, piglet, finishing pigs) practicals (arranged at Ollikkala pig herd); Cattle (dairy cows, calves) practicals (arranged at Keuda dairy farm); Sheep (ewe, ram) practicals (arranged at a local sheep farm); Poultry practicals
Year 4	Small animals: Neurological examination; Ophthalmological examination; Anaesthesiology practicals; Soft tissue surgery; Orthopaedic examination; Cardiopulmonary case seminars; Gastroenterology case seminars; Endocrinology case seminars; Haematology case seminar and microscopy practicals; Dermatology case seminar; Urology and nephrology case seminar; Canine and feline behaviour seminar; Soft tissue surgery seminars; Orthopaedic case seminars; Reproduction case seminars
	Horses: Lameness examination and bandages practicals; Neurological and ophthalmological examination; Rectal palpation (reproduction); Equine orthopaedics case seminar; Equine dentistry seminar; Equine colic seminar; Equine respiratory medicine seminar; Equine preventative medicine seminar; Equine endocrinology seminar
	Production animals and reproduction: Suturing of teat injuries; Artificial insemination techniques in cattle; Obstetrical practicals in cattle; Field autopsy and clinical evaluation of lungs of slaughtered pigs; Reproductive anatomy practicals: ruminants, horses, pigs, small animals

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

Students have access to the patient recording system Provet at the FVM and learn in the third year introductory courses how to record and find information on patients in the system. This is supervised and controlled by the veterinarian responsible for the patient in question. Other written and oral tasks during the clinical rotation are reported in detail in 5.1.8.

Small animal and equine

In their clinical (emergency) services in the fourth year, students participate in taking the anamnesis, performing the general examination as well as diagnostic testing and procedures (especially Day One skills procedures).

Location	Amount	Group size	Supervision	Additional student involvement
Small Animal Hospital	5 x 6 hour shift and 4 x 7 hour shift	2-3 students	1 veterinarian	When quiet at the duty service, students participate in the general examinations, medications and procedures for intensive care unit (ICU) patients.
Equine hospital	5 x 6 hour shift and 4 x 7 hour shift	2 students	1 veterinarian	Students participate in general examinations and medications for stable ward patients.

During the fifth year clinical rotation ([Appendix 6](#)) the training is hands-on. Students take the anamnesis either with the clinician in charge of the case (in the beginning of the clinical year) or individually (later during the year), perform the clinical examination, take blood samples, give injections and insert intravenous catheters. Additional student involvement is presented below and in 5.1.7.

Rotation	Duration	Group size	Number of veterinarians	Additional student involvement
Small animal soft tissue surgery	2 weeks	4-5 students	2-3	Students perform Day One skills surgeries, and participate in advanced surgeries and therapy planning.
Small animal anaesthesiology	1 week	2-3 students	2	Students plan the anesthesia, perform anaesthesia monitoring, and write anaesthesia records for those patients.
Small animal orthopaedics	2 weeks	5-6 students	2	Students participate in orthopaedic examinations, diagnostic procedures and therapy planning.
Small animal neurology, ophthalmology and dentistry	1 weeks	2-3 students	1	Students participate in ophthalmologic and neurologic examinations, diagnostic procedures and therapy planning. At the dentistry clinic, students participate in oral examination (including intraoral radiography) and perform the cleaning of dental calculus. Students assist in other dental procedures.
Small animal internal medicine	2 weeks	4-5 students	2-3	Students perform Day One skills procedures, and participate in other procedures and in therapy planning.
Small animal cardiology, dermatology and exotic animals	1 week	2-3 students	1	
Small animal general policlinics	2 weeks	4-6 students	2-3	
Small animal diagnostic imaging	2 weeks	5 students	2	Students participate in practical radiography and in ultrasonography, may shadow CT and MRI. Radiography is performed under supervision of a radiographer.
Small animal emergency service	5 x 8 hour shifts and 4 x 12h shifts	2-3 students	1	Students participate in all activities.
Equine hospital	6 weeks	15-16 students, divided into two groups (medicine and orthopaedics & surgery)	4-6	Students perform Day One skills procedures and participate in other procedures and in therapy planning. Students also assist in radiography of the horses under supervision of a radiographer.
	Emergency service: 3-4 x 8 hour shifts	2 students	1(-2)	Students participate in all activities. Includes some ambulatory practice.
Pathology in clinical diagnostics	1 week	4 students	1	Students participate in the diagnostic work (necropsies, examination of the pathological diagnostic samples).

Production animals and reproduction: 4 x 2 weeks rotations during the fifth year

For 3 weeks students take part in mandatory practicals. The overall group size is 16-18 students, which is divided into smaller groups (for hands-on practicals 4-6 students and farm visits 2-5 students per group). The practicals are supervised by a clinical instructor or professor, and each takes about 5-6 hours. The practicals include 1) rectal examination and clinical examination of cows, mares and sows, 2) bovine gynaecological ultrasound practical and embryo transfer demonstration, 3) animal welfare, protection and communication of difficult subjects, 4) gynaecology of mares, 5) gynaecology of sows, 6) bovine obstetrics, 7) fetotomy, 8) andrology/ small animal reproduction, 9) cattle herd health and 10) clinical laboratory work.

Additionally, there is a dairy reproduction farm visit, three cattle herd health visits, one pig herd health visit and one large pig herd visit.

For 5 weeks students work in the ambulatory/production animal clinic under the supervision of hospital veterinarians. This work is mainly extra-mural, consisting of farm visits to local privately owned cattle farms or stables, more rarely sheep or pig farms. Usually 3-4 veterinarians pay farm visits and one veterinarian has 2-4 students with her/him during the day. Additionally, 1-3 students at a time have a possibility to spend one production animal rotation week in a pig-rich area (in Seinäjoki, see 5.1.2) with a local practitioner. Altogether 15-30 students use this possibility each year.

It is the students' responsibility to collect the needed veterinary equipment for the farm visits. In the farms students carry out the clinical examination, take samples (milk, blood, faeces, urine, skin scrapings), and consider treatment possibilities together with the veterinarian. Students give injections and are involved hands-on in all possible procedures. After the farm visits, students take care of the equipment, take samples to the laboratory and take care of basic hygiene (overalls, rubber boots). They may also fill in herd health reports or write instructions for farmers. All this is done under the supervision of the veterinarian.

Students also take part in off-hour emergency service in the Production Animal Hospital (mostly ambulatory practice): each student has 3-5 x 16h shifts and one or two weekend shifts (64h). There are 2 students in each shift, during the weekend 3 students, under supervision of one veterinarian.

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

In the third year, there is an excursion to a poultry farm and a poultry slaughterhouse. One third of the cohort (max 24 students) participate in the visit at a time. During the visit the group is further divided into smaller groups (10-12 students).

During the meat inspection course on the third year, students practise on poultry meat inspection lesions and assessment of foot pad dermatitis using broiler carcasses declared unfit for human consumption in a poultry slaughterhouse (1 carcass/student pair) as well as assessment of 100 broiler feet and calculation of the pododermatitis index (assessed in pairs). Red meat inspection and cattle cleanliness assessment are practised using photo series, legislation with cases, and Moodle quizzes. The meat inspection practicals (EPT) for 2 weeks takes place in the third year. Most often 1-2 (maximum 4) students practice in one slaughterhouse at the same time. A responsible official veterinarian is named for each student. Students attend the EPT during the weeks that are assigned to them: mainly during an 8-week period on certain calendar weeks. Before the meat inspection EPT, students have practicals in the FVM in laboratory methods (boiling test, measurement of pH, bacteriological examination of carcasses, antimicrobial residues, Ziel-Neelsen and capsule stain, and Trichinella microscopy). In the slaughterhouses students are guided by the official veterinarian on all aspects of the veterinarian's work, including relevant meat inspection tests.

The slaughterhouse hygiene practicals (EPT, 1 week in the fifth year as part of the clinical rotation) can be done in a slaughterhouse or in a Regional State Administrative Agency (AVI); the name of this practical will be changed to Control of Meat Establishments in 2019-2020. There are 1 or 2 students at the same time on site. Before this EPT, students have had practicals in the FVM on process hygiene criteria (Commission regulation (EC) No. 2073/2005 on microbiological criteria for foodstuffs).

In the sixth year, students perform meat processing exercises at the pilot plant of the Department of Food Hygiene and Environmental Health. They also have supervised excursions to different types of food production plants. The visits are conducted in smaller groups (approximately 10 students) so that each student gets to visit one plant i.e. a meat, fish, dairy or vegetable processing facility. In addition, all students participate in an excursion to learn to identify edible mushrooms. Within the environmental health course, students visit both a water plant and a wastewater treatment plant.

At the end of the sixth year, students spend a two-week period (EPT) practising different control tasks in food safety and environmental health. The practice is carried out at any of the 62 local food safety and environmental health control units under the guidance of an official in the Unit. Students participate in inspections at different food production and processing plants, grocery stores, restaurants, and catering companies in municipalities with the local authorities. They also join control visits related to health protection activities and participate in animal welfare inspections.

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

In the Bachelor's degree students have 5 ECTS credits and in the Licentiate degree 14 ECTS credits reserved for elective courses. In the Bachelor's degree students may choose these studies more freely, and it is also possible to use previously performed university studies for this purpose. In Licentiate degree studies, the courses need to be mainly taken from the FVM list, or be other university-level studies that widen or deepen the veterinary curriculum. Courses taken outside the FVM and not included in the list need to be accepted by the Director of the Licentiate Degree or the Vice Dean for Education.

Each elective course description needs to be handled in the Steering Group(s) of the respective Degree Programme(s) and further accepted in the Faculty Council. Most of the courses are open for all, part of them are intended for final year students only, some have a limited number of students and on some courses graduated veterinarians may also participate (for a fee). Certain courses with limited participation (especially the small animal courses such as Small Animal Dentistry) are very popular. Previously the students were selected for most of the courses in the order of enrolment or by lottery, but students felt that this system was unfair. Some course organisers prefer applications or motivation letters, however, they have also been found laboursome for the teacher and not always sufficiently selective and transparent. Based on the student feedback, the registration system was developed in 2018: at present, students place courses on preferential order and their wishes are taken into account so that each student gets a place on at least one of the most popular courses.

During fifth-year clinical rotations there are elective clinical weeks (3 x 2 weeks periods). Students place clinics in preferential order, this is to ensure impartial division of weeks. Two of these elective weeks can be EPT. Up to four weeks of the clinical rotation can be performed during the previous summer, which allows some free time for the student during the clinical year and optimal use of the VTH's caseload in teaching.

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

The UH has taken out insurance for students against accidents. The insurance is in force during all practical training as well as during the on-the-job trainings included in the curriculum. All accidents are documented at the FVM.

On-farm working experience

Between the end of teaching of the first year in May and the end of April of the second year students have to complete a mandatory farm placement, consisting of two weeks (12 days) in a dairy farm and two weeks (12 days) in a sow farm. The dairy farm must have at least 30 dairy cows and the sow farm at least 80 sows. Students are introduced a list of farms during the course Animal management - cattle, pigs and poultry, and are free to suggest other farms to be accepted. Based on feedback by the students (or farmers) the responsible teacher can discharge a farm from the list. Students contact the farms directly and the responsible teacher at the FVM is available for all communication.

Students receive instructions from the course teacher prior to the EPT. Students participate in all relevant activities at the farm and complete a detailed practice report under the supervision of the farmer or the bailiff, who also certifies the completion of the training. Students can contact their teacher at the FVM any time during their practice. The responsible teacher at the FVM assesses the students' reports and organises a mandatory discussion on the matters raised by the EPT as a part of students' Veterinary ethics course.

Meat inspection practicals

For the training in slaughterhouses, FVM and the Finnish Food Authority have negotiated an agreement that each student and their supervising veterinarian fill in and sign. The supervising veterinarians receive the student logbooks and instructions, including the intended learning outcomes and practical issues, in advance.

For the meat inspection practicals in the third year, the responsible teacher at the FVM and the Finnish Food Authority organise the times and places for the EPT. There are currently altogether 14 slaughterhouses (13 for red meat or poultry and 1 for reindeer), that receive students. Each slaughterhouse has at least one official veterinarian. National legislation requires that the official veterinarian in the slaughterhouse is responsible for the teaching and guidance of each assigned student during the practical. Students receive instructions from the course teacher prior to the EPT and follow them during the training: they keep a logbook that includes a list of learning objectives as well as a self-assessment tool that the students use during the practical. Instructions are updated yearly, and the

logbook has recently been transformed into electronic form. The responsible teacher at the FVM assesses each student's logbook and writes a yearly summary report on the training. During the practice, students can contact the responsible teacher at the FVM e.g. via email or give anonymous feedback via Moodle platform.

For slaughterhouse hygiene practicals in the fifth year, the responsible teacher at the FVM and the Finnish Food Authority assign the times and places for each student. For AVIs, students contact the Agencies themselves and arrange a suitable time for the practical. Students receive instructions from the FVM and assess their learning during the practical using a logbook (in slaughterhouses) or write a structured report (in AVIs), which is assessed by the responsible teacher after the practical.

Practising control tasks in veterinary public health

Students attend the practice in control tasks at the end of their sixth year studies. They contact the training place themselves in any of the local food safety and environmental health control units. Students confirm the suitability of the planned unit and supervisor with the responsible teacher. The responsible teacher at the FVM instructs students prior to the practical and during the training each student is supervised by an official, who also certifies that the student has completed the practical. Students keep a learning diary that is assessed by the teachers of the discipline after the practical.

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

For preclinical activities, the procedures include assignments, oral and practical examinations, and use of an attendance list. During the clinical year attendance is checked daily, students collect marks to their procedure booklet ("Green booklet") and case log ("Black booklet"), compile a learning diary on the possible EPT, perform self-evaluation and have to pass the Objective Structured Clinical Examination (OSCE). For EPTs, students compile practice reports, keep logbooks and learning diaries. Absences need to be compensated. A detailed description of the procedures is in [Appendix 7](#).

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

The Steering Groups of the Degree Programmes prepare the curriculum for a three-year period at a time and the study plan annually and forward these to be accepted in the Faculty Council. Degree coordinators play an important role in all administrative processes and act as a link between central administration and the FVM. They are also responsible for mastering the computer programs for compiling the study plan, reserving rooms for teaching activities as well as updating the information regarding the curriculum and studies on relevant platforms in the intranet and webpages available for staff and students.

The curriculum is communicated to the staff in Faculty-level teachers' meetings by the Vice-Dean and Directors of the Degree Programmes and is available in the intranet. Individual courses are handled in departmental teachers' meetings. At some departments, feedback of all courses and plans for the next year are systematically discussed in teachers' meetings.

For students, the Study Guide, including the curriculum and all relevant information related to it, is available on the webpage 'Opintoni.fi' (Instructions for students, in Finnish and in Swedish). The EPT providers are informed via students' instructions and reports, as well as through direct communication between the responsible teacher and the EPT providers. In some disciplines, the key stakeholders are met annually (e.g. the Department of Food Hygiene and Environmental Health meets the Executive Committee of the Food Hygienist Association), offering a platform to discuss ongoing developments in society and related needs for teaching and receive feedback.

Meetings of the Finnish Veterinary Association's Committee for educational policy three to four times a year are an effective way to keep stakeholders from the Association, Food Authority and private sector updated and to discuss veterinary education from different points of view. The committee has representatives from the FVM and the above-mentioned bodies. Other meetings with stakeholders and alumni, information on the webpage of FVM as well as articles in the *Finnish Veterinary Journal* are channels to communicate the curriculum to a wider audience. The VTH's contracts with the surrounding municipalities are important in putting the curriculum into practice.

Implementation of the curriculum is a joint effort of teachers and students. The revealed learning outcomes play an important role in this and can be considered an agreement between teaching and learning.

Assessment of the curriculum as well as the functionality of individual courses is performed annually in the Steering Groups of the Degrees after the students' feedback of each academic year, career follow-ups and

other relevant feedbacks have been collected. Should an individual course or a certain part of the programme need developing, the Director of the Steering Group of the Degree programme in question may contact the responsible teacher(s) for discussion.

From 2020 onwards, there will be an annual follow-up by the University, based on standard information and data, including student feedback and career follow-up. There will also be a review of all degree programmes by a designated group every 3 years. External evaluations such as ESEVT on veterinary education and the national FINEEC QA audits at the university level will be performed at regular intervals.

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

Year	A	B	C	D	E	F	G	H	Thesis	Optional	Total
1	388	59	254	94	105	13	Exams 27	940	162	135	
2	369	107	147	97	194	2	Exams 22	938			
3	281	159	191	63	87	92	Exams 18	891			
4	491	88	145	15	16	158	Exams 23	936	540	378	
5	22	9		15	40	1420	Exams 6	1512			
6	234	153	39	111	4	-	Exams 16 Excursions 18 EPT 75	650			
Total	1785	575	776	395	446	1685	205	5867	702	513	7082

A=lectures, B=seminars, C=supervised self-learning, D=laboratory and desk based work, E=non-clinical animal work, F=clinical animal work, G=others (specified), H=total. (Students non-supervised self-learning is not included in the Table.)

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

Exact classification is difficult (and at some points impossible at an hour level) due to horizontal and vertical integration and the use of versatile teaching methods. General professional skills are widely integrated to subject studies. Physics, chemistry and biology are included in the entrance examination.

