

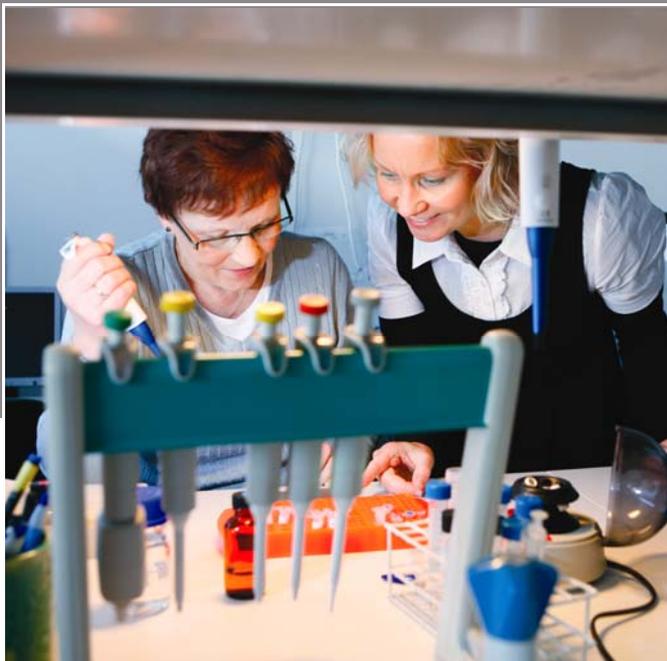


HELSINGIN YLIOPISTO
HELSINGFORS UNIVERSITET
UNIVERSITY OF HELSINKI



Self Evaluation Report 2:

Quality assurance and quality enhancement at the
Faculty of Veterinary Medicine, University of Helsinki, Finland



APPROPRIATE ACTIVITIES AND HIGH-QUALITY RESULTS



Photo: *Wilma Hurskainen*
September 2009, Helsinki



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SUMMARY OF ASSESSMENT PROCEDURES

The table below summarises the key tools for quality assurance and quality enhancement and the main quarters responsible for each assessment procedure (AP) at the Faculty of Veterinary Medicine. The assessment procedures are described in detail in Chapters 1-10. Several of the procedures are closely linked to the University of Helsinki, and the quality assurance system of the Faculty is an extension of that of the University.

Assessment procedure (AP)	Key tools for quality assurance and quality enhancement	Quarters responsible
1 = Policy statement; overall quality	Operations management process External evaluations and audits Operations manual Teaching evaluation matrix Student feedback system	The Dean and the Faculty Council, the vice deans and committees led by them
2a = Admission of students	Co-operation with medical faculties, external assessments of the admission procedure Entrance examination and its appeal procedure	The Faculty Council The Admissions Committee National University Admissions Committee of Medicine, the Development Committee of University Entrance Examinations, the National Committee for Entrance Examinations in Medicine
2b = Assessment of the performance of enrolled undergraduates	Regular and systematic assessment, predetermined for each academic year and published in the study guide Preset criteria for passing, use of matrices in assessing theses Appeal procedure Monitoring the failure rate and distribution of grades Etappi checkpoint system for monitoring the progress of studies	The Academic Planning Committee Departments Teachers
3a = Postgraduate student education: academic track	Operations management process Detailed instructions publicly available Examination procedures of the dissertation Teaching evaluation matrix Etappi checkpoint system	The Faculty Council Committee for Research and Postgraduate Affairs, the vice dean
3b = Postgraduate student education: professional track	Operations management process External evaluations Etappi checkpoint system	Committee for Specialisation Training, the vice dean Departments
4 = Student welfare	Etappi checkpoint system Personal study plans Student feedback Co-operation with Finnish Student Health Services and study psychologists	Academic Planning committee, the vice dean Head of academic affairs Student affair officials Teachers Other staff members Students
5 = Teaching staff	Recruitment procedure New salary system, annual personal review meetings and work assessments Staff development facilities Student feedback system	Dean Heads of departments Other superiors
6 = Learning opportunities	Student feedback system Teachers' meetings Teaching evaluating matrix	Academic Planning committee, the vice dean Departments Teachers Viikki Science Library Students

7 = Training programme and awarding of the title of Veterinary Surgeon	Operations management process and key indicators External evaluations Student feedback system Study guide	Faculty Council, the Dean Academic Planning Committee, the vice dean
8 = Clinics, laboratories and farm	Evaluations External and internal quality control of laboratory functions Manuals, written instructions Customer and student feedback	Steering Group of the Veterinary Teaching Hospital Hospital Director Head of the Central Laboratory Heads of departments and units of the Teaching Hospital
9 = Continuing education	Number of courses Feedback of participants	Consultative Committee on Continuing Education, the vice dean
10 = Research	External evaluations Review processes Operations management process Teaching evaluation matrix	Vice Dean Heads of departments and research groups
11 = Internationalisation of education and research	Operations management process External evaluations Recidency programmes and board examinations	Dean Heads of departments Planning officer Teachers, students
12 = Co-operation with stakeholders and society	Co-operation with research institutes Amount of research and study co-operation with businesses Continuing education The functioning of the Veterinary Teaching Hospital Participation in expert activities Meeting the expectations of working life	Dean, the vice deans Heads of departments Hospital director Communications officer All members of the Faculty