Basic subjects	A	B	C	D	E	F	G	H
Medical physics	1	2	5					8
Chemistry (inorganic and organic)	4							4
Animal biology, zoology and cell biology	17	2	9	2				30
Feed plant biology and toxic plants	2	2						4
Biomedical statistics	23		1	16				40
Basic Sciences	A	B	C	D	E	F	G	H
Anatomy, histology and embryology	119	14	168	37	129			467
Physiology	88	11	47	23				169
Biochemistry	38	18	34	30				120
General and molecular genetics	53	12	8					73
Pharmacology, pharmacy and pharmacotherapy	57	22	6	9				94
Pathology	86			29				115
Toxicology	26	10		6				42
Parasitology	34			6				40
Microbiology	76	3	9	32				120
Immunology	28	2	5	6				41
Epidemiology	25	28	39					92
Professional communication	11	9	19	11	1			51
Professional ethics	18	11	18	8				55
Animal ethology	13	3		1				17
Animal welfare	21	10	3		2			36
Animal nutrition	33	7	2	3				45

Clinical Sciences	A	B	C	D	E	F	G	H
Obstetrics, reproduction and reproductive disorders	97	6	10		12	5		130
Diagnostic pathology	5	21	12	12		101		151
Medicine and surgery including anaesthesiology	307	83	58	24	4	42		518
Clinical practical training in all common domestic animal species						1440		1440
Preventive medicine	36	2		3				41
Diagnostic imaging	19	13	19			7		58
State veterinary services and public health	39	12	14				75	140
Veterinary legislation, forensic medicine and certification	24	12	23	3				62
Therapy in all common domestic animal species	15	6		6				27
Propaedeutics of all common domestic animal species	79	6	3	6		58		152
Animal production	A	B	C	D	E	F	G	H
Animal Production and breeding	25	8						33
Economics	6	2						8
Animal husbandry	21	9			160			190
Herd health management	24	11				32		67
Food safety and quality	A	B	C	D	E	F	G	H
Inspection and control of food and feed	75	39	9	22				145
Food hygiene and food microbiology	65	30	2	57				154
Practical work in places for slaughtering and food processing plants	2				120		12	134
Food technology including analytical chemistry	17	12	3	12	4			48
Professional knowledge	A	B	C	D	E	F	G	H
Professional ethics & behavior	18	11	18	8				55
Veterinary legislation	24	12	23	3				62
Veterinary certification and report writing	4	10	8	7				29
Communication skills	43	82	120	1				246
Practice management & business	7	1						8
Information literacy & data management	4		10	1				15

Table 3.1.3. Curriculum hours taken as electives for each student

Electives	A	B	C	D	E	F	G	H
Basic Sciences	In the Bachelor's degree, students need to take 5 ECTS credits (135 h) and in the Licentiate degree 14 ECTS credits (378 h) of elective studies. Students can select them freely from a list of courses arranged by the FVM and may suggest other university-level courses to be accepted as their electives. Thus, it is not possible to give the hours taken by each student per subject group as they vary individually. (The list of elective courses arranged in the FVM in 2018-2019 is as Appendix 8.)							
Clinical Sciences								
Animal Production								
Food Safety and Quality								
Professional Knowledge								

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

Subjects	Minimum duration (weeks)	Year of programme
Production animals (pre-clinical)	4 weeks	1-2
Companion animals (pre-clinical)	-	-
Production animals (clinical)	1 optional week (pigs) possible within the mandatory rotation (2 weeks possible during the optional part of the rotation)	5
Companion animals (clinical)	(2 weeks possible during the optional part of the rotation)	5
FSQ & VPH	5 weeks	3, 5, 6

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

Types	List of clinical rotations (Disciplines/Species)	Duration	Year of programme
Intra-mural (VTH)	Clinical rotations are presented in 3.1.5.	29 weeks	5
Ambulatory clinics*			5
FSQ & VPH	Veterinary public health 1 ECTS	2 days	5
Other	Pathology	1 week	5
Electives**		3 x 2 weeks	5

*production animals, horses; **2 weeks may be EPT

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

Not applicable.

3.2 Comments

The strengths of the curriculum include the extensive clinical training, enhancement of constructive alignment and vertical integration, and utilisation of research in university pedagogy. The wideness of the curriculum, with a strong focus in VPH, keeps “all doors open” for the graduating veterinarian. The number of students who graduate in time has markedly increased since the previous ESEVT evaluation.

The curriculum is planned for a full-time student. However, most students work alongside of their studies, which causes additional challenges in their time management. Currently students find the workload of the fourth study year high, possibly due to the high number of contact hours, and search for possible solutions is ongoing. The hospital veterinarians play a major role in clinical teaching but they are not always fully aware of the core contents and competences which the students are expected to learn.

Based on students' comments, there is variation between veterinarians how strict they are regarding the signing of procedures in the Green booklet. The length of the EPT in pig farms in relation of the learning experience has caused some dissatisfaction among students. The balance between the length of the EPT in slaughterhouses and the intended learning outcomes has also been under constant review ([Appendix 9](#)).

3.3 Suggestions for improvement

Students need more instruction regarding the nature of veterinary studies requiring full-time studying, especially at the transition from preclinical to clinical studies.

The general academic and professional competences required need to be made more visible in the learning outcomes and their assessment should be more formalised.

The criteria for signing students' procedures in the Green booklet could be more harmonised. Tailored pedagogical courses or workshops for hospital staff are a practical tool for shared understanding in this matter.

4. FACILITIES AND EQUIPMENT

4.1. Factual information

4.1.1. Description of the location and organization of the facilities used for the veterinary curriculum (maps provided in [Appendix 10](#))

In general, all Units in the University pay rentals for the facilities they use. The space can be nominated to the Unit and the Unit pays full rental, whereas some premises (like the majority of lecture halls) are paid based on their use. Usage is paid according to reservations made in the centralised programme.

In Viikki campus, the FVM's operations are located in the EE building (net area in full time rentals: 4 813 m²) and in the Clinicum building (net area: 5 773 m²). The EE building houses the Department of Veterinary Biosciences, the Department of Food Hygiene and Environmental Health and administrative staff of University Services. The VTH in Helsinki (4 102 m²) is located in the Clinicum building, which also houses the Department of Equine and Small Animal Medicine (1 671 m²). The building has clinical facilities for small animals and horses, offices for researchers and teachers, one lecture hall, meeting rooms and laboratories. Saari is home to the Department of Production Animal Medicine and the Production Animal Hospital.

The Saari estate in Mäntsälä is located approximately 65 km to the north of Helsinki and offers a total of 2 551 m² for use. The Department of Production Animal Medicine has office facilities on the second floor of the Saari estate main building. Separate buildings exist for a learning centre and an office building. The VTH's facilities in Saari cover 1 467 m² and include an office, a laboratory, locker rooms and social facilities for the staff, storage spaces for pharmaceuticals and supplies, a garage, a demonstration hall for instruction purposes, a joint procedure and operating room, as well as facilities for animals.

4.1.2. Description of the premises for

- lecturing

All lectures for veterinary students are conducted on the Viikki campus, often in the EE building's Walter lecture hall (70 seats) or Seminar room 11+12 (A2096, 60 seats), or in the Paatsama hall in the Clinicum (70 seats). Other lecture halls which are used include lecture halls LS1 (K110, 77 seats) in the C building, LS5 and LS6 (88 and 72 seats, respectively) in the B building, and lecture hall 228 (60 seats) in the LAB building next to the VTH. Additionally, there are two large lecture halls (>120 seats) in the Info Centre that are used e.g. for lectures to the general public.

- group work

The lecture halls can be used for seminars but also smaller rooms are available, such as seminar and meeting rooms SH2 (A1122) and SH8 (A2093), with 18 seats each, B437 (35 seats) and B438 (34 seats), B325 (14 seats) and B4024 (12 seats) in the EE building, and lecture room 131 (40 seats) in the LAB building. In addition, there are several table groups in the lobbies of the EE building which students can use when they prepare their group assignments.

In Clinicum there are three seminar rooms on the second floor (Alitalo, 24 seats; Oksanen and Westermarck, 12 seats each) and three discussion rooms in the hospital (for small animal surgery, small animal internal medicine and equine diseases, 10-16 seats each). The diagnostic imaging discussion room is only suitable for small group discussions.

In Saari there is one lecture room (35-50 seats) and a computer classroom (10 computers, 20 seats) in the learning centre. When necessary, the coffee room of the office building is used for group work (10 seats).

The Viikki campus library in the Info Centre building houses group work premises that can be reserved by students and teachers. Additionally, there are two computer rooms (ATK 138, 23 seats and ATK 170, 16 seats) in the Info Centre.

- practical work

The dissection hall in the EE building has 40 places (154 m²) and the necropsy hall 30 places (120 m²) for students; the total space of the dissection and necropsy facilities is 580 m². The two halls reside in the same complex with separate storage space for animal cadavers, facilities for washing clothes and instruments, and shared technical staff. Both halls are equipped with tables for group work and have

audiovisual equipment. In addition, there are rooms for photography, histopathological sample preparation, general office and diary work and storage for bones and plastination specimens.

Two laboratories in the EE building are used for teaching purposes (e.g. microbiology exercises): B442 and B446 (40 places each). Course halls B437 and B438 (36 places each) are also used for laboratory work and practicals (e.g. biochemistry, physiology and microscopy exercises).

The Clinicum building has a small in-clinic laboratory for on-call hours and for samples which are analysed immediately and a Central laboratory where the majority of daytime samples are analysed by the staff. In the small laboratory students practise diagnostic work under supervision of the veterinarian and nurse of the policlinic; basic haematology and dry chemistry tests as well as blood gas and electrolyte analysis, microscopic analyses of e.g. swab samples and basic urinalysis are available. In Saari, the Department of Production Animal Medicine has its own laboratory where students practise clinical diagnostic work under supervision. The laboratory examines samples from patients from the ambulatory practice and from the hospital, as well as samples for research purposes.

Instead of a separate clinical skills lab, models, phantoms, etc. are located in the premises where they have been found to be most relevant for teaching and studying. E.g. plastination models and bone specimen are used separately in the dissection room and in course halls, the life-size horse model is in the equine discussion room (from where it is moved to examination rooms when needed), and the ultrasonographic pediatric abdomen phantom is in the diagnostic imaging discussion room, where students have an ultrasonographic machine for their own use. All materials available for self-study of clinical skills in the VTH are listed and the list, instructions on the use of the materials, and a map of their locations will be provided for fifth-year students.

In Saari the demonstration hall is equipped with boxes for delivery and artificial insemination practicals, teaching models such as the life-size sow model, a life-size cow made of glass fibre, silicon calves as well as a suckling and a weaned piglet. There is a suture wall in the operating room.

4.1.3. Description of the premises for housing:

- healthy animals

The FVM keeps one heifer in the Production Animal Hospital and two horses in the Equine Hospital for teaching purposes. The horses are kept in a certain department in the stable but in the same area as patients, have access to a paddock daily and spend the summer on pasture.

The Department of Production Animal Medicine can use the dairy herd, owned by the Keuda Vocational College in Saari, and the Ollikkala pig herd in Vihti for teaching purposes. Keuda has also recently established small flocks of hobby hens and pigeons. When needed, students (and occasionally staff) bring their own small animals to be used in basic instruction, such as live anatomy, physiology, neurology, ophthalmology or ultrasonography exercises. The Small Animal Hospital has a separate ward with cages where staff and students can keep their dogs, e.g. during their on-call shifts or when the dogs are needed for clinical exercises.

- hospitalised and isolated animals

Hospital	Hospitalisation	Isolation
Small animal	74 cages in the dog ward, 6 cages in the cat ward, 6 cages in the exotic animals ward Intensive care unit: 5 cages for large dogs, 7 cages for small dogs or cats	Two isolation units: 1) one for animals with a highly infectious disease such as parvovirus diarrhoea or distemper, 5 cages; 2) one for animals infected with, known carriers of, or highly suspected to carry multiresistant bacteria, mainly MRSA, MRSP or ESBL, 9 cages
Equine	18 large and 2 small boxes	3 boxes (in the same air space with each other but separate from other aspects of the hospital)
Production animal	12 stalls for adult cattle (6 of them can be remodelled to be used as 3 pens), 1 pen for animals that are difficult to handle, 8 pens for calves and small ruminants, 2 "multipurpose pens" that can be used for pigs and small ruminants	The current isolation facilities are inadequate for adult cattle. Smaller animals such as calves, small ruminants, alpacas and llamas, can be organised so as to have reasonable isolation from other animals. The renovation project includes a modern isolation unit.

4.1.4. Description of the premises for:

- clinical activities

For clinical work and student training in small animals, there are 18 consulting rooms, six surgical suites (including premises for preparation and recovery), one room for endoscopies and one for dental services. For diagnostic imaging in small animals, there is one room for radiography, one room for ultrasonography (policlinic and cardiac ultrasonography are performed in the respective consulting rooms) and separate premises for computed tomography (CT) and high-field magnetic resonance imaging (MRI). Examination rooms are coded using colours: green = for patients with low risk for multiresistant bacterial infections; yellow = risk patients (i.e. patients that have received plenty of antibiotics or have skin problems); red = cohort, i.e. an isolation ward for diagnosed infectious cases.

For horses, there are 3 examination areas, a hall for lameness examinations (outdoor space for lounging), an area with blacksmith facilities, and 2 surgical suites (including preparation and recovery). There is a separate room for euthanasia. Diagnostic imaging facilities include a room for equine radiography and premises for low-field MRI of equine limbs; ultrasonography is performed in the examination areas.

The same space for instrument service and storage works for the Small animal and Equine hospitals, but both hospitals have their own room for pharmacy service.

In the current Production Animal Hospital, one large hall is used for examination of polyclinic large animals, ultrasonography and endoscopy. The same hall is used for on-table surgery of calves and small ruminants and standing surgeries for adult cattle. For polyclinic small animals, there are 2 rooms that are used for clinical examination, radiography and surgery. There is space for instrument maintenance (cleaning/service and storage) and pharmacy.

- diagnostic services including necropsy

Pathology services include necropsy, biopsy and cytology. Samples originate mainly from the VTH, but also from private veterinarians and animal owners. In 2018, 909 biopsies and 517 cytology samples were analysed and 503 diagnostic necropsies were performed (and 163 necropsies for student practicals on donated cadavers, total 666). Under the supervision of teachers, students participate in diagnostic necropsy work, but the responsibility of the report rests with the teacher.

Diagnostic imaging at the FVM offers services not only to VTH patients but also to research projects, both inside the FVM and to other Units of the University.

The Central Laboratory of the FVM in the Clinicum consists of three parts:

- The Laboratory of Clinical Chemistry and Haematology employs 3 laboratory technicians and one veterinarian, and offers analytical services for the VTH and researchers in the FVM and for other partners. It is equipped with modern clinical chemistry and haematology analysers and receives over 17,000 referrals annually from the VTH sections in Viikki. The number of distinct analyses performed is around 50,000. Some 2,000 to 3,000 requests are further remitted to specialised laboratories in Finland, in Europe or in the United States.
- The Laboratory of Clinical Microbiology employs 3 laboratory technicians, as well as 3-5 veterinarians (part time) and one hospital microbiologist. It uses state-of-the-art equipment (MALDI-TOF mass spectrometry) for identification of microbes and susceptibility tests are performed using Clinical Laboratory Standards Institute (CLSI) guidelines. The laboratory receives approximately 8,000 specimens annually, originating from the VTH and from veterinary clinics throughout Finland. The laboratory's biosafety level (BSL) is 2; specimens suspected of containing level 3 or 4 pathogens are not accepted, and pathogens preliminarily identified as belonging to these levels are referred to the Food Safety Authority.
- The Clinical Research Laboratory performs tests and examinations related to ongoing research projects. The researchers and permanent research staff working in the laboratory are drawn from both the Department of Equine and Small Animal Medicine and the Department of Production Animal Medicine. The laboratory offers services to all research groups of the Departments and multiple studies are ongoing at the same time. The examinations performed include analyses based on bacteriology, molecular biology, protein chemistry, immunology, and gas and liquid chromatography. The permanent staff of the research laboratory consists of employees with a degree in laboratory sciences.

The Saari Unit has three laboratory rooms: a clinical laboratory, one room for PCR and one room for reproduction, mainly andrology. The laboratory annually examines about 3,000 clinical samples from patients from the ambulatory practice and from the hospital, as well as samples for research purposes.

Samples mainly comprise milk samples for bacteriology and blood samples for haematology and blood chemistry, but also include sperm and other samples.

- FSQ & VPH

Students perform meat processing exercises at the pilot plant of the Department of Food Hygiene and Environmental Health. The FVM does not have its own slaughterhouse.

4.1.5. Description of the premises for:

- study and self-learning

Should small group work be planned at the FVM during office hours, reservations can be made through the administration for the rooms described in 4.1.2. Additionally, in the EE building the entrance hall is equipped with several small tables for 5-6 persons and places for self-study, where students can use their own computers. Students and staff can also reserve group study rooms from the campus library using the HU Office365 calendar. In the Clinicum building, there are 9 computer places and 2 small tables with chairs around them in the entrance of the Paatsama lecture hall. Discussion and coffee rooms are available for study and self-learning. In Saari, the computer classroom in the learning centre is available for study and self-learning. Students can use two computers in the clinic office.

- catering

The cafeterias in the EE building (Unicafe Viikuna) and in the building next to Clinicum in Viikki (Amica Tähkä) are open 08.00 – 15.00 on weekdays. The cafeteria in Saari serves lunch (11-12) and dinner (16-16.30). Students get meals at subsidised prices in these and in the other cafeterias in Viikki Campus. In the VTH, both in Viikki and Saari, students have a room equipped with coffee- and tea-making facilities, a refrigerator and a microwave oven.

- locker rooms

In the EE building students have changing rooms connected with the dissection and necropsy hall. Additionally, there are lockers (165 in total) available in front of the pathology unit, 94 lockers next to the cafeteria, and 24 lockers next to the teaching laboratories on the fourth floor.

In Clinicum, fifth-year students have their own lockers in the changing rooms (one room for female students, 67 lockers; one room for male students, 19 lockers). Additionally, there are two separate rooms with lockers for fourth-year students who are on-duty (4 lockers) and for visiting students (10 lockers). There are changing rooms in association with the operation rooms. In the students' coffee room there are small lockers for temporary use.

In Saari, there are two changing rooms for students in the learning centre building. The changing room for female students has 26 lockers, the room for male students 2 lockers.

- accommodation for on-call students

On the second floor of the Clinicum there are two rooms (2 beds in each, equipped with pillows and sheets) for students on emergency service in the Small Animal Hospital. The nearby changing rooms have a shower, and sauna facilities are available. Students at the Equine Hospital do not need to stay overnight. Should this happen, they use the premises of the Small Animal Hospital. In Saari there are premises for on-duty students to stay overnight (in a building called Pajamäki), consisting of 2 rooms and a recreation room, a small kitchenette and shower facilities. Other rooms in Saari can also be rented should students prefer to stay there during their clinical rotations.

- leisure

UniSport is a joint venture between the UH and Aalto University, offering sports and exercise services for staff and students. UniSport Viikki offers group training classes, ball sports and badminton in two exercise halls. Additionally, the students' association EKY has various interest groups and activities. EKY has its own premises in the EE building called 'Kuopio'.

4.1.6. Description of the vehicles used for:

- students transportation

For all excursions, the FVM organises bus services. Students make their own arrangements for transportation to Saari and to the EPT facilities.

- ambulatory clinics

The Production Animal Hospital has six cars: one five-seat car and three minibuses, which can seat up to eight students. One five-seat car is used for on-duty service, and one car is used mainly for animal transport with the trailer. The Equine Hospital has one five-seat car for ambulatory service.

- live animals transportation

The Small Animal and Equine Hospitals' customers transport their animals to the hospital themselves. The Production Animal Hospital has an animal trailer for cow transports (it can also be used in Viikki when needed, e.g., for transporting the VTH's own horses to pasture).

- cadavers transportation

The FVM has a lorry for the transport of cadavers. Private pet crematories have their own collection service for small animals. Horses can be transported to a crematory using the crematory's services. All equine cadavers, including those only to be destroyed, are transported to the FVM's pathology unit (all considered to be high-risk waste).

In Saari, organs from slaughterhouses and dead animals from farms to be used in teaching are collected using the cars owned by the Production Animal Hospital and are stored in freezers. Cadavers are transported to pathology in Viikki using the FVM's lorry while animals to be destroyed are transported to Honkajoki Ltd by this company's vehicle.

4.1.7. Description of the equipment used for

- teaching purposes

All campus areas are covered by the University's Wi-Fi networks: Eduroam (secure) and HUPnet (unsecure, requires registration, for guests also). Easy live streaming and/or recording of lectures is available in select lecture halls with UniTube, and in non-UniTube environments the Adobe Connect service can be alternatively used for the same purpose. Each lecture hall as well as seminar and discussion room is equipped with a computer, data projector, a screen and relevant computer programs. The FVM has voting clickers but nowadays they have mostly been replaced by electronic voting systems. Sockets have been added to the lecture and seminar rooms to enable private computers to be plugged in. Tablets have been purchased for student use in selected rooms (e.g. dissection hall, equine discussion room) and programs/applications such as cardiac auscultation, colic or lameness examination have been installed in them.

- clinical services

All hospitals in the VTH are equipped with modern technical facilities, and students become familiar with basic techniques and aware of more advanced diagnostic and therapy techniques. The services and facilities are described in detail in [Appendix 11](#).

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

The Hospital Director is responsible for the budget and strategy for maintaining and upgrading the facilities and equipment at the VTH, and the topical needs are discussed on an annual basis with the heads of all hospitals. Major issues have to be discussed with the Dean and should structural changes be needed in buildings, the University needs to be included in the decision-making.

In Viikki, equipment is maintained as needed or according to a maintenance agreement. Diagnostic imaging devices and some research equipment come with a service agreement, which covers regular maintenance. Surgical and endoscopic instruments are checked by technicians at the equipment maintenance during cleaning after every use, and possible defects are immediately reported to Unit heads or head nurses. Small devices are sent for maintenance by the equipment maintenance staff. In the

Equine Hospital, floors and walls, etc. are renovated constantly due to wear. Diagnostic equipment is renewed according to need.

The clinic building of the Saari estate is in urgent need of renovation and expansion. The new renovation plan has now been accepted by the University, and the work is planned to be completed in 2020. Smaller investments are made based on their need (the current plans include e.g. a new fully hydraulic hoof trimming apparatus), and the cars are changed when needed.

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

The UH Property Services Ltd is responsible for the maintenance of properties, buildings and equipment in the possession and at the disposal of the University. There is a technical building manager on each campus, but minor faults and defects in these facilities can be reported to the building's porters. Renovations are discussed with the UH Properties Ltd by the Dean or the Director of the VTH.

The VTH facilities and equipment are updated based on its budget and investment plan. Department heads negotiate with the Dean once a year concerning their needs. Departments and disciplines have an annual budget each; the Department heads and directors of disciplines are responsible for the use of the budgeted money. Purchases (< 50,000 €) can be handled by the head of the Department, otherwise the decision depends on the Hospital Director or the Dean. For purchases ≥ 60,000 € a tender competition needs to be organised according to a predetermined protocol. The competition is prepared by the staff of the respective Unit and the final decision is made by the Hospital Director or the Dean.

On the Viikki campus there is a common equipment committee which makes plans concerning the major research infrastructure. The Vice-Dean for Research has been responsible at the FVM for preparing a plan for updating the research infrastructure. The Helsinki Institute of Life Science (HiLIFE) also offers and develops a core facility research infrastructure.

The UH has a Safety and Security Guide, which is available in the intranet. It contains important contact details, instructions for emergencies as well general information concerning safety and security. Security service staff can be accessed 24/7. Clinicum is patrolled by a night guard. The University has appointed a security manager and security supervisors for every building. Written rescue plans, listing the risks related to occupational and fire safety, have been drafted for the facilities. The facilities are equipped with fire and security alarms and first aid supplies (including first aid bandages and emergency eyewash). "Safety walks" are arranged in the buildings on a regular basis.

Laboratories are equipped with appropriate fume cupboards, and the facilities have eyewash fountains and emergency showers, as well as fire extinguishing equipment. Protective clothing and in some cases also footwear must be used in facilities where microbes or infectious materials are handled. BSL 3 laboratory for research work in the EE-building has its own biosecurity SOP; these facilities are not normally used by students. Students are instructed on good laboratory practice throughout their studies ([Appendix 12](#)). A group of teachers has established a joint Moodle area of good laboratory practices and safety working in laboratories as part of the Digital leap project of the University in 2017-2018. It consists of self-study materials and exams, which are tailored to the needs of different courses (microbiology, meat inspection, food hygiene).

Safety procedures including a video presentation are walked through with all students before dissection and necropsy practicals.

The VTH has an Infection Control Officer, responsible for all major actions regarding biosafety in the Small Animal and Equine Hospitals and available for the Production Animal Hospital as needed. She informs staff and students should any major changes be made, organises training and orientation, informs the general public, e.g. on disease outbreaks via webpages and Facebook, and gives press releases when required.

The Infection Control Officer also gives lectures on risk patients and standard precautions for third-year students on their introductory courses for clinical work. Students have an information session on hygiene at the beginning of on-call duty in the fourth year as well as at the beginning of the clinical year. Students have a mandatory lecture on biosecurity regarding small animals and horses at the beginning of the clinical year and at the beginning of the equine rotations. Students are introduced to isolation protocols: identification of risk patients (with fever, diarrhoea, leukopenia), different levels of isolation, and sample taking, and to the instructions in the Wiki platform. Veterinarians are in charge of biosecurity and supervising students in these tasks. Regarding production animals, students have lectures on biosecurity in the fourth year, learn the use of preventive methods in practice during the fifth year, and have morning

demonstrations on this topic. Hygiene instructions are included in the introduction at the beginning of first rotation in each workplace. On farm visits, students are under the veterinarian's supervision.

Students do not have access to the small animal surgery or isolation unit unless they have watched two relevant teaching videos regarding e.g. hand hygiene and disinfection; this is included in the students' Green booklet and students also need to be able demonstrate know-how in safe working procedures in practice. Exchange students have their own information session when they start working at the clinic. All relevant instructions are in the VTH's Wiki platform (Examples provided in [Appendix 13](#)). New staff are instructed by their superior using purpose-made material, and in the Small Animal Hospital new nurses rotate 1-2 months in each Unit under supervision. New interns and specialising veterinarians have a one-week course in January, including biosecurity and clinical practice.

At the VTH staff and students have protective clothing (including protective shoes in the Equine clinic) provided by the hospital which is not allowed to be taken outside the hospital. The Production Animal Hospital has a biosecurity area between the rooms housing animals and other rooms. Students are advised how to use the biosecurity area, change boots and coats used only in the clinics, wash their hands and use hand disinfection before entering the rooms with animals. The same kind of protocols are also in practice in anatomy dissections and pathology training. When new students enter the Production Animal Hospital, they are informed about the practices on farm visits and instructions regarding *Cryptosporidium* infections.

All waste needs to be sorted for recycling. All Units that generate hazardous or special waste have an appointed coordinator in charge of its disposal. The coordinators ensure that the waste is packed and labelled appropriately and that all transport documents and waste transport are in order. All Units must issue written instructions for handling hazardous waste. There are detailed instructions in the intranet Flamma on handling chemical, biological and clinical waste. Hazardous waste, such as pharmaceutical waste is collected by Fortum company and cadavers to be destroyed are collected by Honkajoki Ltd. Equine fecal matter is composted and used as field fertilisation by the Faculty of Forestry and Agriculture in Viikki.

4.2. Comments

During the recent years, financial realities have made certain cuts necessary. One of these was the students' learning centre and computer room in the EE building. The facilities in the VTH in Viikki are update and an option for a CT table for horses has been sustained.

The joint Moodle area of good laboratory practice is an example of joint effort to develop instruction throughout the curriculum using e-learning in a relevant way. The FVM takes biosafety very seriously and is able to react to changing situations. During the past years, staff and students have been exposed to *Cryptosporidium* infections on ambulatory clinics and have gained practical experience e.g. regarding MRSA through its outbreak in the Equine hospital.

4.3. Suggestions for improvement

The models and distributed skills lab can be further advanced, especially in the preclinical phase of studies. Learning spaces could be developed towards more flexible.

5. ANIMAL RESOURCES AND TEACHING MATERIAL OF ANIMAL ORIGIN

5.1. Factual information

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 case number of the VTH is high and the principle that basically all patients are used for teaching ensures that students experience a variety of different cases during their clinical studies. Additionally, pet owners may donate their animal for teaching purposes after euthanasia. Material of animal origin for teaching is obtained from the FVM's Pathology unit, slaughterhouses and farms. Contracts with Keuda cattle farm and Ollikkala pig herd are essential for teaching. Models, such as the life-size sow, horse and calves complement teaching on live animals and are also used in the assessment of learning.

The VTH has a contract with the surrounding municipalities and the out-of-hours emergency service for small animals and horses covers Helsinki, Espoo, Kauniainen and Kirkkonummi. Clients from this area can come directly to the emergency service, or if needed, horses can be treated ambulatory in this area. The caseload of the Small animal and Equine hospitals is high and students are involved in acute, routine and referral cases. The Production Animal Hospital has contracts with the surrounding municipalities of Mäntsälä, Pukkila, Orimattila and Myrskylä. Based on the contracts, the Production Animal Hospital is responsible for providing basic health care for all animal species and 24-hour emergency service all year round. The majority of patients in the practice are farm animals.

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

The Green booklet gathers together the main procedures and tasks which students have to perform themselves or shadow during their studies and, at the same time confirms that the intended training has been fulfilled. The contents of the booklet include the teachers' shared understanding of the core activities and updates can be made annually if needed.

The clinical rotation ([Appendix 6](#)) has been developed in a manner that ensures a balanced amount of small animal, equine and production animal patients for each student. Additionally, all students receive exposure to emergency cases in small animals, horses and production animals. A balanced exposure to routine cases and advanced referral cases has been ensured by having all students work both at first opinion polyclinics and at referral case wards. Contracts with the surrounding municipalities have ensured that there are acute, first opinion cases in all hospitals. Regarding small animals, the price of certain procedures such as castration and sterilisation of cats has been kept as reasonable as possible in order to ensure adequate exposure to routine surgeries. Adequate exposure to population medicine is ensured by mandatory practicals and herd health visits at the Production Animal Hospital.

The Equine Hospital receives acute cases such as colics and wounds as primary cases not only during on-duty time but also during daytime. In order to get full teaching benefit from equine deliveries as well as neonatal and young foals, the clinical rotation was changed to better take into account seasonal variation: students enter the Equine Hospital 3 x 2 weeks instead of the previous 2 x 3 weeks and it is possible to take an optional 2-4 weeks in the summer. The number of basic orthopaedic cases and orthopaedic surgeries could be higher, but internal medicine is well covered.

The Saari area has plenty of cattle, however recently the Mycoplasma control programme has caused problems about getting surgeries at the Production Animal Hospital. The number of small ruminants has been increasing. Certain practicals in the third and fifth year are organized in Ollikkala pig herd. The decreased number of pigs in the Saari practice area has forced the Department of Production Animals to be innovative in compensating for this shortage. A voluntary EPT week as part of the clinical rotation has been created in Seinäjoki, which is one of the main areas for the pig industry in Finland. In Seinäjoki 1-3 students at a time shadow one practising veterinarian. A total of 6 experienced practising veterinarians are involved in this system, and one of them is acting as the contact person between Seinäjoki and the FVM. During the EPT students keep a learning diary in which they record every day what they have learned and what they require further information on. The professor responsible for pig teaching at the FVM reads each student's learning diary, gives feedback and responds to the raised questions. Additionally, the visits to piggeries are carefully planned for maximal teaching benefit, and models support teaching in various ways.

Third year students visit a poultry farm and a poultry slaughterhouse. At present they also have practicals at the Production Animal Hospital on live hens that are culled after production for clinical examination,

blood sampling and vaccination procedure; the use of these animals is controlled by a permission and the hens are euthanised after the practical. Fifth-year students have occasional visits to poultry farms.

The whole-year feedback collected from students at the end of each academic year offers an opportunity to report on aspects that were found to be missing, to be able to correct the deficit for the next year. In 2011-2012 several students were recruited to keep a detailed case log during the clinical year to give the FVM objective data about the distribution of procedures among individual students. Students need to reflect on their clinical competences regarding small animals in the middle of the clinical year with the use of a Moodle-based tool. This offers them a tool to actively search for opportunities to perform the missing procedures and contact teachers in case they face difficulties with this. In the Equine Hospital, students indicate where their procedures are lacking in the beginning of the rotations, and in the Production Animal Hospital, students have discussions in their tutor groups.

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

The FVM does not have its own teaching farm. It keeps one heifer in Saari and two horses in Viikki for teaching purposes. The Department of Production Animal Medicine can use the dairy herd of approximately 35 lactating cattle, owned by the Keuda Vocational College in Saari, for teaching purposes. Similarly, the Ollikkala pig farm (35 sows, 130 suckling piglets, 100 weaned piglets, 100 pigs for fattening) has a contract with the FVM and is available for teaching. During their EPT farm placements (2 weeks cattle, 2 weeks pigs) students participate in all activities of the farm.

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

All hospitals are open 24/7 throughout the year. Appointments are available on weekdays between 8.00 and 16.00 and there is an out-of-hours emergency service outside regular working hours, on weekends and holidays. Patients outside the contract area can be admitted to emergency service with a veterinarian's referral.

In addition to general consultations, special consultations in various areas are available, either on a daily basis during office hours or on certain days of the week. Available services in the Small Animal Hospital include policlinics and emergency consultation, internal medicine, diagnostic imaging, anaesthesia and surgery (soft tissue and orthopaedic); special clinics for cardiology, dermatology, oncology, neurology, dentistry, ophthalmology, exotic animals, physiotherapy and acupuncture; blood bank; isolation and intensive care; and laboratory services. The Small Animal Hospital has two veterinarians on site in the evenings and one veterinarian during night hours. During weekends a back-up on-call experienced surgeon and an experienced internist are available for consultations and difficult procedures.

The Equine Hospital takes all kinds of equine patients, excluding reproduction cases where expert help is provided at the Saari clinic. The Equine Hospital has high-level services for both internal medicine, diagnostic imaging, and orthopaedic and surgical cases. Consultation service for neurological and ophthalmological cases is available during regular working hours. Out-of-hours service is run by a national specialist (or specialising veterinarian), supported by a Diplomate ECEIM or ECVS or a national specialist with advanced clinical experience.

In the Production Animal Hospital most of the patients are treated in ambulatory practice. The hospital ward mostly takes surgical cases and during breeding season also mares (e.g. artificial insemination and embryo transfers). For small animals and horses (except for reproduction cases) Saari offers basic care and should more advanced procedures be needed the patients can be directed to Viikki.

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

Clients of the Small Animal and Equine Hospital can donate carcasses of their euthanised animals to the FVM for teaching and/or research purposes. Destruction of these animals is paid by the FVM. This material is used in anatomy and pathology teaching and in surgery classes. In addition, cadavers are collected from farms which use the services of the Production Animal Hospital. Some material for anatomy and pathology teaching also comes from the main Zoo of Helsinki, which uses the diagnostic services of the FVM's Pathology unit. Additionally, the Pathology unit also receives diagnostic material from outside clinics and private animal owners.

Most of the donated animals are frozen and kept at -20°C until used, but diagnostic pathology cases are used unfrozen. Used biological material is collected in a cooled container and transported to Honkajoki Ltd outside of the campus for disposal. Helsinki University co-operates with the Finnish Food Authority and

material of animal origin from their Pathology unit is also collected in the same container. Honkajoki Ltd processes and recycles animal by-products from Finnish farms, slaughterhouses and meat cutting plants.

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

Type of clinical training	Group size*
Third year propaedeutics	
Small animal and Equine hospitals	3 students but occasionally several groups (3-6) in same practical
Production Animal Hospital	5-6 students
Fourth year intramural on-duty/ Small animal and Equine hospitals	2-3 students
Fifth year intramural on-duty	
Small Animal Hospital	2-3 students
Equine hospital	1-2 students
Production Animal Hospital (mostly ambulatory)	2 students
Fifth year clinical rotations	
Small animal anaesthesiology; Small animal neurology, ophthalmology & dentistry; Small animal cardiology, dermatology & exotic animals	2-3 students
Small animal soft tissue surgery; Small animal orthopaedics; Small animal internal medicine; Small animal general polyclinics; Diagnostic imaging; Pathology	4-5 students
Equine diseases	10-14 students (divided into smaller subgroups)
Reproduction practicals (all species)	6-8 students
Production animal diseases	16-18 students (farm visits 2-5 students, practicals 4-7 students)

*The group size is slightly dependent on the annual variation in the total number of students registered each year

5.1.7. Description of the hands-on involvement of students in clinical procedures in the different species

The first-year students have an optional course on management of the neonatal foal and after receiving a theoretical basis, they act as "foal sitters" in the Equine Hospital during out-of-hours in predetermined shifts. This course is very popular and motivating for the students, as it offers an insight into clinical veterinary medicine. Students get instruction in nursing procedures and the course offers a unique opportunity to practise nursing care skills on real patients.

First and second year students practise palpation in conjunction with cadaver dissections and on live animals, and auscultation in pets and cows. There are specific exercises for e.g. blood pressure measurement, ECG and for resuscitation as well as an introductory practical on neurological and ophthalmological examination using students' own pets. Laboratory exercises are performed on full blood, plasma, serum, saliva, bile, faeces and rumen samples.

After the second year's theoretical and practical courses students have necropsy training in the third year autumn semester in small groups of 5-8 students. They also learn how to take and send samples for histological and microbiological examination. Each student participates in 6 necropsies in a group of 2-3(4) students and writes necropsy reports. Students have 2 seminars of report writing and description of macroscopic lesions during the course. In the final examination at the end of the pathology course students carry out a necropsy either alone (small animal) or together with another student and show their necropsy and reporting skills.

Third year students visit the VTH during their introductory courses on small animals, and equine and production animals. During practicals they learn to handle animals during procedures, perform a clinical examination, injection techniques, etc. but at the VTH they shadow the activities and do not perform hands-on procedures on patients. During their fourth year on-duty shifts, students help veterinarians and fifth year students, but mainly act as assistants.

In the Small Animal Hospital the fifth year students are involved in all diagnostic and therapeutic procedures of their own patients and perform Day One Skills procedures (such as basic surgeries) on their own patients. Students participate in therapy planning and write discharge instructions for their patients; the instructions are discussed with and checked by the clinician in charge of the case.

In the Equine Hospital students e.g. make rectal examinations, insert nasogastric tubes, take abdominal fluid samples, participate in lameness examinations and perform flexion tests and perineural local anaesthesia, and participate in ultrasonographic and radiographic examinations and dental examinations. In surgeries, students monitor anaesthesia under guidance of a nurse, and assist the surgeon according to the case (in castrations, one student operates on one side). They perform euthanasia under guidance. They are involved with the patient throughout the visit, but do not handle communication with the client alone. During out-of-hours service the student answers the phone and consults with the veterinarian on duty.

In the Production Animal Hospital, the fifth-year students make the clinical examination, take all samples and give medications, suture wounds, and assist in deliveries and surgeries (sections, dislocations). With small animals, students perform and participate in basic surgeries (such as castration and sterilisation, and pyometra and caesarean operations).