INTRODUCTION

The Faculty of Veterinary Medicine is introduced in brief in [Appendix 1](#). The Faculty became part of the University of Helsinki in 1995. Since then, it has followed the strategies and policies of the University. Thus, the Faculty of Veterinary Medicine is committed to the strategy for quality and standards of the University of Helsinki. At present, the Finnish University Reform is causing rapid and extensive changes affecting the administration and organisation of the entire University. The universities will operate independently of the State Budget and direct governmental steering but the core duties – research, teaching and societal interaction – will remain unchanged.

Quality can be defined in many ways. In this report, quality refers to the appropriateness (fitness for purpose) of quality assurance methods, processes and systems in relation to stated objectives or aims. Defined in this way, quality is the verified achievement of objectives. Quality assurance refers to the procedures, processes and systems that safeguard and improve the quality of the institution, its education and other activities. The Finnish term “laatu työ” (quality work) often means the same as quality assurance, but is sometimes also used to refer to the development of quality assurance systems.

National quality assurance in higher education

The Finnish Higher Education Evaluation Council (FINHEEC) plays an important role in national quality assurance. It is an independent expert body assisting universities, polytechnics, and the Ministry of Education in matters relating to evaluation, and thus contributes to improving the quality of higher education. The twelve-member Evaluation Council operates under the auspices of the Ministry of Education. The members are elected to terms and represent universities, polytechnics, students and society.

The FINHEEC's concept of a 'quality assurance system' is based on a concept that has become established in European quality evaluation. The concept includes both quality management and quality enhancement. It can be used in two ways: it may refer to the quality assurance system of an individual institution of higher education or to the national system for assuring higher education quality. The institutional quality assurance system refers to the entity comprised of the quality assurance organisation, respective responsibilities, procedures, processes and resources. The national quality assurance system refers to the procedures and processes of institutions of higher education, FINHEEC and the Ministry of Education as a whole, and to legislation enacted to assure higher education quality. FINHEEC sees enhancement-led evaluation as a user-led process in which the evaluation method is tailored according to the objectives of the evaluation, its theme and the needs of the participants.

FINHEEC conducts three principal types of evaluations:

1. Audits of quality assurance systems of Higher Education Institutions (universities and polytechnics)
2. Evaluations of educational centres of excellence
3. Thematic evaluations and evaluations of educational fields.

Audits are evaluations of the quality assurance systems of the institutions of higher education; in other words, the methods, processes and mechanisms that the institution uses to maintain and develop the quality of its education and other activities.

FINHEEC carried out an audit of the University of Helsinki quality assurance system in 2007 using an international expert panel group. The University passed the audit successfully, and the audit report was published on 3 March 2008 ([Appendix 2](#)). The report issued by the auditing panel commends the University of Helsinki quality assurance system for being integrally linked with management and steering activities both on the university and faculty levels. The university also has a clear view of the development needs of the quality assurance system and has devised plans for its ongoing development. The auditing panel found that the operative handbooks and process descriptions applied constitute a viable method for making quality assurance a more transparent process.

General features of quality assurance at the University of Helsinki

Finland committed to restructuring and redesigning its university degrees to be in line with the Bologna Declaration by 2005. The ultimate goal of the Bologna Declaration is the creation of a coherent European Higher Education Area by 2010. At the University of Helsinki, the Bologna Declaration has served as a tool to further enhance learning and instruction and to assure the quality of education. However, the quality assurance system at the University has a long history ([Appendix 3](#)).

Strategic aim of the University of Helsinki

The strategic aim of the University of Helsinki is to reinforce its position among leading European universities in both research and teaching. To achieve this aim, the University regularly carries out international evaluations of both its research and education. The evaluations are part of the University's quality assurance system.

Operations management process at the University of Helsinki

The University of Helsinki follows the performance of the faculties through a range of key performance indicators specified in their target programmes. The University has several common electronic systems for the follow-up data, such as the Oodi, Etappi and Ilmi databases. The Oodi system contains data on students, degree requirements, teaching programmes, and completed credits and degrees. The Etappi checkpoint system produces faculty-specific data on students' study progress and is described in detail later in this report. The Ilmi system is a reporting service designed to provide reports from the Helsinki University databases. Data from various systems are collected into the Ilmi database for efficient information searching and reporting. The statistics are accessible from the University's webpage (<http://notes.helsinki.fi/halvi/tilastot>).

At the University of Helsinki, setting strategic objectives and translating them into concrete measures takes place through its operations management process. Operations management ensures that the University operates in accordance with its strategic plan, which governs all University activities and resources.