Fifth year students have a week's training in pathology where they participate in necropsy and biopsy diagnostics, stain and study cytological samples, and spend half a day in the histology laboratory to gain familiarity with tissue processing. Students learn how to write good anamnestic information on the sample and how to recognise a representative sample.

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

During the fourth year students have seminars (along with lectures on the same topic area) for which they prepare beforehand.

On several clinical rotations, students work independently but supervised on their own patient: for small animals one soft tissue surgery case, one orthopaedic case and one internal medicine case; for equine studies one internal medicine and one orthopaedic case; one production animal case; one pathology case. Students present their own cases during morning rounds (e.g. in small animal internal medicine) or during weekly grand rounds (equine). Students also write surgery reports (10 in total, min. five small animals, one equine), anaesthesia reports (four small animals and one equine), case summaries (two small animal internal medicine cases, one equine internal medicine case and one surgical case, one production animal case) and written assignments (in pathology).

A representative example of teaching a systematic approach to patients and offering students opportunity for gaining deeper understanding is small animal internal medicine: each student is assigned a case the previous afternoon and has time allocated to read about the case, prepare a problem list, read about possible differential diagnoses and prepare a diagnostic plan for the following day. All patient materials as well as access to books and lecture material are available for students. All cases are discussed through the following day when patients are admitted to the hospital: Each student presents his/her own case during morning rounds and the problems, differential diagnoses and therapeutic plan are discussed with the teacher. Students prepare the discharge instructions for the owners and the therapeutic plan is discussed with the teacher in the afternoon prior to discharge.

There are discussions, morning rounds on patients and group work on certain important clinical topics. Every other week students of small animal surgery, anaesthesiology and diagnostic imaging work together on integrative cases in small groups for one afternoon. Students make posters and present them to other groups using a poster walk method. Similar case-based discussion about the most important topics are also organised in neurology and ophthalmology. Additionally, students are given pre-prepared cases and webpage cases of other universities on various occasions, e.g. should there be a quiet day at the clinics. In neurology, students have digital cases that they work on (watching a video, localising the problem and making a list of the differential diagnoses) and discuss together with the veterinarian. Anaesthesia protocols, including monitoring of recovery and assessment of pain are used for afternoon discussions. In the Equine Hospital, students participate in the veterinarians' weekly Journal Clubs.

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

The computerised patient record system (Provet) is used in all hospitals, including farm and herd health visits, and also in the Pathology unit. All patients are recorded in the system. The data includes all clinical work, patient records, diagnostic imaging reports and radiographs, pathology reports and laboratory diagnoses. System and all patient records are accessible throughout the FVM premises.

Students enter data on patients into the system (e.g. anamnesis, treatment) and the veterinarian-in-charge checks this information. There are forms for e.g. clinical examination and endoscopy of the gastrointestinal tract in small animal patients. Students are expected to familiarise themselves in advance with the

previous information on their patient and they are also encouraged to monitor the course of the patient afterwards.

Teachers use the case records in Provet for teaching purposes. Provet search is used to find cases for lectures, and cases to turn into computerised learning cases (with labwork, radiographs, medication etc.) for student use. Data is also used for research purposes, as Provet allows a retrospective search of cases. Retrospective data is widely used in students' Licentiate theses and in research papers.

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

The use of animals for scientific and educational purposes is regulated by EU-directive (2010/63/EU) and by the national provisions of directive (Act 497/2013, Degree 564/2013). Via the Animal Experimental Board the Regional State Administrative Agency (AVI) controls the use of animals by giving permission to perform an animal experiment. AVI also controls the housing conditions of experimental animals. Locally, at the FVM, the animal welfare is controlled by Faculty members who have been chosen to act as persons responsible for the Establishment, activity and as designated veterinarians. The Animal Welfare Group formed from the members of the Department of Equine and Small Animal Medicine follows and advises the use of animals in experiments and organises training sessions for staff. At the Viikki campus, an ethical board is named to ensure and give ethical permission for clinical studies not requiring permission from the Animal Experimental Board.

Animal experiments are performed mainly in research projects. In elective studies students can choose to attend a course "Using animals in research – carrying out procedures", organised by The Centre of Laboratory Animals of Helsinki University. Also the use of animals in teaching is controlled. Strict guidelines control the use and minor procedures, e.g. taking a blood sample for laboratory teaching from healthy, hospital or privately owned animals needs an official licence. Voluntary students may take samples from their own dogs or take them for training of non-invasive procedures, such as an ultrasonographic examination. In clinical teaching in the VTH, students are supervised by licensed veterinarians and veterinary nurses, and clinical situations are handled on a case by case basis. Patients are treated with care and respect according to best practice policies.

5.1.11. Description of how and by who 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 are decided, communicated to staff, students and stakeholders, implemented, assessed and revised

Basically, the Steering Groups of the Degree Programmes are responsible for the curriculum planning and the intended learning outcomes, which also offer guidelines for the teaching materials. The curriculum has been relatively stable regarding practicals, and the approximate nature and amount of teaching material (both live animals and material of animal origin) can be estimated and prepared in good time. The Green booklet contains teachers' shared understanding of the contents of clinical training for students.

Teachers responsible for courses play an important role in practical issues. E.g. in anatomy, dissections of different aspects of the body have been combined to gain full benefit from cadavers. For this to succeed, teachers must interact with each other, and the preparator at the Pathology unit is the key staff member in this sense to keep the relative teachers updated. Regarding clinical studies, the responsible teacher can negotiate with the Hospital Director regarding e.g. shortages in routine surgeries. Teachers also need to be innovative in compensating for the difficulties in certain areas, such as pigs and poultry, and good connections between teachers and farmers are valuable in this sense. Students and staff members have had a positive attitude about bringing their own animals for non-invasive practicals.

The main objective in clinical services provided by the FVM is that ESEVT requirements must be met, and the expectations of the Finnish society for students' training need to be taken into account. The ongoing work for the University's future strategy allows discussion on the future role of veterinarians; one concrete example of this is the FVM's own Strategy Day (29.4.2019) where the future trends in Europe, nationally and at the veterinary education level were introduced and further worked on in small groups. Strategy work is also carried out in the VTH.

Contracts with municipalities include certain requirements for the VTH but thus far, these have not been in any conflict with the ESEVT requirements. Special clinics at the VTH can be organised based on individual veterinarians' special expertise, but the demands for the core curriculum need to be stable and secured. Long-term staff planning is a tool for this.

The clinical services are communicated to the clients and wider public via the webpages and VTH's Facebook page. Additionally, during the past years three very popular TV series dealing with VTH

activities have been produced. The first series described student life during studies in the VTH, the second series followed individual fifth year students in their first real work life experience as deputy veterinarians, and the most recent one followed clients and their animals in the VTH. All these series have had prime time broadcasting on national TV and have attracted wide audiences.

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

Species	2018-2019	2017-2018	2016-2017	Mean
Cattle (whole animal)	3	1	2	2
Cattle (digestive system/ head/ heart)	2	3	-	
Small ruminants	2	2	4	3
Pigs	2	-	-	
Cats	80	68	74	74
Dogs	45	24	30	33
Horses (whole animal)	3	3	4	3
Horse (head/digestive system/limbs)	11/-/3	6/1/-	6/2/-	
Poultry & rabbits	13	11	11	12
Exotic pets (reptiles)	8	-	5	
Others: Fish	20	20	20	20
Rats	3	3	3	3
Deer (digestive system) / elk (digestive system)/ wild birds	1/ 1/ 10	-	-	

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

Species	2018-2019	2017-2018	2016-2017	Mean
Cattle	44	44	44	44
Small ruminants	7	7	7	7
Pigs	400	400	400	400
Companion animals	103	99	102	101
Equine	6	6	6	6
Poultry (rabbits are considered pet animals)	70	0	0	23
Exotic pets: reptiles, snakes, tortoises, guinea pigs, ferrets	sporadically	sporadically	sporadically	sporadically
Others: mice and rats (experimental animals)	15	15	15	15

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

Species	2018	2017	2016	Mean
Cattle	123	86	130	113
Small ruminants (sheep, goats)	75	78	53	69
Pigs	0	4	6	3
Companion animals (dogs, cats)	18 161	17 597	16 771	17 510
Equine (horses)	2 537	2 416	2 185	2 379
Poultry > Birds*)	69	70	60	66
Pet rabbits	290	392	308	330
Other exotic pets	397	386	345	376
Others (specify)	mini pig 22, donkey 7, alpaca 16, llama 13 wild animals 16	mini pig 37, alpaca 24 llama 2, wild animals 30	mini pig 17, alpaca 14 llama 3, reindeer 1 wild animals 16	

*) hobby hens are included in birds and not recorded separately

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

Species	2018	2017	2016	Mean
Cattle	8 915	9 038	8 842	8 932
Small ruminants (sheep, goats)	141	159	126	142
Pigs	711	100	123	311
Companion animals (dogs, cats)	96	121	102	106
Equine (horses)	1 011	1 013	905	976
Poultry > Birds*)	1	3	7	4
Exotic pets	7	7	9	8
Others (specify)	mini pig 12, donkey 10, llama 6	mini pig 11, alpaca 12, llama 1, donkey 5	mini pig 18, alpaca 8, llama 5, donkey 4	

*) hobby hens are included in birds and not recorded separately

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

Referral patients are estimated to account for 10–20% of all patients at the Small Animal Hospital. At the Equine and Production Animal Hospitals their share is under 10%.

Table 5.1.6. Cadavers used in necropsy

Species	2018	2017	2016*)	Mean
Cattle	28	41	58	42
Small ruminants	12	4	12	9
Pigs**)	62	65	94	74
Companion animals	264	275	387	309
Equine	64	50	53	56
Poultry***)	-	-	-	-
Pet rabbits	7	4	14	8
Exotic pets	0	3	2	2
Zoo animals	30	31	36	32

Data include cases seen by third and fifth year students.

*) In the spring term 2016, fifth year students in clinical rotation were every week in Pathology (2 students at a time) but in 2017 and 2018 only every second week (4 students). **) In the production animal teaching students are involved in field autopsies for pigs during the fourth year studies, using a demonstration where approximately 12 pigs are autopsied. During the fifth year studies, each student does a field autopsy for at least one pig together with another student at the Production Animal Hospital (altogether approximately 35 pigs). Also, during pig herd visits, field autopsies are carried out in the herds whenever needed or possible (approximately 15 pigs a year). These numbers are included in the Table. ***) Third year students visit the national Food Authority's Pathology unit twice for demonstrations on their case material. Typically, students see 4-12 cases on each visit, including pigs, poultry and fish.

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

Species	2018	2017	2016	Mean
Cattle	216	189	156	187
Small ruminants	20	22	19	20
Pigs	16	17	14	16
Poultry	3	1	0	1.3
Rabbits	0	0	0	0

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

Species	2017-2018	2016-2017	2015-2016	Mean
Ruminant's slaughterhouses*)	0	0	0	0
Pig's slaughterhouses*)	0	0	0	0
Poultry slaughterhouses	1	1	1	1
Related premises for the production, processing, distribution or consumption of food of animal origin**)	1	1	1	1

*) Students are required to do three weeks of slaughterhouse EPT, of which at least one week must be spent at a red meat slaughterhouse (ruminants or pigs) and one week can be spent at auditing slaughterhouse control. For each student, EPT can be performed in 1-3 slaughterhouses. Some students visit even more while participating in official audits of slaughterhouse control. **) In addition, all students visit many facilities with official inspectors while participating in 2-week EPT at environmental healthcare control units.

5.2. Comments

The intense hands-on training on real patients and cadavers is a major strength of the Finnish veterinary education. Teaching in poultry has developed with the recently recruited clinical teacher (shared by the Department of Production Animals and the Department of Food Hygiene and Environmental Health).

The FVM has decided to adopt the VeNom diagnostic coding system. It will further enhance the use of clinical data in companion animals and equines in research.

5.3. Suggestions for improvement

More attention could be paid in teaching how to handle companion animals and exotic pets.

6. LEARNING RESOURCES

6.1. Factual information

6.1.1. Description of the main library of the Establishment:

Helsinki University Library is open to customers at several locations in all campuses; the main library is located in the City Centre Campus. All libraries have the University's secure Wi-Fi network Eduroam. The Viikki Campus Library is the library for the FVM. The electronic resources and the library web services can also be accessed via remote access by the university's researchers, staff and students. Each Faculty has a designated contact person at the Library.

- staff (FTE) and qualifications

Staff*	FTE
Professional library staff (staff with university degree)	113.8 (73.4)
Experts	19.6
Other library staff	21.9
Total	155.3

*at the Helsinki University as a whole; the staff is not divided into Campus Libraries. In Viikki Campus Library the number of staff members varies daily; on average there are approx. 12 staff members.

- opening hours and days, annual budget and facilities (location in the campus, global space, number of rooms, number of seats) and equipment (number of computers and of electrical connections for portable PCs)

The operating costs of the Helsinki University Library as a whole are 22 104 700 €.

Viikki Campus Library is located in the Info Centre Korona (Viikinkaari 11). It is open Mon-Fri 8 am - 7 pm (Customer service 10 am - 5 pm). The global space is 3 310 m². There are 359 customer places and 8 group work rooms for 4-12 persons that can be reserved by staff and students. The number of computers used by customers is 66, and number of electrical connections for portable PCs is 200. There are ordinary reading rooms, silent reading rooms, standing desks for working, several areas for using computers and a special exam room. A detailed map of the Campus Library is given in [Appendix 14](#).

- available softwares for bibliographical search

The HELKA library catalogue is used. The links to e-resources in HELKA and the Search function on Library's website support remote access (VPN). BrowZine Library includes all e-periodicals in the Library and BookNavigator is an e-book service where over 500 000 e-books are accessible with a UH user ID. The library provides access to multiple databases such as Scopus, Ovid Medline and Web of Science (http://libraryguides.helsinki.fi/veterinary_medicine/databases).

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

	Printed material	e-material
Veterinary books	1 527 (including 83 course books)	472 (including 36 course books)
Veterinary periodicals	123	259

In the Helsinki University Library there are in total 770 000 e-books and 27 500 e-periodicals and also hundreds of dictionaries and reference works and over 300 reference and full text databases. The electronic collections are also available for staff and students of the UH remotely. In the Viikki Campus Library there are 76 157 printed books and 3 118 printed periodicals. The Library prefers e-resources and many periodicals previously ordered in printed form are now ordered in electronic form.

6.1.2. Description of the subsidiary libraries

There are small subsidiary libraries in the EE-building and the VTH (both in Viikki and in Saari), where students have access to veterinary books. New books are acquired for these libraries by the FVM staff but the books are registered in the Viikki Campus Library. In addition, teachers tend to have the key books of their discipline in their own offices.

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

The University's core Learning Management System is Moodle (<https://moodle.helsinki.fi>). Virtually all courses at the FVM have a designated Moodle course area. The University has its own video streaming and recording service, UniTube (based on Opencast), which can be used to securely add videos to Moodle courses. Easy live streaming and/or recording of lectures is available in selected lecture halls with UniTube, and in non-UniTube environments with the Adobe Connect service. Teachers may also use the UniTube-studio in Viikki for making their own educational videos in an easy-to-use and quiet environment.

The hardware/server side of Moodle and most IT services are maintained by the IT Department who provide general technical help to staff and students for all IT-systems through their Helpdesk service desk (<https://helpdesk.it.helsinki.fi/en>), reachable through phone, chat services or email. The University's Educational Technology Services (<https://blogs.helsinki.fi/educationaltechnology/>) provide pedagogical support and training courses for Moodle and other supported e-learning tools as well as the lecture streaming/recording services. Of the 25 educational technology specialists in the Educational Technology Services, three reside locally at the Viikki Campus. The FVM has a designated contact person, but all specialists provide on-site support for the FVM as a team when needed and work closely with the campus level Lecturers in university pedagogy.

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

Almost all the courses in the FVM are Moodle-based blended learning courses that utilise relevant e-learning methods and materials. Diagnostic and formative assessment is provided e.g. with interactive quizzes before and during the course. There is also summative assessment with electronically administered peer-reviewed assignments or exams using multiple choice questions (MCQs). Some courses provide live streaming and/or recordings of lectures. For students in the clinical phase, virtual patient cases are being built and piloted in order to provide additional learning activities, e.g. for periods when real patients are in short supply.

6.1.5. Description of the accessibility for staff and students to electronic learning resources both on and off campus (*Wi-Fi coverage in the Establishment and access to Virtual Private Network (VPN)*)

All campus areas are covered by the University's Wi-Fi networks: Eduroam (secure) and HUPnet (unsecure, for visitors also with a HUPnet account created by University staff). Most e-learning resources work openly on the internet requiring only authentication with the University account. Resources restricted to the University's internal network can also be conveniently accessed remotely in several ways: using VPN software (provided; Pulse Secure or HY-VPN); using the VPN portal website on any browser, or; using a virtual desktop (VDI) from any computer – Linux, Windows 7 or 10 desktop provided for staff, students may use a virtual Linux desktop.

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

Guidance by library staff in information retrieval has been integrated in veterinary courses, in addition to the guidance given by FVM teachers. Students can also learn about information retrieval and get personal support for their own searches at courses and workshops organised by the Library. Training is offered to increase the efficiency of information retrieval for theses, as well as supporting the use of reference management programmes. In 2018, there were five training sessions especially for FVM students, with 86 participants. There are also specific information management courses for Doctoral students.

- Online courses on information seeking and management for students

All first year students at the University take a mandatory Student's Digital Skills (3 ECTS credits) course as part of their introductory studies. This self-study course provided by the Educational Technology Services introduces students to the University's IT systems, library services and the Moodle platform. Additionally, there are two distinct MOOC courses at different levels on Information Seeking and Management for Thesis Writers.

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

The Educational Technology Services of the University is responsible for guidelines regarding the Learning Management Systems and selecting the supported platforms. Helpdesk and the local Educational

Technology Specialists support staff in the use of educational technology. The Educational Technology Services offers e-learning training as short courses, both centrally and at the campus level. During the last couple of years the University has, in line with its strategy, allocated finances for “the digital leap”, which has also supported the development of e-learning materials at the FVM. The Educational Technology Specialists and the Lecturers in university pedagogy also organise a Pedagogical Café (“Viklo”) for teachers four times a year at Viikki Campus, where best practices and new innovations can be shared in a multidisciplinary environment.

Each Faculty at the UH has a designated liaison librarian, whom teachers and researchers can contact in all matters related to library and information services. The liaison librarian can also be invited to relevant meetings at the FVM. Teachers and researchers can express their wishes to the Library by email at any time and wishes concerning books are actively enquired by the library personnel before starting the new academic year. Both staff members and students can make an acquisition proposal for the library collections through a web form. All suggestions are considered in relation to the library's collection development policy and the available funds. The library acquires new material primarily in e-form. Serials and databases are acquired yearly. Several copies of all books that are included in the course requirements in the Study Guide are acquired to the library. Information regarding e.g. new e-learning resources and courses are communicated to the FVM teachers' email list by the designated contact persons.

The Library has an advisory board on each campus, whose members represent the staff and students of the Faculties and independent institutes of the campus, library staff, and stakeholders. The advisory boards can establish permanent or temporary working groups to support their operation.