The University of Helsinki administers its activities according to a three-year strategic plan. The strategic plan defines, on the basis of the University's values, duties and future prospects, strategic goals for the University's core duties (i.e. research, teaching and societal interaction relevant to research and teaching) and for the development of its operational preconditions. It also defines key areas of development which need to be addressed to achieve those strategic goals. The University implements its strategy through various policy programmes which present the concrete measures to be taken, objectives, responsibilities and resources. All faculties write their own target programmes for each three-year planning period to implement the University's Strategic Plan and policy programmes. The target programme of the faculty defines concrete objectives which need monitoring and sets out a general plan for their implementation. The target programme also takes into account the performance agreement between the University and the Ministry of Education.

The faculties negotiate with the University annual target agreements covering all aspects of their activities. The agreements include analysis of the extent to which the previous year's or years' objectives have been achieved. The faculty leadership and key officials ensure the implementation of the target programme in their areas of responsibility.

The faculties report annually on their activities, especially with regard to the implementation of its target programme, and provide analyses of the reasons for and consequences of its performance. The rector of the University provides written feedback on these reports and focuses in particular on the implementation of target programmes. In connection with the reports and the rector's feedback, target and performance seminars are arranged for the deans to discuss, on the basis

of reports and key figures, the previous year's activities and the implementation of the relevant policy and target programmes, and to anticipate the success of the current year's objectives.

Ongoing development of the operations management process

The collection of quality assurance data will be more systematic thanks to the formulation of university-wide key indicators. From the beginning of 2010, the data from the faculties in their target programmes will be collected using a renewed web-based form. The form has three parts:

- 1) the strategic frame of the faculty,
- 2) the objectives of the core functions and measures for reaching them and
- 3) the resource plan.

Most of the indicators monitored will also be used by the Ministry of Education.

The leadership of the University monitors the key figures in all faculties. The list of the key figures includes 11 measures related to education (e.g. the number of completed undergraduate and postgraduate degrees, the number of exchange students), 5 measures related to research (e.g. the number of scientific publications, the amount of national and international funding) and 2 measures related to human resources (the number of teaching and research personnel and the number of temporary staff). In addition to the specified indicators, faculties may also add their own indicators.

Objectives and organisation of the Faculty of Veterinary Medicine

The Faculty of Veterinary Medicine at the University of Helsinki is responsible for education in veterinary medicine in Finland. The Faculty provides high-quality undergraduate education in veterinary medicine, offers further professional and scientific postgraduate education as well as continuing education, and develops the practice of veterinary medicine and related services so as to ensure the health and well-being of both animals and humans. The Faculty also conducts high-quality research. The Faculty aims to provide graduating students with the adequate theoretical and practical skills to be able to work independently as practitioners with all common animal species, to promote animal health, and to safeguard the quality of food. The Faculty mission is to concentrate not only on the treatment of diseases (still important), but on preventive veterinary medicine. It focuses extensively on the whole chain of food production, "from farm to table", as well as on the high-standard treatment of individual animals. Environmental hygiene is an integral part of the national veterinary public health concept.

The current internal administrative structure of the Faculty of Veterinary Medicine appears in Figure 1. The structure will undergo changes in 2010 due to the University Reform. Strategic decisions are made by the Faculty Council, which is led by the dean. The Faculty Council's duties are determined in the Finnish Universities Act and in the Administrative Regulations of the University of Helsinki. The dean and the three vice deans are responsible for the implementation of measures and the distribution of workloads in their fields as specified in the University's Strategic Plan and its policy programmes.

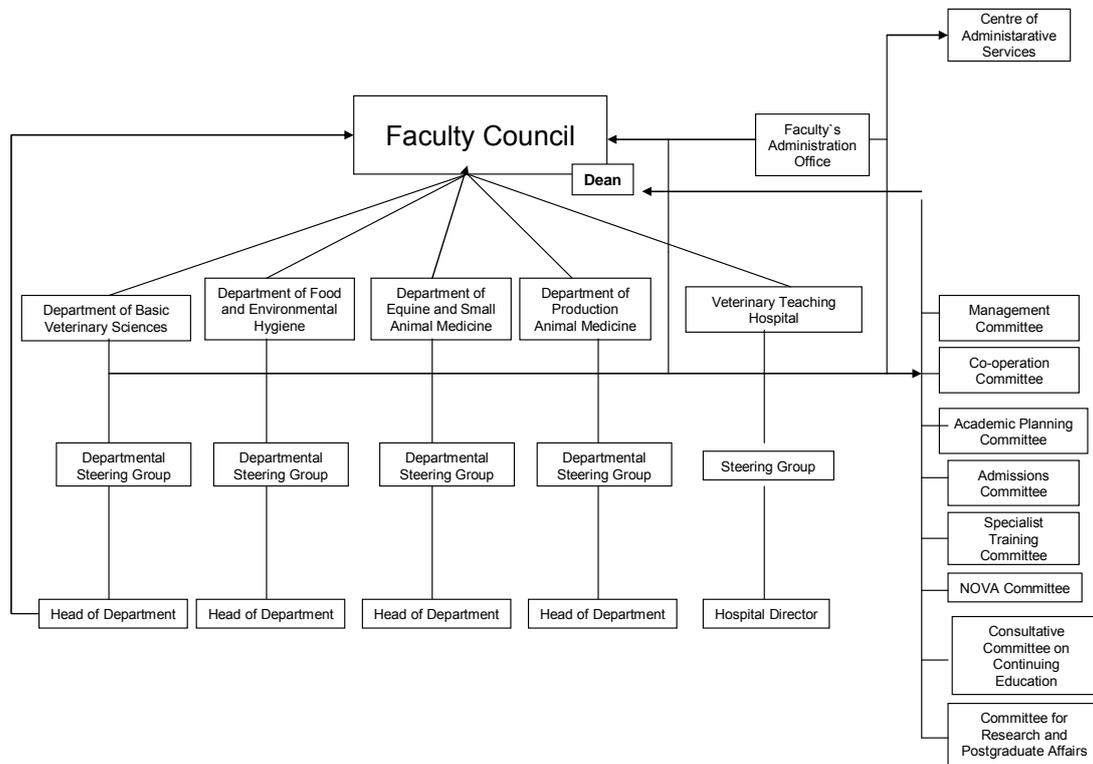


FIGURE 1. The administrative structure of the Faculty of Veterinary Medicine.

From the point of view of education and research, the most important committees include

- *the Academic Planning Committee*: the preparation and development of the undergraduate veterinary curriculum
- *the Admissions Committee*: the preparation and development of admissions criteria for undergraduate students
- *the Specialist Training Committee*: matters related to national postgraduate specialist training
- *the Committee for Research and Postgraduate Affairs*: matters related to scientific postgraduate education
- *the Consultative Committee on Continuing Education*: the interplay between the Faculty and the quarters arranging continuing education.

Chapter 1. POLICY STATEMENT (AP 1)

The quality of the University of Helsinki 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 policy statement of the quality assurance system in the University of Helsinki appears on the University's webpage (www.helsinki.fi/evaluation). Quality assurance is based on the strategic objectives of the University and is a part of the University's normal activity. The objective of quality work is the continuous development of the activity and making the development visible in all the units and in everyone's work. Quality work concerns all the members of the University community from teachers, researchers and other staff members to students (Figure 2).

The quality of the activity is maintained, developed and evaluated with a quality system that covers all fields and which all members of the University community use in their work.



FIGURE 2. Quality policy of the University of Helsinki.

The quality assurance organisation at the University of Helsinki appears in Figure 3. The Rector is responsible for the quality of the activities of the whole University. The Quality Management Group is responsible for strategic quality management. The Group is appointed by the vice rector responsible for educational and academic affairs, library affairs, the quality assurance system and equality. The quality assurance Steering Group co-ordinates and plans the quality assurance system of the University in its entirety. It supports faculties, departments and other units in their quality work. This group has representatives for researchers, teachers, other staff members and students. Additionally, it includes experts from different University sectors.

The Quality Manager is responsible for the quality assurance system to follow the given guidelines and for the sufficiency of documentation. He also ensures that the quality assurance mechanisms are used appropriately to cover all the units and activities. The University Quality Specialist and experts from other operational sectors support the Quality Manager in the Administration Office. Similarly, the contact persons in the faculties and independent institutes see to these matters in their own organisations. The head of administration and the senior lecturer in university pedagogy serve as the Faculty's contact persons.



FIGURE 3. Quality assurance organisation at the University of Helsinki.

The quality assurance system

The quality assurance system is based on the University’s strategic objectives and is a part of the University’s normal activities (Figure 4). The objective of quality work is the continuous improvement of activities and making the development work visible in all the units and in everyone’s work. Quality work should be the concern of all members of the University community from teachers, researchers and other staff members to students.