6.2. Comments

Moodle has been found to be a functional tool. The FVM has many teachers with pedagogical expertise and an interest in teaching technology. During the University's Digital leap project (2017-2019), several tools including virtual microscopy, 3D anatomy, a bacterial identification game, a heart auscultation skills app, a platform for studying good laboratory practices, and flashcards for studying anatomy, specific bacteriology, mycology and epidemiology, were developed.

6.3. Suggestions for improvement

More lectures could be streamed and the opportunities for e-learning could be used more. The University's video streaming and recording services are being significantly upgraded during 2019, which will provide better opportunities for the production of video-based material and the utilisation of online communication for both staff and students.

7. STUDENT ADMISSION, PROGRESSION AND WELFARE

7.1. Factual information

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

According to the policy of the UH, digital advertising is the main route to deliver information for prospective students and applicants. The official national application database called "Opintopolku" contains information about study programmes leading to a degree, e.g. about the curriculum, goals of the programme, teaching languages, career opportunities and the application criteria and process. The applicants can also find detailed information about the profession, curriculum and admission from the website of the FVM (<https://www.helsinki.fi/en/faculty-of-veterinary-medicine/admissions>). On this website the FVM's ESEVT status is mentioned and the previous Self Evaluation Report and Visitation Report are made available for the public.

Once a year the event "Experience the campus!" has offered prospective students the opportunity to get acquainted with the FVM: participants are able to tour the campus, visit laboratories, lecture halls and the VTH, meet students and participate in information sessions. The degree programme has also been presented at the "Studia" fair, the largest youth study and career event in Finland. The study opportunities in veterinary medicine are introduced for Swedish speaking students in "Högskoledagen" once a year. Current students and staff members also introduce veterinary studies to prospective students by attending school visits. Additionally, the University's marketing team (Viikki Communications) dedicated to online marketing of the study possibilities. They have been promoting veterinary studies especially through social media (Facebook, blogs, YouTube etc.).

7.1.2. Description of the admission procedures for standard students:

In Finland, students take a national matriculation examination at the end of the general upper secondary education. Those who pass the matriculation examination, have an equivalent international diploma (IB, PR or EB) or have completed vocational qualifications of at least 3 years are eligible to apply for university studies. National electronic joint application is used. Each applicant can select up to six study programmes, which are placed in order of preference. The order will determine what study place is offered for the applicant if she/he is accepted to study. Nearly all applicants in veterinary medicine (87%) have put this programme as their first preference. The UH Student Admission Services support applicants by answering questions regarding study options and giving tuition how to apply and fill in the online application form. Student Admission Services are also responsible for all practical arrangements of the entrance examination and selection process.

- selection criteria

There are approximately 750 applicants (mean 743 in 2016-2018) and 68 students are selected annually. Of the 68 places, 45 (67%) are reserved for first time applicants who do not hold a higher education qualification or a higher education study place in Finland. Additionally, there are two applicant categories. In the first category, students (50%) are selected based on their grades in the national matriculation examination and their success in the entrance examination, and in the second category students (50%) are selected by their success in the entrance examination only. The applicant is taken into account in both categories if her/his educational background allows it.

The entrance examination is the same as that of all degree programmes in medicine and dentistry in Finland, and the examination is developed in co-operation with all Finnish medical faculties. All applicants must complete the entrance examination in Finnish or Swedish. The examination contains multiple choice questions (MCQs), short answer questions and short text-based problems that integrate biology, chemistry and physics. The examination is based on compulsory and advanced courses in these disciplines at the national high school curriculum and on additional material that is distributed in the examination. In order to be taken into account in the selection, the applicant must gain an annually set level of success in the examination. The entrance examination ensures that admitted students have satisfactory knowledge in biology, chemistry and physics. The applicant sees his/her own selection results in the Opintopolku.fi website's 'My study path' service immediately after the results are published.

- policy for disabled and ill students

According to the Special Arrangements Guidelines of the UH, the equality of candidates in the selection process is supported by special arrangements. Applicants can for health reasons request special arrangements, such as accessible rooms, greater writing space or the use of assistive devices. Applicants with moderate or severe dyslexia can have up to 30 minutes extra time in the entrance examination. The applicant must provide a statement from a specialist in the area of disability or illness and its impact in the examination situation. Each case is considered individually. Applications for special arrangements are requested on a separate form and submitted to the UH Student Admission Services.

During the studies the content and implementation of the special arrangements are determined by the student's individual needs; they must be based on documented reasons as well as a genuine need for them. Students can contact the Accessibility Liaison Officer of the University if they do not know whether they have a right to request special arrangements. The University also has an expert panel which can provide a recommendation for special arrangements. Special arrangements do not entail compromising on learning objectives; they are intended to help students reach the objectives. Thus far, examples for support have included personal study plans, a separate room for taking an examination, an alternative form of completion and vision or hearing aids.

- composition and training of the selection committee

The FVM co-operates with all Finnish faculties of medicine and dentistry in student admission. The co-operation is coordinated by the National Admissions Committee for Medical Disciplines, where each faculty has its own representatives, including one student member. A trained group of experienced university lecturers and/or professors (three members of each faculty) is responsible for composing the entrance examination and preparing detailed assessment criteria for each question in advance. The chairman of this group is a member of the National Admissions Committee for Medical Disciplines and is responsible for instructing the group members annually and keeping the committee updated regarding relevant matters of the entrance examination. Additionally, before starting the preparation of the next entrance examination, each question of the previous examination is critically reviewed by the group.

- appeal process

After publication of the selection results, applicants have the right to access their assessed entrance examination papers and have 14 days to appeal the assessment of their answers. The requested answers are re-checked, using the same criteria applied to all applicants' answers, and correction to the grade is made if the request is found relevant. (This may raise the number of enrolled students to over 68.) Responses to the appeals are handled in the Faculty Council. If the applicant is dissatisfied with the response, she/he can appeal the decision to the local administrative court.

Academic year	2018-2019	2017-2018	2016-2017	Total
Number of applicants	751	746	732	2 229
Number of students appealing the assessment of their answers in the entrance examination	11	8	8	27
Successful complaints to the Faculty Council	1	3	1	5
Complaints to the local administrative court	0	0	0	0

- advertisement of the criteria and transparency of the procedures

The selection criteria and the application process are described in detail in the official national application database "Studyinfo.fi", which is open for everyone. After the entrance examination, the features of good answers are published in the web page of the joint application of medical disciplines. The appeal process, described on the same webpage, includes the opportunity to proceed outside the university, to the local administrative court.

7.1.3. Description of the admission procedures for full fee students

There are no full fee students.

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

The number of students admitted each year is restricted and the facilities, educational resources, as well as biosecurity and welfare requirements of the FVM are adapted to suit max. 72 students. This allows some flexibility over the standard intake of 68, e.g. by the appeal mechanism.

7.1.5. Description of:

- the progression criteria and procedures for all students

Studies progress according to a predefined annual study plan. The internal order of individual subjects and study modules can be found in the Study Guide. The progression criteria are described in the Instructions for Students website. At predetermined time points, certain study modules must be completed before the student can progress in her/his studies; e.g., the Bachelor's degree must be completed before entering the clinical rotation on the fifth year, and all theoretical examinations in clinical disciplines must be passed to be able to enter the spring term of the clinical year. The progression of studies in an unusual order requires the compiling of a personal study plan (PSP) approved by the counselling teacher of the relevant department. When approving PSPs, the limitations set by teaching facilities and other resources may be taken into account.

- the remediation and support for students who do not perform adequately

The bodies responsible for student guidance and support are described in detail in [Appendix 15](#). Students are informed of these facilities during the orientation at the beginning of their studies and in the Instructions for Students website. The FVM takes student welfare very seriously, is well aware of the most common problems that may arise, and does its best to provide early help for students with problems. Student feedback collected at the end of each academic year as well as the HowULearn questionnaire ([Appendix 16](#)) provide information about e.g. the perceived study workload and welfare of the veterinary students. Personal support is offered to those in need, especially by counselling teachers. Students can also be redirected to further counselling, e.g. to the study psychologist.

There is close co-operation between the FVM and the FSHS. Every three years, the FSHS evaluates the health and safety of the learning environment. Special attention is paid to student welfare, mental health and how students cope with the study load. The latest FSHS evaluation took place in April 2019.

- the rate and main causes of attrition

The Directors of the degree programmes can use a new computer app "Oodikone" to monitor how studies progress on the student and course level. This analysis tool uses data from the course registration system, and can be used to e.g. reveal possible bottlenecks in the education programme and recognise students in need of support. In the FVM the attrition rate is very low and in recent years, > 90 % of the admitted students have graduated within 8 years.

The FVM surveys reasons for delayed studies at three-year intervals. In the last survey in 2018 the main causes turned out to be similar as previously: the Licentiate thesis and personal reasons, such as maternity leave or health problems. Personal guidance is offered for students with delayed studies.

- the exclusion and appeal processes

In Finland the duration of degree study rights is restricted by law. The set target schedule during which the degree should be completed is six academic years in veterinary medicine. The degree can be completed within two additional years of the target duration, which means that the maximum duration in veterinary medicine is eight academic years. Absences due to statutory reasons, such as military or non-military service or conscription or parental leave, are not included in the duration of degree studies. If the study right has expired, the Dean may grant an extension upon the student's application to complete her/his studies, usually for one year at a time. A detailed graduation plan is required for such an application and progress in the studies needs to be demonstrated should the student wish to make subsequent applications. Only credits for studies that have been completed within the past 10 years can be incorporated into a degree. Expired studies must be completed again to be valid for the degree.

Based on the Universities Act (558/2009), a student can only be suspended from the University for a fixed period of one year at most in case she/he either disrupts teaching, behaves threateningly or violently, acts under false pretence or otherwise causes disorder at the university. Additionally, the deed or negligence must be serious in nature or the student continues to behave inappropriately after having been cautioned.

- the advertisement to students and transparency of these criteria/procedures

Information concerning legal protection of students, criteria and procedures are described in the website Instructions for students.

7.1.6. Description of the services available for students

Various services for students regarding administration, registration and advice, preventive health care and assistance in case of illness, listening and counselling, student life and sport services as well as other services are available at the FVM, campus and university level. These are described in detail in [Appendix 15](#).

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

The prospected number of new students is determined for 3 years at a time. There is no need to increase or decrease the current number of admitted students (standard intake 68/year) in the coming years.

7.1.8. Description of how and by whom the admission procedures, the admission criteria, the number of admitted students and the services to students are decided, communicated to staff, students and stakeholders, implemented, assessed and revised.

Admission procedures have increasingly become a university- and national-level practice, and the FVM no longer has its own Admissions Committee. The FVM co-operates with all Finnish faculties of medicine and dentistry in student admission, including preparation of the entrance examination, and the National Admissions Committee for Medical Disciplines prepares the shared guidelines. The Student Admission Services of the University are responsible for all practical arrangements regarding admission procedures.

A draft of admission criteria is compiled in the National Admissions Committee for Medical Disciplines. The Steering Groups of the Degree Programmes at the FVM prepare the final selection criteria and submit them to the Faculty Council for approval. Practical arrangements of the entrance test, selection process and advertising are handled by Student Admission Services of the UH, together with the Communications team.

The Ministry of Education and Culture negotiates with the higher education institutions and sets a target for the number of graduating students. The Steering Groups of the Degree Programmes prepare the number of admitted students for 3 years at a time, taking into account e.g. reports on the employment situation of veterinarians and available educational resources and facilities. The Faculty Council decides on the number of admitted students that will be submitted to the Board of the University for final decision.

Most of the services to students are regulated by the University but the FVM is also free to develop its own practices. They are communicated to the students at the beginning of their studies and can be found at any time on the Instructions for Students webpage. Student representatives are involved in all working groups and committees related to student admissions and studies. Students can convey their needs to the FVM in various ways, and tailored services can be arranged when found relevant.

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

Type of students	2018-2019	2017-2018	2016-2017	Mean
Standard students	69	72	69	70
Full fee students	-	-	-	-

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

Year of programme	2018-2019	2017-2018	2016-2017	Mean
First year	70	70	67	69
Second year	69	68	67	68
Third year	65	67	69	67
Fourth year	60	67	69	65
Fifth year	77	71	65	71
Sixth year	69	67	70	69
Sixth + n year(s)	46	51	47	48
Total	456	461	454	457

Table 7.1.3. Number of veterinary students graduating annually

Type of students	2018	2017	2016	Mean
Standard students	63	69	82	71
Full fee students	-	-	-	-

Table 7.1.4. Average duration of veterinary studies

Duration	% of the students who graduated in 2018 (n = 63)
+ 0	68% (n = 43)
+ 1 year	21% (n = 13)
+ 2 years	5% (n = 3)
+ 3 years or more	6% (n = 4)

Table 7.1.5. Number of postgraduate students registered at the Establishment

Programmes	2018-2019	2017-2018	2016-2017	Mean
Interns	7	7	6	7
Residents	9	9	8	9
PhD students	135	131	123	130
Students in national specialization programmes	189	181	169	178

7.2. Comments

In 2020, there will be a national reform in admission practices for higher education. The Ministry of Education and Culture has decided that at least 50% of the students must be selected based on matriculation examination success alone. The other half will be selected based on the future medical entrance examination. The current selection method has been found successful in selecting students with a potential to complete the degree programme and meet the ESEVT Day One Competences successfully. The proportion of students who graduate in the target time has increased during the last few years, mainly due to continuous curriculum development and increased consciousness at the FVM of the occasions during studies in which e.g. intensified information sessions for large groups of students are beneficial. Examples of this include regular sessions on how to get started with a Licentiate thesis.

There are fluctuations in the number of students registered for different years (Table 7.1.2.), which has been found to be very difficult to avoid. This variation needs to be taken into account in practical arrangements for courses and clinical rotation.

Practices concerning student supervision, guidance and progress monitoring are currently being reformed based on a university-level decision. The new plan, which will come into force in 2020, pays special attention to the development of good learning strategies, interpersonal skills and other working life skills during the veterinary education. Teacher tutoring will be expanded.

Students's preventive health care and biosecurity instruction is becoming increasingly important along with real-life exposure to cryptosporidiosis and outbreaks of such as MRSA. Even though the FSHS functions reasonably well, the queues for certain services are long, and there is no longer a FSHS branch reception at the Viikki campus. The services of counselling psychologists are also often crowded.

7.3. Suggestions for improvement

Adding a veterinary medicine specific MOOC in the joint admission procedures has been considered.

8. STUDENT ASSESSMENT

8.1. Factual information

8.1.1. Description of the global students' assessment strategy of the Establishment

Regulations on Degrees and the Protection of Students' Rights (2018), Guidelines for Degrees and Studies at the UH (2017) and Principles for Examinations, Rector's decision and its amendment (2018) define the central examination policy that also directs the assessment of learning at the FVM. Matters related to examinations and the assessment of students are handled in the Steering Groups of the Degree Programmes.

According to the principles of constructive alignment, student assessment procedures aim to measure the achievement of the intended learning outcomes and programme objectives, including the ESEVT Day One Competences. Each individual course has defined learning outcomes, teaching methods and assessment procedures. At the curriculum level, these have been checked at curriculum workshops annually (now at three year intervals) before they are taken to the Steering Groups of the Degrees. The learning outcomes and assessment methods of each course are published in the Study Guide and in more detail on the Moodle area of the courses. Assessment of learning is criterion-referenced and not based on comparisons between students. In addition to assessment by the teacher, peer- and self-assessment is used. Diagnostic assessment is realised by pre-course assignments (e.g. on the courses Infection microbiology, Small animal surgery and Equine diseases). Summative assessment at the end of the course is commonly used, but the value of assessment for learning (formative assessment) has been realised and attempts to increase it have been made in recent years. Varying assessment methods exist for knowledge, skills and personal development.

There are no special periods during the year for examinations. The examination is usually in close connection with the specific course, at the end of it or at the end of some specific part of it. Alternative ways of assessment, such as learning diaries, are used in several courses. Some courses, such as Neurology and Ophthalmology and Meat inspection have assignments that can substitute for part of the examination or contribute points to the examination or to the final grade of the course. The purpose of this is to encourage students to work systematically during the whole course. In large modules, the final grade consists of a number of grades, which relieves the student's pressure from sitting a single examination.

Progressive personal development across the Bachelor's programme is demonstrated by the summary of the portfolio written at the end of the third study year, as part of the strand Studying to become a veterinarian. These summaries are handled confidentially, and the responsible teacher of this strand gives individual feedback to each student's summary. This gives students an opportunity for genuine personal reflection and to the experienced teacher an opportunity for coaching. At the end of the Licentiate programme, students compile a CV which makes them assess their competences at the end of the sixth study year. Peer review has been found useful at this stage. Students are also required to assess their own studying and learning as well as their perceptions of the teaching-learning environment in HowULearn questionnaires three times during the studies. The electronic feedback that HowULearn gives to each student individually supports them to develop their approaches to learning and studying. HowULearn has been used at the FVM since 2007 and the results of research performed at the FVM using it have been published in scientific international journals such as *Learning Environments Research* (2011), *International Journal of Learning and Change* (2017) and *Quality in Higher Education* (2018).

8.1.2. Description of the specific methodologies for assessing:

- theoretical knowledge

A written examination consisting of short answers and (case-based) essay-type questions is the most common examination type used. Extended match questions and MCQs are also used, and in cases of online electronic MCQs, students can choose the date when taking the examination (e.g. in Food hygiene). Certain examinations such as that of the Evidence-based veterinary medicine course can be taken on a computer in a specific examination room (Examinarium) and the student can choose the time to take it within a given period. These examinations are supervised via recording camera equipment installed in the rooms. Oral examinations are an essential part e.g. of the first year's practical training in anatomy. Project-based group presentations, followed by experts in the field, have become a permanent procedure in infectious disease epidemiology. Home examinations, also used in the course of infectious disease epidemiology, allow students time to retrieve information to complex questions. Various types of quizzes are used mainly as pre-course assignments.

Peer assessment, along with teacher's assessment, is used e.g. for laboratory diaries, group assignments, essays and case presentations. External referees participate in assessing group discussions and assignments e.g. in the Infectious disease epidemiology course. Use of a rubric is a prerequisite for consistency in these cases.

- pre-clinical practical skills

Animal handling and other propaedeutic skills are assessed in practical training sessions in small groups, e.g. in Animal management, welfare and nutrition courses. Laboratory work is assessed using written reports and practical examinations, and formative feedback is given by teachers during the course, mainly orally. Detailed praxis reports are used to control the EPT, e.g. the farm animal and slaughterhouse practice. In the dissection examination in pathology, students need to show their hands-on skills and be able to answer oral questions presented by the examiner on the case.

- clinical practical skills

Clinical skills are tested at the end of the fifth (clinical) year using a somewhat modified OSCE (Objective Structured Clinical Examination) in small animal, equine and production animal medicine and surgery. Formative assessment is performed continuously in daily practice and discussions, with oral feedback to the students. Students also need to perform predetermined procedures themselves (described in the students' Green booklet), give case presentations (oral and written, feedback accordingly), keep a logbook and perform structured self-assessment. Students have their own clinical cases that they present to others and these are assessed by the teacher. Praxis reports are used for EPT.