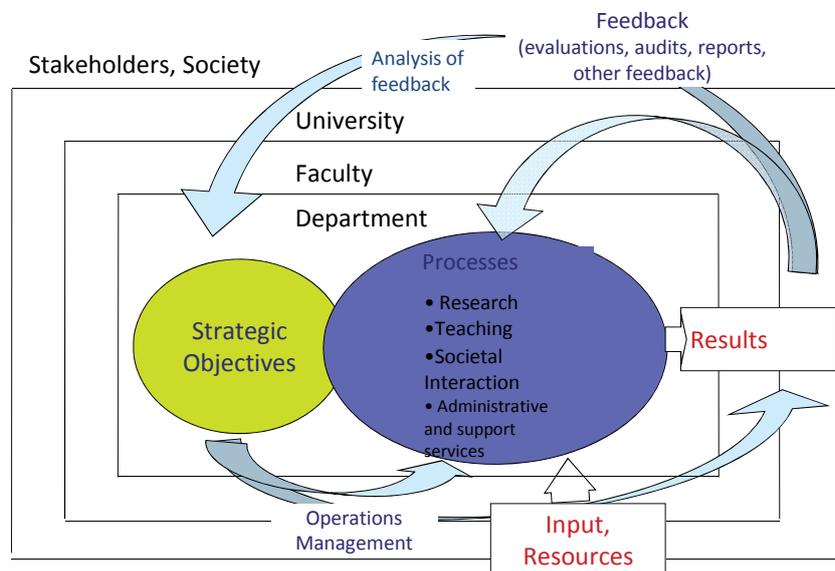


FIGURE 4. Quality assurance system at the University of Helsinki.

The relationship between teaching and research

The University has recently renewed its policy programmes for the next strategy period in five major strategic fields (research, teaching and learning, human resources, societal interaction and support services). The major goal of all research activities is for the University to be one of the leading research universities in the world. The University will support high-level research by supporting the evolvement of active research environments, directing its own financial resources on research, indicating that all units including the Faculty of Veterinary Medicine need to support

research activities and research education. One of the principles is that every teacher must be active in his or her own research and each active research person must participate in teaching. International evaluations of the quality of research and teaching will take place regularly.

According to the teaching philosophy of the University of Helsinki, teaching and studies are always based on research. The objective of studies is a student-oriented, thorough education that provides a solid basis for lifelong learning. At the core of the University's teaching philosophy are the promotion of learning based on understanding, high-quality expertise and the ability to apply knowledge to problem solving. The objective of degrees and other studies completed at the University is always profound, research-based competence and expertise in one's field (Figure 5). The curriculum is planned, and the teaching is organised to meet the challenges presented by changes taking place in society and in the labour market.

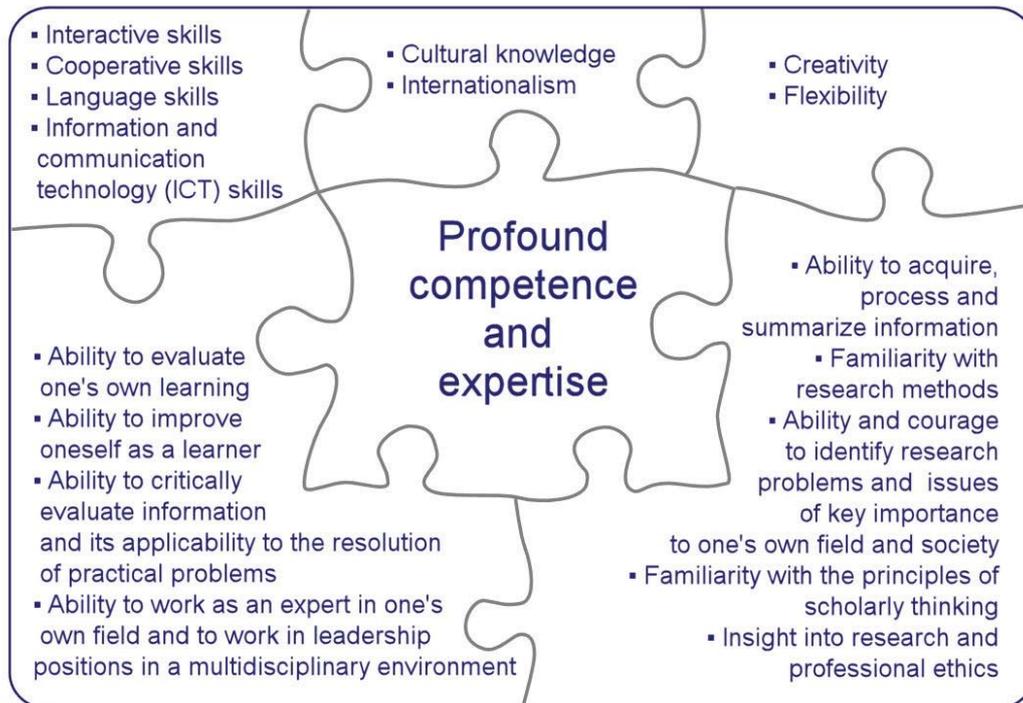


FIGURE 5: The objective of degrees completed at the University of Helsinki.

Assuring the quality of education

A significant part of measures concerned with assuring the quality of education take place in the faculties and departments in the form of procedures followed in the planning, implementation, evaluation and development of education and teaching (Figure 6).

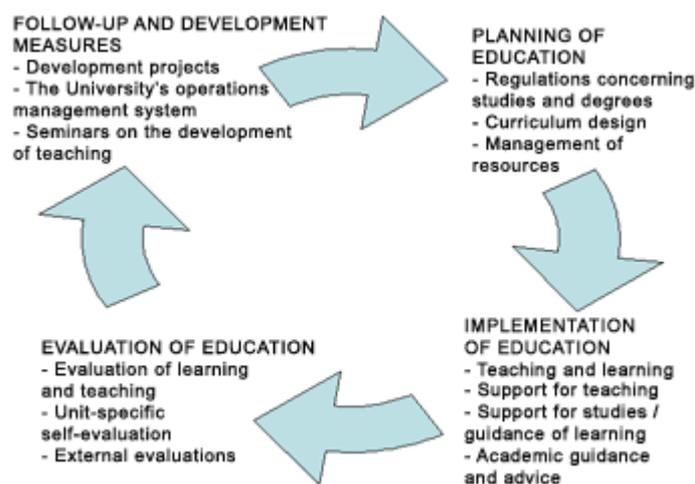


FIGURE 6. Components of the quality of education (adapted from Deming's cycle).

The University Senate decides on the most important guidelines governing educational policies, which are prepared by the University's Academic Affairs Committee. The guidelines are prepared in co-operation between various experts (including faculty heads of academic affairs, vice deans in charge of academic affairs and the Student Union).

- The provision of education is managed in the departments, faculties and the University as a whole. The University is responsible for the overall quality and resourcing of education.
- Faculties are responsible for the quality of their degrees, the attainment of agreed objectives, and for the allocation and prioritising of resources.
- Departments are responsible for the quality of teaching and completed studies in their fields. More specifically, their responsibility encompasses curriculum design, setting learning objectives and defining field-specific learning assessment criteria and methods, and ensuring the professional qualifications and competence of their teachers.
- Each teacher is responsible for the quality of his or her teaching and for the assessment of learning outcomes as part of the teaching duty.
- Each student is responsible for the progress of his or her learning and studies.

The Teaching Evaluation Matrix ([Appendix 4](#) and in the intranet) is a quality assurance tool which enables teaching quality to be examined in a comprehensive way. It investigates teaching and its planning, implementation and evaluation from the point of view of the entire faculty or department and can be used for strategic planning purposes as well as for self-evaluation. The Matrix comprises a four-level verbal definition of the central aspects of the quality of teaching – at both the undergraduate and postgraduate levels – from passable to excellent. The definitions are based on the University's Strategic Plan and the Programme for the Development of Teaching and Studies 2007-2009 ([Appendix 5](#)). The Matrix is also used in the selection of centres of excellence in teaching at the University.

Operations Manual of the University of Helsinki

The Operations Manual (also called “Quality Manual” or “Quality Handbook”) is a tool for quality assurance. It describes the activities the University engages in to achieve its set goals. It also describes the activity procedures, evaluation, development and the mutually followed rules. The main points of the Operations Manual of the University of Helsinki are:

1. Starting points for activities
2. Management system
3. Core duties
4. Resources
5. Support services
6. University activities as a whole

The Operations Manual consists of compact text, links that refer to the actual documents and process descriptions, which are formulated from parts of essential operations. The processes are described using the QPR Process Guide programme. Each section of the Manual has a designated person responsible for updating and developing it. Updating is routinely performed once a year, but changes can be made at any time when deemed necessary.

The quality assurance system has been developed through internal and external feedback so that it helps as many University employees as possible in developing their work and achieving set goals.

Through internal control the University strives to ensure the achievement of goals, the legality and appropriateness of activities and to follow the right procedures. The University management

and all the bodies responsible for realising these goals are also responsible for sufficient internal controls and for conducting necessary inspections.

Quality assurance at the Faculty of Veterinary Medicine

As stated previously, the Faculty of Veterinary Medicine is committed to the strategy for quality and standards of the University of Helsinki. The Faculty's policy for quality is an extension of that of the University. The Faculty is included in the established evaluation system of the University, consisting of focused international evaluations at certain intervals.

External evaluations

In 1999, EAEVE evaluated veterinary education at the Faculty of Veterinary Medicine. During the past decade, several other external, international evaluations have been performed at the University and all its faculties. These include:

- Evaluation of the Quality of Education and the Degree Programmes of the University of Helsinki 2001-2002
- Evaluation of Research at the University of Helsinki 2005
- Evaluation of Education at the University of Helsinki 2007-2008 (Theme: Management of education). ([Appendix 6](#))

In addition, the Academy of Finland, a major science-funding organisation in Finland, evaluated the Quality and Activity of Finnish Food Sciences, including food safety and food hygiene research at the Faculty in 2006. In 2007, the Finnish Higher Education Evaluation Council (FINHEEC) carried out an audit of the University of Helsinki quality assurance system using an international expert panel group. Quality assurance in the Department of Basic Veterinary Sciences of the Faculty was one of the targets of the audit visit.