8.1.3. 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

The veterinary curriculum forms a continuum where the order and content of individual courses and modules contribute to the development of the Day One Competences of the Finnish veterinary graduates. The Bachelor's programme includes an introduction to all aspects of the veterinary profession and these are revisited in the Licentiate programme from different perspectives. Each course has defined learning outcomes and must be passed. Failed examinations must be retaken. Certain examinations (or courses) constitute a barrier to progress if they are not passed.

The inclusion of all ESEVT Day One Competences in the curriculum has been checked by clarifying which competences the responsible teachers consider have been achieved by the students during their course. According to this mapping in autumn 2018, there were only two ESEVT Day One Competences that the teachers felt had not been met at all in the Bachelor's programme: 1) performing aseptic surgery correctly and 2) safely performing sedation, and general and regional anaesthesia; and implementing chemical methods of restraint. These competences are widely practised in the Licentiate phase and are not supposed to be met at the *performance* or *implementing* level during the Bachelor's phase of studies.

In order to gain information on the competences of recent graduates, the FVM collects feedback from the work life and utilises feedback collected by other parties. This assessment is extremely valuable as some of the competences are very difficult to assess reliably within the degree programmes because they are not fully realised until working life begins.

- The feedback collected in 2010 by interviewing 20 distinguished colleagues from various fields of the veterinary profession revealed that they found the level of knowledge of the recent graduates to be higher than ever. At the same time, the graduates were considered to feel insecure in clinical work, especially when the facilities did not meet the same level as that in the VTH. The results were reflected thoroughly within the FVM, and also reported and discussed in the Annual Veterinary Meeting of the Finnish Veterinary Association in 2010. Based on this feedback, some learning objectives in the clinical studies were adjusted.
- The feedback collected by the Career Services Network of Finnish Universities systematically five years after graduation monitors how graduates perceived their skills and knowledge in relation to the demands of the working life. The veterinary graduates that responded to the survey in 2016 scored their theoretical knowledge, information retrieval skills, learning skills and analytical thinking high, whereas they felt that their university studies had not sufficiently developed their ability to cope with stress, self-direction and collaboration skills. These results were briefly reported in the *Finnish Veterinary Journal* (Ruohoniemi & Carver, 2016), together with a description of the procedures that had already been implemented in the studies since that cohort had graduated, such as inclusion of workshops in the second study year, self-evaluation of the clinical skills in the middle of the fifth year and tailored courses organized for teachers (2016-2017) in group dynamics and in enhancing the active role of students in courses. The surveys conducted in 2017 and 2018 revealed that >95% of the veterinary respondents

perceived that they had been able to utilise the knowledge and skills they had learnt at the University to a good extent in their work life.

8.1.4. Description of the process for:

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

For every course, the assessment method of student performance and the timing of the examinations have been determined before each academic year. All examinations are scheduled to include at least two retake opportunities during the academic year. Basically, the number of retakes is unlimited, but if the examination is not passed within the two retake opportunities, the student may need to retake the course or at least will have to adapt to the new requirements of the examination. The mode of assessment is explained in the Study Guide and more details are provided on the Moodle area of the course. The examination results rarely rely on the judgements of single examiners. In general, more than one teacher prepares questions for each examination, and each teacher is also responsible for the assessment of his/her questions.

Both the Bachelor's and Licentiate theses are assessed with rubrics, which are openly available ([Appendix 17](#)). One of the two evaluators of the Licentiate thesis must hold a PhD degree. One evaluator is either the supervisor or director of the thesis but the other evaluator must be external to the project.

During the studies the implementation of special arrangements is determined by the students' individual needs (see 7.1.2). Based on the UH's regulations on degrees and protection of students' rights, the results of examinations must be made available within one month. The grades of students who have passed an examination are published on a course webpage and/or the Moodle area of the course using the student's number, not name. The total number of failures and the distribution of grades is also announced. Students have the right to see their exam answers after assessment and compare them with model answers or the assessment criteria.

- awarding grades, including explicit requirements for barrier assessments

In general, students must earn 60% of the maximum points to pass an examination. Grades 0 (fail) - 5 (excellent) are used except for practical skills-oriented courses and optional courses where pass/fail grading is used. Theses are graded 0 -5 using rubrics. The grading scale is not a proportionate scale, i.e. there is no rule or expectation as to how big a proportion of the participants in any course can be given a certain grade; each student is graded on his/her performance, not in relation to the performance of others. In the event that the failure rate exceeds 20%, clarification of the cause is recommended. The Vice-Dean for Education and the Lecturers in university pedagogy offer help in these situations.

There are no barrier assessments in the sense that a student would be discharged from the programme. However, certain studies have to be passed in order to proceed in the studies, e.g. the whole Bachelor's programme needs to be completed before entering the fifth clinical year.

- providing to students a feedback post-assessment and a guidance for requested improvement

Students have the right to see their scored examination answers and the assessment criteria. Examination feedback is offered to students in various ways. Some teachers arrange feedback sessions after the examinations. Some teachers have certain reception times when the students can discuss with the teacher their individual answers and their grading. Typical errors in students' answers are also discussed via the course Moodle area with the whole cohort. On some courses feedback is given by peer students.

Students receive individual feedback on their learning diaries (e.g. in Practical training in health protection), home exams and on the summary of their Bachelor's portfolios.

- appealing

If a student is dissatisfied with the assessment, she/he can contact the teacher who scored the examination to appeal for a regrading within 14 days of the examination results becoming available. If the teacher's decision on the matter is found to be dissatisfactory, a further appeal can be made to the University's Academic Appeals Board within 14 days. The University's Academic Appeals Board also handles appeals concerning the grading of Licentiate theses. Nearly all cases are dealt with at the Faculty level: within the last three years, one appeal has been taken to the Appeals Board.

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

Students' assessment strategy	How	By who
Decision	The curriculum is prepared for a 3-year period (university-based decision). Minor changes are possible on an annual basis.	Teacher responsible for the course > Steering groups of the Degrees (Bachelor, Licentiate) > Faculty Council
Communication to 1. Staff 2. Students 3. EPT providers 4. Other stakeholders	1. Teachers' meetings (departmental, faculty-level twice a year), workshops arranged when needed 2. Study Guide, Moodle area of the course 3. Instructions for EPT providers 4. Feedback from work life reported e.g. annual reports and in the <i>Finnish Veterinary Journal</i>	1. Vice Dean for Education, Directors of the Degree Programmes, coordinators, teachers responsible for courses 2. Coordinators, teachers responsible for courses 3. Teachers responsible for EPTs 4. Dean, Vice Dean for Education, teachers
Implementation	Study plan including course plans	Teachers and students
Assessment	Failure rate in examination > 20% needs clarification Distribution of grades Appeal mechanism Feedback from students (after courses or when planning changes to practices) Feedback from students (at the end of each academic year) Feedback from teachers to other disciplines Feedback from work life Research	Teacher responsible for the course (support offered by Vice Dean for Education and Lecturers in university pedagogy) Student > Teacher > University's Academic Appeals Board Teachers responsible for courses Counselling teachers > Steering Groups of the Degrees Teachers FVM, University Teachers (supported by experts in university pedagogy)
Revision	Can be made annually for the next year in case found necessary	Teacher responsible for the course Steering Groups of the Degrees

8.2. Comments

Assessment of learning was one of the development areas for the University's strategy period 2013-2016. Accordingly, this topic was widely discussed in the teachers' meetings at the FVM, with topics such as Assessment directs learning (2013), Feedback for learning (2014), Peer assessment (2014), Experiences of e-examinations in food hygiene, Diagnostic assessment in equine medicine and Self-assessment of clinical skills (2016). Approximately 40 teachers attended each meeting. Additionally, assessment as part of constructively aligned teaching, the concepts of diagnostic, formative and summative assessment as well as criterion-based assessment were the topics of a teachers' meeting in 2011. Workshops have been organised both at the FVM (2015) and campus level e.g. on how to make good MCQs.

Several FVM teachers have completed the course on student assessment by the University's Centre for Teaching and Learning. A tailored pedagogical course (3 ECTS credits) for hospital veterinarians and clinical teachers (24 participants in total) was organised during winter 2018-2019. Feedback for learning was an integral part of this course.

Along with developing vertical integration throughout the studies, feedback from teacher to teacher has increased. E.g. where clinical teachers notice that some aspect of anatomy or physiology would require special attention, they can contact the relevant teacher in the basic sciences and discuss matters together. Pre-assignments on clinical courses and adding the course Anatomy, physiology and biochemistry to support clinical sciences at the end of the third year are good examples of joint efforts in this sense.

Based on students' comments, the results of single examinations are not always available within one month, which causes problems for the retake schedule. Students have also faced some difficulties in reaching certain teachers to discuss the grading of their answers.

8.3. Suggestions for improvement

Implementing a progress test of cumulative knowledge in the curriculum could be valuable. Creating a test of our own in Finnish and Swedish would be laboursome as an extensive question bank is needed, but discussion on international co-operation has already started.

The assessment at the end of each course does not allow time for the students to prepare for it unless they truly work throughout the course; methods to engage students in daily learning activities could be enhanced. Voluntary pre-course assessment for theoretical courses is used on certain courses (such as anatomy and pathology) and could be used more. Formative feedback on clinical courses could be more structured. Generic skills need to be made more visible in the intended learning outcomes of individual courses.

More hands-on assessment during pre-clinical teaching would be beneficial for the students. A pre-clinical OSCE has been considered for the propaedeutic courses; trained fifth- or sixth-year students could act as assessors in these examinations and gain teaching experience at the same time.

9. ACADEMIC AND SUPPORT STAFF

9.1. Factual information

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

The personnel plan is connected to the operations planning. It takes into account future demands, retirements and focus areas of the FVM, and based on these, the planned structure of the personnel and qualifications needed. Department heads and the Director of the VTH have the opportunity to give their opinions on needed academic and support staff. After discussion in the Extended Management Group the plan is taken to the Faculty Council.

The Universities Act stipulates that the responsibility for the appointment and dismissal of staff lies with the Rector, and in the case of senior management, with the Board. The University's HR policy applies to all staff, regardless of the Unit in which they work or the funding with which they have been hired. The Deans appoint the staff of Faculties, including professors for terms of less than two years. The Director of the VTH appoints the staff of the hospital. The Director of Administration appoints the University Services staff as well as the administrative staff located at other Units. The qualifications required of the applicants are determined by law, university regulations and the requirements of the position in question.

"This is your Viikki Campus – induction for new staff!" events are targeted for all new staff. The intranet Flamma contains detailed instructions for "Preparing for the arrival of a new employee and orientation". Individual orientation to a new job is carried out by the HR personnel, as well as by the superior and fellow colleagues. Superiors are responsible for the appropriate job-specific orientation of a new employee. Orientation includes practical arrangements at the beginning of employment, guidance including biosecurity and the development of a new employee's skills. Staff working in an environment with biosecurity issues (clinics, laboratories, autopsy facilities) have formal training in order to properly take risks into account and/or are supervised by such trained personnel and have familiarised themselves with the risks and how to minimise them. In addition to the orientation organised by the FVM, the University organises orientation events, e.g. on chemical safety in laboratories.

The performance of staff is annually evaluated in development discussions with the superior. Based on these discussions, plans e.g. for further training are made. The internal staff training at the University contains e.g. language courses, pedagogical studies, leadership courses, basic first aid and technical science-/teaching-related training.

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

The University has general and special qualification requirements for academic staff, stated in the Regulations of the UH (revised in 2015). According to the regulations, an appointee to a position at the University shall have the education, experience and language proficiency necessary to successfully complete the duties of the position. Specific criteria and the required competence are determined for each position before the beginning of the appointment process. The HR specialist creates a new application request for a vacancy in the electronic Recruitment Service and directs the job advertisement to other agreed recruitment channels. Besides their CV and list of publications, applicants are required to describe their academic skills and strengths in a written university portfolio.

The UH is committed to the advancement of a working culture in which research and teaching are intertwined. When teachers are recruited, attention is given to both the candidates' research and teaching merits. When professors, university lecturers or clinical instructors are appointed for a permanent position, or a temporary position for at least three years, the Teaching Skills Committee of the FVM assesses the applicant's teaching skills based on the decision of the appointment committee. The assessment is grounded on a rubric ([Appendix 18](#)) and consists of the applicant's experience in teaching and assessment, the development of his/her own teaching, pedagogical training and thinking, the ability to use and produce learning material, other teaching merits, and a teaching demonstration. The language proficiency stipulated in the Government Decree on Universities and the other language skills required for the position are verified through the application's documents and, where relevant, a teaching demonstration. Foreign citizens, non-native Finnish citizens or citizens who have not been educated in Finnish or Swedish may be exempted from the language requirement of the Government Decree. However, they may be required to acquire a reasonable level of proficiency in Finnish or Swedish within a certain period of time.

Appointment committees are formed for the recruitment of tenure track/ professor applicants, university lecturers and clinical instructors, and external assessors are appointed in tenure track/ professor recruitments. Especially the tenure track/ professor applicants are informed actively and transparently about the whole process and its stages, as this takes a fairly long time with the external assessments included.

The Centre for University Teaching and Learning offers courses in university pedagogy for staff in Finnish, Swedish and English. These courses are not mandatory but the staff of FVM has systematically been encouraged to participate in pedagogical education, and tailored courses have been arranged according to need. The degree requirements for the 60 ECTS credit module in University Pedagogy consist of basic studies (25 ECTS credits) and intermediate studies (35 ECTS credits). The basic studies include five course modules (5 ECTS credits each): Learning in higher education, Constructive alignment in course design, Assessment of learning, Giving feedback, and Academic supervision and supervisor training. Individual teachers have completed the whole 60 ECTS module or more, and have attained a teacher's qualification. During the academic year 2018-2019, 14 teachers from the FVM participated in at least one of these 5-ECTS course modules, and in addition to that, 24 hospital veterinarians and clinical teachers completed a tailored 3 ECTS credit course at the FVM. Pedagogical training is also included in the doctoral training (1 to 5 ECTS).

The Educational Technology Services provide support, short courses and tailored training to staff members to improve the quality of teaching and learning with information and communication technology. Customised training is also available for small groups and on the campus or Faculty level. Lecturers in university pedagogy and Educational technology specialists at the Viikki campus run a pedagogical café called Viklo, which is a forum for scholarly meetings and disseminating new ideas. The University Library offers short courses and tailored instruction.

The FVM has a long tradition of organising faculty-wide teachers' meetings, workshops, development days and short courses on relevant topics. National and international external experts have been invited to facilitate these events. For new teachers, the curriculum including the detailed course descriptions and learning outcomes is a tool to familiarise themselves with the requirements. Basically all courses are carried out by more than one teacher, which means that peer support is always available. The Steering Groups of the Degree Programmes are responsible for the curriculum and react to problems e.g. should student feedback reveal that teaching on some course has not met expectations.

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

The criteria are determined for each position before the beginning of the recruitment process. The HR specialist creates a new application request for a vacancy in the electronic Recruitment Service and sends the job advertisement to other agreed recruitment channels and communicates to applicants about the application process. Vacancies are announced, and the scope of the recruitment procedure is considered, on a case-by-case basis. A position may be filled without a call for applications if a person with special expertise or otherwise significant qualifications has been identified and the process needs to be expedited in order to recruit the person for the position. When recruiting staff for the University Services, Deans are, when applicable, also involved in the recruitment decision.

The qualifications and certifications, when applicable, are checked in the interviews. Legislation requires that new staff undergo an initial medical examination and that other examinations are performed at regular intervals if the work e.g. involves exposure to chemicals or radiation, or has other special requirements, such as work done at night or in shifts.

Appointees are invited to the University-wide orientation events for all new staff. Individual orientation to the new job is carried out by the HR personnel, the supervisor and by fellow colleagues. The University offers various internal staff training, and there is also tailor-made training especially at the VTH, where the needs may be more specific and where it is less easy to leave the work place for many hours.

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

The general collective agreement determines the salary system for the Finnish universities. The salary system was renewed in 2019. The objectives of the salary system reform are to increase the flexibility of pay raises as well as make the system more streamlined and clear. University-level personal performance evaluation, which previously took place every two years is now being replaced by annual evaluations. The processes are currently under development as the University has decided to replace performance appraisals with goal and performance appraisals. There will be a closer link between operational planning

and the goals, as well as a consistent model and timetable for the whole Faculty. Computer program SAP SuccessFactors has been launched in fall 2019 to support the change and replace the former systems.

Academic staff positions are divided into four levels in the career path hierarchy (level 4 professor, level 3 university lecturer or clinical instructor, level 2 university instructor and level 1 doctoral student). Prerequisites for the different positions are openly communicated to the staff. The job requirement level is determined on the basis of the employee's merits and qualifications as a researcher. The requirement level can be re-evaluated at the superior's or employee's request. If the job-specific requirement level changes, a new performance category and performance percentage will be re-determined. The performance category and percentage can also be changed based on the employee's development and achievements in his or her work.

The UH wishes to promote the integration of its new international staff and doctoral students. A UniBuddy programme was created in 2015 to assist in welcoming newcomers and their partners and to make them feel part of the community. A new mentoring programme for all tenure track professors will be launched at the University in 2019 and it will be applied at the FVM. Teachers' peer mentoring is also available.

The UH Teachers' Academy ([Appendix 19](#)) is a network of distinguished University teachers that was established in 2013. Before that, an award for a distinguished teacher at the University (the Eino Kaila award) was available; the last Eino Kaila award was appointed to a teacher at the FVM. Appointment to the Teachers' Academy signifies special recognition for teaching merits and scholarship in the field of teaching. The Academy aims to promote teaching and improve its general standing in the academic community but it also encourages teachers to upgrade their qualifications. The selected teacher receives a personal two-year grant. In addition, home Unit of the teacher receives a grant for development efforts for the same time period. Six FVM teachers are permanent members of the Teachers' Academy. These members share their expertise and are active in developing learning and teaching in the FVM and also at University level.

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

Members of the teaching and research staff adhere to the annual workload of 1 624 hours per academic year. The working hours are partly independent of time and place, but staff members must be sufficiently available to students and the rest of the work community at the workplace. All members of the teaching and research staff draw up a work plan together with their supervisor well in advance of the following academic year, ensuring the equitable distribution of teaching, research, public engagement and administrative duties.

Trade or business secrets and competing activity are duly considered in the employment contract. During the employment contract, the employee cannot utilise or divulge to third parties the employer's trade or business secrets. The Employment Contracts Act also prohibits competing activity. Otherwise, there are no rules to govern activities carried out outside the working hours of the employment contract.

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

In Finland, the Establishment is not allowed to collect feedback on individual teachers but the teachers may collect it themselves for their own development. Utilisation of collected feedback is one of the aspects that is included in the rubrics on the review of teaching skills and is thus valued. The whole-year feedback collected from students has proven valuable in revealing the overall quality of teaching on each course, and it offers a basis for further discussions when needed. At the VTH, students have an opportunity to give anonymous feedback via Moodle, and occasionally this feedback concerns a certain individual. This feedback is handled confidentially and the Director of the VTH is responsible for the measures based on it.