Operations Manual of the Faculty

The Faculty's Operations Manual is a tool for quality assurance at the faculty level. It describes the activities the Faculty uses to achieve its set goals as well as the activity procedures, evaluation, development and mutually followed rules. It is supported by departmental manuals and instructions. The main points of the Faculty's Operations Manual are: 1) management and leadership, 2) core functions (research, education and societal interaction, 3) resources, and 4) administration and support services. The departments have described their activities in more detail in their own operations manuals (two departments) and written guidelines.

Flow charts for several processes related to the leadership and management of the Faculty, research, education and support services are described on the intranet of the University (Alma). These are in Finnish and, along with the University Reform, should be updated in 2010 to correspond to the processes in the new administration.

The Faculty's Operations Manual has a formal status; it has been accepted by the Faculty Council and is publicly available on the webpage of the Faculty in Finnish ([Appendix 7](#)). It includes a strong role for students, as the established student feedback system is an essential part of the quality assurance system of undergraduate education. Other stakeholders have been included mainly in quality assurance through official working groups consisting of representatives of the quarters in question. The working groups nominated by the Ministry of Education for assessing undergraduate education and national specialist education are good examples of this. Seminars to which experts of the field are invited have been considered valuable (e.g. the seminar on national specialist training in December 2007). Departmental actions have included meetings with meat inspection veterinarians and enquiries to official veterinarians performing control tasks in veterinary public health. Personal contacts have also proved useful.

Table 1. Feedback system for the degree programme leading to the degree of Licentiate of Veterinary Medicine (new degree system) – Striving towards continuous development of activities

BVM = Bachelor of Veterinary Medicine
LVM = Licentiate of Veterinary Medicine

Year of studies	Courses	Course/block feedback			Feedback for larger teaching units (compulsory, with one's name)
		Who is responsible for collecting feedback?	How often?	Opportunity to provide feedback continuously (also anonymously)	
I	Orientation to University Studies	Study Affairs in the Faculty Office	Annually	Student tutors	Whole-year feedback (focus on learning)/ Senior Lecturer in University Pedagogy
	The Healthy Animal (THA) study module	Supervisors of the THA components	Every course of the module	Course Management System	
II	Animal Hygiene, Ethology and Animal Protection Animal Clinical Nutrition Farm Practice Animal Genetics Veterinary Microbiology and Immunology Veterinary Parasitology Veterinary Pathology Meat Inspection Techniques	Lecturer responsible for each course	Annually for each course	Course Management System; by email or in person directly to the (responsible) teacher	Whole-year feedback/ Study Affairs in the Faculty Office
III	Epidemiology and Statistics Veterinary Pathology Meat Inspection Veterinary Practice Veterinarian as an Officer Pharmacology and Toxicology Introduction to Clinical Work	Lecturer responsible for each course	Annually for each course		BVM feedback (strands, language and communication studies, optional studies, Bachelor's thesis, academic administration feedback and Bachelor-level studies as a whole)/Study Affairs in the Faculty Office
IV	Internal Medicine Anaesthesiology and Intensive Care Surgery Animal Reproduction Healthcare of Production Animals (includes teaching on Diagnostic Imaging and Clinical Pharmacology)	Lecturer responsible for each course	Annually for each course		Whole-year feedback/ Study Affairs in the Faculty Office
V	Health Service System, Municipal Administration and Veterinary Services	Lecturer responsible for the course	Annually	By email or in person	
	Clinical Practice	Unit Supervisors Tutoring group supervisors (Saari)	Every term		

VI	Food Hygiene and Food Supervision Environmental Hygiene and Toxicology Traineeship in Food and Environmental Hygiene Health Service System, Municipal Administration and Veterinary Services Practice Management, Veterinarian as an Entrepreneur	Teacher responsible for each course	Annually Annually Annually Every three years	Course Management System; by email or in person directly to the (responsible) lecturer	LVM feedback (optional studies, Licentiate thesis feedback, academic administration feedback and Licentiate studies as a whole)/Study Affairs in the Faculty Office
		Course/block feedback			Feedback for extensive modules
Feedback focus		Learning, teaching, functionality and workload of individual courses			The curriculum and its functionality, workload of studies, supervision
Means of collection		Mainly electronically, after the course			Electronically, as part of portfolio studies, whole-year studies at the end of May, BVM and LVM degree feedback before the awarding of the diploma
Where discussed		Departmental teachers' meetings (recorded in the proceedings) + an annual situation report in conjunction with a self-evaluation of the quality of teaching (completing the matrix)			Academic Planning Committee; Head of Committee and/or Senior Lecturer in University Pedagogy reports on the whole Faculty to the Dean at the beginning of the autumn term
"Feedback on feedback" to students		Through e-mail, the Course Management System or the Alma intranet; in feedback sessions			The Alma intranet
Other		Teachers still have the option to collect feedback at times they consider appropriate, but the feedback must be given as "feedback on feedback" and communally discussed at the subject (or higher) level or together with the Senior Lecturer in University Pedagogy.			
Graduating students, delayed students (7 th year +), practicing veterinarians					Delayed student feedback collected every 3-4 years/Study Affairs in the Faculty Office, Senior Lecturer in University Pedagogy Summary of feedback discussed at the meetings of the Academic Planning Committee Feedback on studies and work experience collected by Career Services, discussed in the meetings of the Academic Planning Committee
The entire degree programme		International and other external evaluations/Academic Planning Committee - Drawing conclusions: Deans, Faculty Council, Academic Planning Committee - Concrete measures: Academic Planning Committee			