The Dean and representatives of the Board of the students' association EKY meet on a regular basis and students can also express their concerns on the quality of teaching in these meetings. EKY rewards the Teacher of the Year annually and gives another award for a staff member who has been found to be especially supportive ("Kannuspalkinto"). Additionally, students on the clinical courses may name the most inspiring teacher.

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

In 2018 the FVM received funding granted by the Academy of Finland to strengthen the quality and impact of research in the area of One Health and Welfare. A new network organisation, HOH, was created. It is led by the FVM and four other Faculties at the UH cooperate. There will be eight new tenure track

professors at the FVM, seven of them in cooperation with other faculties/research institutes. These recruitments take place in 2019. Should the increase in research activities increase the need for support staff, these recruitments will be financed by external funding. In the VTH, support staff is paid by service income.

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

The strategy for allocating, recruiting, promoting, supporting and assessing academic and support staff is

- decided based on law and University regulations by the Rector and University Board, at the FVM level using the personnel plan by the Faculty Council after preparation in the Extended Management Group
- communicated to the staff via the intranet Flamma, FVM's Wiki and e-mail, and to applicants via agreed recruitment channels. The wider audience receives information on relevant matters (e.g. nominations of new professors or new memberships in the Teacher's Academy) via FVM's and VTH's webpages and Facebook.
- implemented by the management of the University, FVM and VTH, using tools such as annual performance discussions and opportunities by the salary system. Support is provided by the University service's HR, the Centre for University Teaching and Learning, Educational Technology Services and internal staff training at the University.
- assessed and revised by the University management with the support of the University services at the FVM and VTH by the Dean, Management Group and the Director of the VTH

Table 9.1.1. Academic staff of the veterinary programme

Type of contract (FTE)	2018-2019	2017-2018	2016-2017	Mean
Permanent	64.6	64.3	67.8	65.5
Temporary: Substitutes and tenure positions	8.4	7.1	7.6	7.7
Veterinarians at the VTH permanent	15.7	17.7	17.1	16.8
temporary	4.9	4.3	5.4	4.9
Total	93.6	93.4	97.9	95.0

*) Veterinarians in national specialising programmes, residents and PhD students are not included in this Table. They participate in teaching, but their recommended annual workload for teaching is max. 5% or highly variable. Hospital veterinarians participate in clinical teaching but do not give lectures.

Table 9.1.2. Percentage (%) of veterinarians in academic staff

Type of contract (FTE)	2018-2019	2017-2018	2016-2017	Mean
Permanent	85.0%	85.3%	84.2%	84.8%
Temporary	99.2%	98.3%	99.0%	98.9%

Table 9.1.3. Support staff of the veterinary programme

Type of contract (FTE)	2018-2019	2017-2018	2016-2017	Mean
Permanent	81.1	79.8	78.9	80.0
Temporary	19.5	30.5	33.1	27.7
Total	100.6	109.3	112.1	107.7

Table 9.1.4. Research staff of the Establishment

Type of contract (FTE)	2018-2019	2017-2018	2016-2017	Mean
Permanent	-	-	-	-
Temporary	17.4	17.2	15.4	16.7
Total	17.4	17.2	15.4	16.7

9.2. Comments

In 2016, the administrative support staff was separated from the faculties into one unit, University Services. Equipment maintenance (meaning e.g. cleaning, disinfecting, packing and sterilizing the instruments used in research and treatments) was included into University Services in 2018. The University Services staff may have duties related to one or several faculties or units. The co-operation between the Faculties and the University Services is not yet fully stabilized.

Although more than two thirds of the teaching is given by veterinarians, there are only a few veterinarians teaching in the basic sciences. Vertical integration is a tool to get benefit of the expertise of both parties.

9.3. Suggestions for improvement

The established pedagogical training at the University offers a systematic advancement of teachers' teaching skills over years. Tailored courses complement it with a strong view on veterinary education. Also the support staff of the VTH would benefit of similar type of tailored pedagogical training that was recently organized to hospital veterinarians by the FVM.

10. RESEARCH PROGRAMMES, CONTINUING AND POSTGRADUATE EDUCATION

10.1. Factual information

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

Research-based veterinary education at the FVM means that the contents are as evidence-based as possible, and the teaching methods are pedagogically reasoned. Teaching is based on appropriate methods that draw on the research and the development of university-level teaching and learning. All academic staff at the University are expected to do research and teach, but the focus and extent of these tasks varies and depends on the position. Hospital veterinarians at the VTH do not have time allocated for research in their basic duties but their approach to clinical work is evidence based. Academic staff publish annually 200-300 scientific publications in veterinary medicine and life science, which has an impact on their teaching as the results from their own research projects are often incorporated into the curriculum.

It is also important to conduct field-specific research on teaching and learning, and several teachers have analysed and reported their teaching in national and international journals ([Appendix 20](#)) or presented their work in congresses. The results have been useful for improving everyday teaching and studying as well as for development of the curriculum. Several of the research projects have been performed in collaboration with staff of the University's Centre for Research and Development of Higher Education.

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

Interns, veterinarians in specialising programmes and doctoral students work to a varying extent together with undergraduate students at the clinics. The most likely time for small conflicts in clinical work is when new interns start working, as both students and interns are eager to perform the basic procedures themselves, and at the same time undergraduate students consider interns their junior teachers. A session where interns ponder their professionalism and role as interns during the first week (orientation) of intern training has been found useful in making them aware of this potential conflict and be prepared for it.

Clinical residents, veterinarians in national specialising programmes and doctoral students participate in the teaching and supervision of students. This involvement varies individually and may consist of e.g. lectures, clinical teaching and co-supervision of theses. At the end of the Licentiate studies, postgraduate student representatives participate in a panel discussion where they share their experiences with the sixth year students and encourage them to continue with postgraduate training.

10.1.3. Description of how undergraduate students:

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

The fact that teachers are expected to do research and their teaching is expected to be based on research is also shown in everyday teaching. In seminars and group works students search for information and analyse it. In clinical work, the approach to cases and written coursework is evidence based. In the autumn term of the second year, students have a course Introduction to Veterinary Research (3 ECTS credits) and on the third year Evidence-based Veterinary Medicine (4 ECTS credits, statistics included), in close association with an Infection Epidemiology course. There is also an elective e-learning course regarding evidence-based treatments in veterinary medicine.

Based on students' reflections in their Bachelor's portfolios, the need for lifelong learning is well understood from the beginning of the studies. It is a theme that is made visible from the first (orientation) week of the studies. Teachers are role models in this sense, also by admitting and showing that they do not know everything and constantly need to find information themselves. Additionally, students have found career stories of teachers, researchers, alumni and postgraduate students very informative.

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

In addition to the courses Introduction to Veterinary Research and Evidence-based Veterinary Medicine, students have a course on scientific writing in the second year. Bibliographic search is instructed by the

library staff and by FVM's teachers and researchers supervising students' theses. The Bachelor's thesis (6 ECTS credits) is a literature review where students practise information search and scientific writing. The Licentiate thesis (20 ECTS credits) can include original research or be a literature review. Laboratory and research courses introduce students to general scientific methods and research documentation; elective courses also introduce students to specific laboratory and analysis techniques.

Students can participate in the FVM's BIOSTAT-EPI study group meetings (four times a year), where study design and analysis issues of veterinary research projects are discussed and statistical advice is also offered for Licentiate thesis projects.

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

Students are encouraged to work for a Licentiate thesis in genuine research groups, not only inside the FVM but also in other Faculties or Institutes (but the Director of the thesis project must be employed by the FVM). From the research part of the thesis, students earn an additional 5 ECTS credits. Sometimes the students' projects lead to internationally published papers. An established and successful practice is the Summer School run by the Department of Food Hygiene and Environmental Health. This annual summer school admits a number of students by application (6-13 annually during the past years). They participate in the research projects of the Department and work intensively in collaboration under systematic supervision, each aiming to complete a high-quality Licentiate thesis within the summer. Another collaborative practice to support students' thesis work called the Thesis Workshop is organised by clinical disciplines, microbiology and epidemiology.

Additionally, students interested in research can perform their optional studies by working in research groups (up to 5 ECTS credits both in Bachelor's and Licentiate degree studies). Individual research-intensive students even start their PhD studies already during their undergraduate veterinary studies. A personal study plan (PSP) is important in these cases.

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

The FVM offers two doctoral degrees: Doctor of Veterinary Medicine (DVM, PhD) and Doctor of Philosophy (PhD). Doctoral degrees involve research carried out mostly in FVM's research groups and include postgraduate studies provided by Doctoral Programmes and Doctoral Schools. The aim is that a doctoral degree can be completed in 4 years of full-time study. Career Services Network of Finnish Universities collects feedback of people who have completed a doctoral degree; the survey is sent 2-3 years after graduation. The results of the latest survey are publicly available in September 2019.

The FVM organises continuing education for licensed veterinarians in a form of national veterinary specialisation programmes. These are available in six areas: Small animal medicine, Equine medicine, Production animal medicine, Infectious diseases, Environmental health and food control, and Hygiene of food production. The demand for and interest in specialised education has increased among veterinarians as the society and animal owners expect high quality care for their animals. Similarly, specialists are needed in the field of veterinary public health to identify, prevent and eradicate health hazards from the environment and to ensure the high quality and safety of the entire food chain. Representatives of external professionals sit in specialisation boards of Infectious diseases, Environmental health and food control and Hygiene of food production.

A licensed veterinarian can apply to the national specialisation programme after having worked fulltime a minimum of a year (or equivalent amount, if working part-time) in the field she/he wants to specialise in. After being admitted to the specialisation programme, the training programme, consisting of theoretical coursework, written assignments including a scientific publication, practical workplace training and a written examination, can be completed in 4 years. Based on an online survey conducted in 2018 among veterinarians who had obtained their national specialty degree, the desire to improve one's knowledge and clinical skills, increasing motivation and a chance to find more challenging job opportunities were the most common reasons for starting the programme. 72% of the respondents found that the further education had significantly or very significantly improved their knowledge and skills, and 38% felt that the specialty training had significantly or very significantly improved their ability to find new challenging job opportunities. However, nearly half of the respondents (46%) felt that it had no impact on their income.

In addition, the FVM is hosting a number of EBVS residency programmes. Most specialties require a 1-year internship or two years clinical practice prior to beginning a residency of 3 to 4 years in duration. VTH has had ongoing internship programmes since 2006.

Veterinarians are legally obliged to maintain their professional skills. The FVM participates in the implementation of continuing education by offering special courses to veterinarians, and practising

veterinarians may participate in some undergraduate elective courses for a fee. The Department of Food Hygiene and Environmental Health organises three courses: (1) The food hygienist examination, in co-operation with the National Food Authority, to veterinarians working in the sectors of environmental health care and management or food and environmental hygiene. Completing the exam is required in many posts related to environmental health control. (2) The meat inspection veterinarian examination aims to increase the expertise of the inspection veterinarians. These two examinations are also a part of the national veterinary specialisation programmes in food production hygiene and in environmental health. (3) The biennial diploma programme of Governance and management in environmental health and food control is intended for veterinarians who work or plan to work in environmental health management positions. The programme takes a year to complete and consists of study modules of the administration and the management of environmental health and food control.

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

The Board of the UH decides annually on the maximum number of new doctoral students in the University (610 new doctoral students in 2019-2020). Based on this total number as well as the size of a Doctoral Programme and the number of completed degrees, the Boards of the four Doctoral Schools provide a recommendation of the quota of new doctoral students for each Doctoral Programme annually. On that basis the number of doctoral students is expected to remain at the same level than previous years in the FVM.

The total number of veterinarians admitted to the different specialisation programmes has been on average 30 (ranging from 26 to 43) over the past 10 years, with the largest numbers specialising in small animal medicine. The number is expected to remain at the same level for the next three years.

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

The UH has since 2014 had a doctoral education system consisting of four Doctoral schools and 32 Doctoral Programmes. The Doctoral education system was evaluated in 2017 (summary in [Appendix 21](#)) and Research in 2018-2019 (summary in [Appendix 22](#)).

Doctoral Programmes are established by the Rector of the University according to the proposals of the Faculties. The Steering Committee of Doctoral Education consists of the Vice-Rector and Directors of the Doctoral schools. The Board of each Doctoral School includes the Directors of its programmes. Doctoral Programmes provide teaching and supervision to all doctoral students. However, Faculties are responsible for maintaining the quality of their degrees, in addition to granting the right to pursue a doctoral degree and conferring the degree. All doctoral students at the FVM belong to one of the following six doctoral programmes in two Doctoral Schools:

(1) Doctoral School in Health Sciences: Doctoral Programme in Clinical Veterinary Medicine (CVM); Doctoral Programme in Integrative Life Science (ILS); Doctoral Programme in Drug Research; Doctoral Programme Brain & Mind (B&M)

(2) Doctoral School in Environmental, Food and Biological Sciences: Doctoral Programme in Food Chain and Health (FoodHealth); Doctoral Programme in Microbiology and Biotechnology (MBDP)

Faculties decide on the selection criteria and the curriculum of the Doctoral Programmes they are responsible for. These are prepared by the Board of the Doctoral Programme, consisting of a Director and a maximum 8 members, including two students. Currently, the FVM is responsible of the Doctoral Programme CVM.

The Committee for Research and Research-oriented Postgraduate Education prepares the plan for implementing the FVM's research policy and contributes to the development of research conditions at the FVM. The Committee is also in charge of the guidelines on scientific postgraduate studies in veterinary medicine. The Faculty Council decides on the matters prepared by the Committee.

Responsibility for the management of specialist education is carried by the Steering group of National Specialisation Programmes. Each field of specialisation has its own steering committee and the heads of these committees are the members of the Steering Group. These field-specific steering committees are responsible for admitting students, creating and maintaining educational requirements in their programmes and administering an examination annually.

Regarding the undergraduate courses available for continuing education, the teacher in charge of the course suggests the participation of graduated veterinarians and the suggestions are handled in the relevant Steering Group of the Degree Programme. The final decision is made by the Faculty Council. The continuing education courses are communicated to the prospective participants via the FVM website and intranet and also by advertisements in the *Finnish Veterinary Journal*. The responsible teacher is in charge of the implementation, collection of feedback, and revision of the course should it be reorganised.

Table 10.1.1. Number of students registered at postgraduate clinical training

Postgraduate clinical training	2018-2019	2017-2018	2016-2017	Mean
Interns:				
Companion animals	5	5	5	5
Equine	2	2	1	2
Production animals	-	-	-	-
Total	7	7	6	7
Residents:				
EBVS disciplines (specify):				
ECVS Small Animal Surgery	1	1	1	1
ESVS Equine	-	1	1	1
ECVIM	2	2	2	2
ECVPT	1	1	-	1
ECVD	1	1	1	1
ECEIM	1	1	1	1
ECAR	3	2	2	2
ECVP	3	3	3	3
ECVO	1	-	-	1
ECVPH	1	1	1	1
Total	14	13	12	12
Others (national specialisation)				
Equine medicine	26	25	25	25
Small animal medicine	82	79	68	76
Production animal medicine	38	37	36	37
Infectious diseases	20	17	13	17
Environmental health and food control	19	19	19	19
Hygiene of food production	4	4	5	4
Total	189	181	166	178

Table 10.1.2. Number of students registered at postgraduate research training

Degrees:	2018-2019	2017-2018	2016-2017	Mean
DVM (PhD)	100	98	94	97
PhD	35	33	29	32
Doctoral Programme				
CVM	91 (DVM 74, PhD 17)	88 (DVM 73, PhD 15)	77 (DVM 67, PhD 10)	85
FoodHealth	32 (DVM 23, PhD 9)	34 (DVM 23, PhD 11)	36 (DVM 25, PhD 11)	34
MBDP	7 (DVM 1, PhD 6)	5 (DVM -, PhD 5)	7 (DVM -, PhD 7)	6
ILS	3 (DVM 2, PhD 1)	3 (DVM 2, PhD 1)	3 (DVM 2, PhD 1)	3
B&M	2 (DVM -, PhD 2)	1 (DVM -, PhD 1)	0	1
Total	135	131	123	130

Table 10.1.3. Number of students registered at other postgraduate programmes (including any external/distance learning courses): Not applicable.

Table 10.1.4. Number of attendees in the continuing education course provided by the Establishment

Courses	2018-2019	2017-2018	2016-2017	Mean
Food hygienist examination	7	10	8	8
Governance and management in environmental health and food control (biennial)	No course	28	No course	28
Meat inspection veterinarian examination	6	7	10	8
Ethology and welfare of domestic animals (ELL-423)	1	No course	1	1
Focus on sheep, with a brief look at goats (ELL-427)	1	2	-	1
Porcine reproduction and welfare (ELL-442)	1	1	3	2
Bovine practice, a deeper insight (ELL-430)	-	2	3	2
Course in hoof trimming (ELL-447)	1	-	3	1
Course in udder health (ELL-451)	3	2	-	2
Herd health management in dairy cattle (ELL-460)	6	No course	No course	6
Small animal orthopaedics	22	30	20	24
Radiation protection in veterinary radiography (ELL-448)	23	14	14	17
Horse dentistry (ELL-459)	5	8	No course	7
Fundamentals of horse shoeing and therapeutic shoeing (ELL-416)	No course	No course	20	20
Introduction to veterinary acupuncture (ELL-406)	5	4	5	5

Table 10.1.5. List of the major funded research programmes in the Establishment which were ongoing during the last full academic year prior the Visitation (2018)

Scientific topics:	grant/year (euros)	Duration
Understanding the Clostridium spore, a prerequisite for disease interventions and exploitation	127 373 €/year (total 509 491 €)	4 years (01.01.2015 – 31.12.2018)
Why does Clostridium botulinum kill? – In search of botulinum neurotoxin regulators	400 000 €/year (total 2 000 000 €)	5 years (01.01.2017 – 31.12.2021)
The decadent life of Clostridium botulinum: Neurotoxins and escape in endospores	109 664 €/year (total 474 844 €)	4,33 years (01.09.2016 – 31.12.2020)
The effect of a physiotherapeutic exercise programme on hip dysplasia and related osteoarthritis in young German Shepherd dogs	50 513 €/year (total 202 050 €)	4 years (01.09.2018 – 31.08.2022)
Brachycephalic obstructive airway syndrome in dogs; Exercise test and inflammatory marker development to improve breed welfare	62 898 €/year (total 251 593 €)	4 years (01.09.2017 – 31.08.2021)
Prevention of antimicrobial resistance in food production animals	148 723 €/year (total 297 446 €)	2 years (01.10.2016 – 30.09.2018)
Community defence responses in food spoilage lactic acid bacteria, from restriction modification to complex interactomes in modern foods	87 500 €/year (total 350 000 €)	4 years (01.09.2017 – 31.08.2021)
Cell-exerted forces in breast cancer invasion	86 879 €/year (total 434 485 €)	5 years (01.09.2015 – 31.08.2020)
Cell-exerted forces in breast cancer invasion	110 000 €/year (total 220 000 €)	2 years (01.09.2018 – 31.08.2020)

10.2. Comments

The number of elective ECTS credits directed to working in research groups has been increased to support undergraduate students with a special interest in veterinary research. A “researcher strand” for a small number of selected students to pursue PhD studies in parallel with their undergraduate veterinary studies has been discussed at the FVM.

The PhD doctoral course supply by the Doctoral Schools is good. HOH will also have an impact on postgraduate education. There is potential to strengthen resident training by the FVM. The attitude towards residency training is positive, but the lack of supervising Diplomate at the FVM in certain fields is a challenge. Veterinarians with a specialisation and/or PhD degree are highly desired at the work life.

There is a high number of veterinarians in the national specialisation training compared to the number of veterinarians completing it annually.

10.3. Suggestions for improvement

Resources would be needed for the training of national specialising veterinarians and coordination and development of the programme.

11. OUTCOME ASSESSMENT AND QUALITY ASSURANCE

11.1. Factual information

11.1.1. Description of the global strategy of the Establishment for outcome assessment and quality assurance

- QA and the continued enhancement of quality

The quality of the UH consists of the quality of the final results, the processes and activities that produce the results and the organisation quality, which includes the atmosphere at the University, the organisational culture and the outward image.

The University is responsible for the overall quality and resourcing of education. The Board of the University is responsible for outlining the quality policy, and the Management of the University is responsible for the overall quality of activities and results. The quality culture at the UH means that staff and students are committed to their work and studies, adhere to the values and goals of the University and follow common operation modes. Good quality culture encourages the continuous improvement of University operations and sharing good practices. Quality management is coordinated by the Quality Management Steering Group, which is led by the Vice-Rector. The Quality Manager of the University coordinates the realisation of quality principles and procedures and acts as secretary of the Group. The role of the Steering Group is to develop and strengthen the University's quality culture in collaboration with all Units, outline the University's quality principles to support teaching and research, direct the development of the quality of the actions and quality assessment, and coordinate the quality system as a whole. The Vice-Dean for Education of the FVM is a member of this group.

At the FVM, quality has been defined as appropriate activities and high-quality results. The FVM is committed to a strategy of quality and standards at the University. The operations management system gives a framework to the overall quality management and runs the Plan – Do – Check – Act (PDCA) cycle in various ways. The UH's Strategic Plan is implemented through annually drawn implementation plans. These plans include assessment of the current situation, mission of the Unit, strategic objectives and areas of development, profile and key areas, risk assessment and management, national and international special duties and responsibilities including coordination of networks, as well as a personnel plan and premises plan. The implementation plans also describe the concrete measures to be taken, the methods to be used, the responsibilities and the timetable for actions. The plan also includes follow-up measures to monitor the implementation; being able to monitor the key indicators online is a concrete means to identify the need for corrective measures.

For whom	What do they expect	Tools
Students	Good teaching and objective assessment, safe and encouraging teaching-learning environment to achieve the intended learning outcomes	Student feedback system Appeal mechanism Feedback from work life
Staff	Equality, orientation, safety and security and well-being at work, participation in decision-making, development opportunities	Well-being surveys Target and development discussions
University and Ministry	Agreed results	Indicators in the implementation plans
Employees	Competent veterinarians and experts	Employee surveys
Clients	Compliance with agreements	Satisfaction surveys Complaints
Stakeholders	Opportunities for discussion Innovative and practical research output	Forums for meetings Joint projects External funding

The cornerstones of the quality management at the FVM include defined responsibilities, an annual cycle of activities, a comprehensive feedback system, appeal mechanisms, participation in the external evaluations and constantly updated data on strategic indicators. Matters are timely handled and documented in the relevant bodies.

The FVM's Rules of Procedures describe the organisation and the responsibilities of different bodies. Specified roles for leaders, committees and groups is essential for running the FVM's actions in a way that

closes the PDCA loop. Faculties are responsible for the quality of their degrees, the attainment of agreed objectives, and for the allocation and prioritising of resources. At the FVM, the Dean and the Director of the VTH are responsible for the quality of action and results in their Units. Everyone working or studying at the FVM and the VTH is responsible for the quality and development of one's own work and its results. The Dean has the general authority to manage the Faculty operations, and he is responsible for the efficient, economic and effective completion of the Faculty's duties.

Steering Groups of the Degree programmes have a major role in managing the quality of education. Their responsibilities include e.g. reaching the objectives, the pedagogical and content planning of the programme's teaching, and appropriate use of the allocated resources. The Directors assume responsibility for the operations of the programme for the Vice-Dean in charge of Education and cooperate with the whole Faculty.

Appeal mechanisms ensure that students' rights are protected. In addition to the appeal processes inside the FVM, the University has an Academic Appeals Board, and admission appeals can be taken up to the local administrative court.

FVM's internal rules of studying were created together with the students and define certain guidelines to ascertain equal approach regarding e.g. absences of mandatory teaching.

- Ad hoc, cyclical, sustainable and transparent outcome assessment, QA and quality enhancement mechanisms

Operations of and closely related to the degree programmes are a representative example of systematic and cyclical quality assurance and enhancement measures. A more detailed description of the cycle is in [Appendix 23](#).



- collecting, analysing and using relevant information from internal and external sources for the effective management of programmes and activities

Along with the operations management, the University collects data in the form of internal indicators for monitoring and ensuring that the Strategic Plan is implemented according to its defined and approved objectives on all activities. Nordic and other international co-operation as well as other disciplines within the UH offer valuable platforms for constructive dialogue, exchange of information and benchmarking. Global rankings are also monitored.

Regarding degree programmes, a systematic review of data collected at the national and university level (Bachelor's degree feedback, HowULearn, five years after graduation) is handled at the University's Education Council, which contains all Vice-Deans in charge of Education. The same feedbacks are systematically handled in the meetings of the Steering Groups of the Degree Programmes at the FVM. Regular external evaluations are performed on education, research and research education, public

engagement, administration and support services. Additionally, the University Services collects user experiences and feedback on the University personnel's satisfaction with the services annually. The results are analysed collaboratively with representatives from each service, by the University Service's management group, and finally, the Steering Group of the University Services decides on actions to address any problems the survey identifies. The results and any new measures are communicated to personnel on the intranet Flamma.

Regarding research, there are external and internal evaluations of research and research education, systematic monitoring of e.g. research publications, funding and patents, and the number of completed PhD degrees. The networks in research are extensive and largely international.

Proper documentation is the key for effective management of activities. The minutes of meetings of boards and committees are documented in the online group working areas and are available in the intranet to all staff.

- regularly informing staff, students and stakeholders and involving them in the QA processes

The minutes of the Faculty Council and the Steering Groups of Degree Programmes are available for staff and students in the intranet. Students are represented in relevant committees of the FVM. Stakeholders from e.g. the Finnish Food Authority, the Finnish Veterinary Association and several companies are partners in a variety of everyday activities. Outside experts can be invited to any meeting when found relevant.

The Faculty days and annual VTH days for staff at its hospitals offer a systematic platform for information and discussion on Faculty-level matters. An annual review of FVM activities is published on the webpages each year. Intranet Flamma and the YESwiki platform at the VTH are important internal information channels.

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

The operations system of the University, annual cycle of committees and academic year in a wider sense, and the steering role of the University guarantee that the key loops are running and closed.



- compliancy with ESG standards

ESG standards are embedded in University-level instructions and guidelines. The national audit of higher education institutions in Finland by FINEEC (a member of ENQA) every 6 years also confirms that the University's operations are compliant with ESG standards. The summary of the latest evaluation by FINEEC is presented in [Appendix 24](#) and a summary on the FVM's compliance with the standards and guidelines for internal quality assurance in [Appendix 25](#).

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

The Faculty Council is the highest administrative body of the FVM and makes strategies, policies and procedures formal at the Faculty level. Based on a university level decision, Faculties no longer have separate Operations Manuals. All public documentation is made available for the staff in the University's intranet Flamma and relevant parts are also posted on the webpages of the FVM and VTH. Councils, committees and groups each have an electronic working group area where all the documents are stored. Relevant matters are discussed e.g. at the Faculty-level teachers' meetings and development days. The information channel for students is the "Instructions for Students" website (<https://guide.student.helsinki.fi/en>), where all policies and procedures both at the university level and at the FVM level are made available.

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

Information for prospective students is described in detail in 7.1.1. The websites of the FVM and VTH include news, research, admissions, postgraduate education, cooperation and services, and Faculty information. The admission information is also publicly available via the UH webpages. Annual Reports contain the main events and numeric data of the FVM. Update information on awards and important topical activities is published both in the intranet and on webpages that are open for all. Facebook is another channel to inform the wider public, and is especially important for the VTH.

Relevant information regarding the degree programmes that is considered to be of wider interest is reported in the *Finnish Veterinary Journal*. Research on the FVM's educational programmes, including quality management, has been published in international scientific journals ([Appendix 20](#)).

The annual Faculty day(s) organised for the whole staff and student representatives always include an update of important Faculty-level activities and achievements. Meetings with stakeholders are an important way of interaction where various types of information are delivered. Meetings with alumni were systematically organised for several years. Examples of major stakeholder events include the Celebration of 20 years of veterinary education at the UH in 2015 (together with the publication of a Muistelukirja [memoir] that reviewed all major changes within the past 20 years in veterinary education, available via the FVM's webpage), and the Celebration of 60 years of Food Hygiene (May 2019).

The TV series made at the VTH offer a valuable insight into the veterinary profession and are an important form of societal interaction.

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

Laboratories form their own entity in quality management at the FVM. The cornerstones are high-level analytics, reliability of methods and continuous assessment of practices and transparent and accurate documentation. External quality control is imposed by the National Supervisory Authority for Welfare and Health (safety issues and the use of genetically-modified organisms), occupational health and safety managers and representatives of the UH (biosafety, ergonomics and working environment) as well as the Finland Radiation and Nuclear Safety Authority (use and handling of open and closed radioactive sources). Each laboratory has a tailored quality system specific to the nature of the analyses performed. Clinical laboratories perform both internal and external quality control, e.g. Labquality (<https://www.labquality.fi/en/eqas/>), including maintenance of laboratory equipment. New employees are introduced to the shared good practices at the laboratory work.

The VTH collects feedback from its clients via a link on the VTH website, and clients also have an opportunity to provide feedback and to contact the Hospital Director directly. The Hospital Director and the heads of the hospitals are responsible for handling client complaints. For each complaint, the veterinarian or other staff member in question is asked to provide a written statement about the case. If necessary, the head of the Unit is consulted. Individual cases may be forwarded to the Dean or to the Evaluation Board of Complaints regarding Veterinary Treatment which operates under the Ministry of Agriculture and Forestry.

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

The QA strategy of the FVM is a continuation of that of the UH, and to a large extent its course and communication follows the operations management process. Until 2017, the FVM had a separate QA committee, but since then responsibilities have been distributed through the relevant bodies and embedded into their standard cycles of operation. Relevant committees consider and prepare matters to

be decided at the Faculty Council. Students are actively involved through their representatives in the Steering Groups of the Degree Programmes and the Faculty Council, and by the feedback system of the FVM.

11.2. Comments

The Lean philosophy has been adopted as one of the key operational development tools at the UH. During the academic year 2017-2018 a total of 20 Lean coaches were trained for the University; one of the pilots in the training programme was the VTH's process for a small animal patient when taken to computer tomography. The Lean project continues in the VTH in autumn 2019. This is part of a continuous effort to improve well-being at work, the efficiency of the processes and the quality of the teaching-learning environment.

The FVM's current key external stakeholders have been defined and the Management Group has decided on the composition of a new Advisory Group. The new Advisory Group meets in the late autumn 2019.

11.3. Suggestions for improvement

Certain processes are still under development due to the separation of administrative and other support staff from the Faculties to the University Services.

12. ESEVT INDICATORS

12.1. Factual information

Raw data from the last 3 full academic years		2018	2017	2016	Mean
1	n° of FTE academic staff involved in veterinary training	93,6	93,4	97,9	94,97
2	n° of undergraduate students	456	461	454	457,00
3	n° of FTE veterinarians involved in veterinary training	81,4	81,2	84,4	82,33
4	n° of students graduating annually	63	69	82	71,3333333
5	n° of FTE support staff involved in veterinary training	100,6	109,3	112,1	107,3333333
6	n° of hours of practical (non-clinical) training	841	841	890	857,3333333
7	n° of hours of clinical training	1685	1586	1574	1615
8	n° of hours of FSQ & VPH training	621	621	621	621
9	n° of hours of extra-mural practical training in FSQ & VPH	195	195	195	195
10	n° of companion animal patients seen intra-murally	18161	17597	16771	17509,6667
11	n° of ruminant and pig patients seen intra-murally	198	168	189	185
12	n° of equine patients seen intra-murally	2537	2416	2185	2379,333333
13	n° of rabbit, rodent, bird and exotic patients seen intra-murally	814	911	747	824,0
14	n° of companion animal patients seen extra-murally	96	121	102	106,3
15	n° of individual ruminants and pig patients seen extra-murally	9767	9297	9091	9385,0
16	n° of equine patients seen extra-murally	1011	1013	905	976,3
17	n° of visits to ruminant and pig herds	252	228	189	223,0
18	n° of visits of poultry and farmed rabbit units	3	1	0	1,3
19	n° of companion animal necropsies	264	275	387	308,7
20	n° of ruminant and pig necropsies	102	110	164	125,3
21	n° of equine necropsies	64	50	53	55,7
22	n° of rabbit, rodent, bird and exotic pet necropsies	7	7	16	10,0
23	n° of FTE specialised veterinarians involved in veterinary training	44	45	46	45,0
24	n° of PhD graduating annually	13	16	18	15,7

Calculated Indicators from raw data		Establishment values	Median values ¹	Minimal values ²	Balance ³
I1	n° of FTE academic staff involved in veterinary training / n° of undergraduate students	0,208	0,16	0,13	0,082
I2	n° of FTE veterinarians involved in veterinary training / n° of students graduating annually	1,154	0,87	0,59	0,565
I3	n° of FTE support staff involved in veterinary training / n° of students graduating annually	1,505	0,94	0,57	0,938
I4	n° of hours of practical (non-clinical) training	857,333	905,67	595,00	262,333
I5	n° of hours of clinical training	1615,000	932,92	670,00	945,000
I6	n° of hours of FSQ & VPH training	621,000	287,00	174,40	446,600
I7	n° of hours of extra-mural practical training in FSQ & VPH	195,000	68,00	28,80	166,200
I8	n° of companion animal patients seen intra-murally / n° of students graduating annually	245,463	70,48	42,01	203,453
I9	n° of ruminant and pig patients seen intra-murally / n° of students graduating annually	2,593	2,69	0,46	2,130
I10	n° of equine patients seen intra-murally / n° of students graduating annually	33,355	5,05	1,30	32,057
I11	n° of rabbit, rodent, bird and exotic seen intra-murally / n° of students graduating annually	11,551	3,35	1,55	10,006
I12	n° of companion animal patients seen extra-murally / n° of students graduating annually	1,491	6,80	0,22	1,267
I13	n° of individual ruminants and pig patients seen extra-murally / n° of students graduating ann	131,565	15,95	6,29	125,271
I14	n° of equine patients seen extra-murally / n° of students graduating annually	13,687	2,11	0,60	13,092
I15	n° of visits to ruminant and pig herds / n° of students graduating annually	3,126	1,33	0,55	2,579
I16	n° of visits of poultry and farmed rabbit units / n° of students graduating annually	0,019	0,12	0,04	-0,026
I17	n° of companion animal necropsies / n° of students graduating annually	4,327	2,07	1,40	2,927
I18	n° of ruminant and pig necropsies / n° of students graduating annually	1,757	2,32	0,97	0,787
I19	n° of equine necropsies / n° of students graduating annually	0,780	0,30	0,09	0,688
I20	n° of rabbit, rodent, bird and exotic pet necropsies / n° of students graduating annually	0,140	2,05	0,69	-0,553
I21*	n° of FTE specialised veterinarians involved in veterinary training / n° of students graduating	0,631	0,20	0,06	0,568
I22*	n° of PhD graduating annually / n° of students graduating annually	0,220	0,15	0,09	0,132

12.2. Comments

The intense hands-on training on real patients and cadavers is shown in the indicators.

N° of hours of practical (non-clinical) training includes D+E from Table 3.3.1. N° of hours of extra-mural practical training in FSQ and VPH includes *EPT training*, not extra-mural training (the national legislation regulates supervision regarding external slaughterhouse practice as described in 3.1.2.). Wild animals and zoo animals are not included in the n° of rabbit, rodent, bird and exotic patients but these numbers are presented in Tables 5.1.3. and 5.1.6.

12.3. Suggestions for improvement

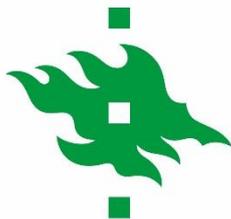
The negative balance in I16 will be corrected by having the number of visits to poultry farms at the current level and in I20 by increased discussion within the FVM.

ABBREVIATIONS

AVI	Regional State Administrative Agency
B&M	Doctoral Programme in Brain & Mind
BSL	Biosafety Level
CLSI	Clinical Laboratory Standards Institute
CVM	Doctoral Programme in Clinical Veterinary Medicine
CT	Computed tomography
EAEVE	European Association of Establishments for Veterinary Education
EBVS	European Board Veterinary Specialist
ECTS	European Credit Transfer System
EKY	Veterinary Students' Association at the FVM
ENQA	European Network for Quality Assurance in Higher Education
EPT	External practical training
ESBL	Extended Spectrum Beta-Lactamase
ESEVT	European System of Evaluation of Veterinary Training
ESG	Standards and Guidelines for Quality Assurance in the European Higher Education Area
FINEEC	Finnish Education Evaluation Council
FoodHealth	Doctoral Programme in Food Chain and Health
FSHS	Finnish Student Health Services
FSQ	Food Safety and Quality
FVM	Faculty of Veterinary Medicine
HOH	Helsinki One Health
HR	Human Resources
ILS	Doctoral Programme in Integrative Life Science
MBDP	Doctoral Programme in Microbiology and Biotechnology
MCQ	Multiple choice question
MOOC	Massive Open Online Course
MRI	Magnetic Resonance Imaging
MRSA	Methicillin resistant <i>Staphylococcus aureus</i>
MRSP	Methicillin resistant <i>Staphylococcus pseudintermedius</i>
OSCE	Objective Structured Clinical Examination
PDCA	Plan – Do – Check – Act
PSP	Personal Study Plan
QA	Quality Assurance
SOP	Standard Operating Procedure
SWOT	Strengths – Weaknesses – Opportunities - Threats
UH	University of Helsinki (also: University)
VeNom	Veterinary Nomenclature
VPH	Veterinary Public Health
VPN	Virtual Private Network
VTH	Veterinary Teaching Hospital

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