Involvement of students in quality assurance

The base for assessing the quality of teaching and learning is the Faculty's established student feedback system (Table 1). In 2006, the Academic Planning Committee appointed a working group, chaired by the senior lecturer in university pedagogy, to create a student feedback system and, later, to monitor its functioning and to develop it. The planning officer of academic affairs was the secretary. The working group had a representative of each department (an experienced teacher) and one student representative. Additionally, the working group ascertained the opinions of teachers and students of the Faculty using an e-questionnaire to which 54 teachers and 170 students responded. Most of the student feedback is collected electronically, and thus, the e-learning planner has been a key person in the group.

As Table 1 shows, student feedback is being collected not only after individual courses, but also at the end of each academic year and before the degrees are granted. In this way the students have an opportunity to evaluate the courses and education from a longer-term perspective, rather than to be confined to immediate impressions. Additionally, this type of approach gives the students the opportunity to evaluate the courses of the whole academic year in relation to each other, which provides important information for curriculum planning (Ruohoniemi & Lindblom-Ylänne, 2009). Whole-year and degree-level feedback is compulsory for the students. In case of problems concerning these large entities (e.g. the whole study year), roundtable discussions where teachers and student representatives are collected together have proved valuable. The head of academic affairs and the senior lecturer in university pedagogy introduced these types of discussions when major changes in the curriculum had to be made in association with the Bologna Process.

The feedback collected from individual courses and modules is centred on learning, teaching, alignment of the course and its workload. On the contrary, the feedback from larger entities, such as the study year or a degree as a whole, focuses on the functioning and workload of the curriculum. The Department of Production Animal Medicine has recently introduced a new way of collecting feedback in the beginning of the sixth year, when most of the students have spent the summer as a substitute for a veterinarian.

One measure included in the student feedback system is the Experiences of Teaching and Learning Questionnaire (ETLQ; the OPPI questionnaire in Finnish). It belongs to a research project co-ordinated by the Centre for Research and Development of Higher Education at the University of Helsinki, which aims to provide information about teaching and studies in different disciplines. The OPPI questionnaire is also part of the Bachelor's portfolio, and the senior lecturer in university pedagogy is responsible for it. At present, all first- and third-year veterinary students complete it and also receive personal feedback on their approaches to learning and guidance for enhancing their learning skills. A study psychologist participates in the feedback sessions when necessary. This questionnaire has offered a valuable tool for discussion between disciplines, thus helping to define the strengths and areas to be developed as well as to learn from good practices in other fields (see [Appendix 1](#), Haarala-Muhonen et al., 2009).

Each step in the feedback system has a person responsible for it, and feedback is handled collaboratively: the course feedback in departmental teachers' meetings and feedback from larger teaching units is delivered to the disciplines concerned and is discussed in the Academic Planning Committee. One element of the feedback system is to provide students with "feedback on feedback", which is a summary of their comments and an estimate of how their feedback will be taken into consideration in the development of teaching. This may be provided as an e-mail to the students, via learning management systems, through the University's intranet, in discussions with the students or in a special feedback session where, as in epidemiology, learning diaries are also returned.

The Veterinary student society (*Eläinlääketieteen Kandidaattiyhdistys, EKY*) is a registered association, to which almost all veterinary students in the University of Helsinki belong. EKY aims to improve and to maintain student welfare, and to study circumstances and collaboration

with the Faculty, University of Helsinki and the Finnish Veterinary Association. EKY may take a stand on student and undergraduate education issues. Additionally, the Board of EKY and the dean meet once a month for discussion. The inspector and curator selected by EKY among the staff members are additional links between the Faculty and students.

Students have representatives in the Faculty Council, in Departmental Steering Groups and in all Committees of the Faculty.

Ways in which the policy is implemented, monitored and revised

The responsibilities of organisational units and individuals for the assurance of quality have been defined. The dean of the Faculty bears the main responsibility. In 2006, a steering group was nominated for quality work at the Faculty, which included the dean, the vice deans, the heads of departments and of the Veterinary Teaching Hospital, two additional professors, the head of academic affairs and the head of administration.

Another group was nominated to co-ordinate the practical work and included the senior lecturer in university pedagogy, representatives from laboratories in each department, representative of the Veterinary Teaching Hospital, the planning officer for international affairs, the planning officer for postgraduate studies and the planning officer for e-learning.

The head of administration and the senior lecturer in university pedagogy serve as the Faculty's contact persons with the University (see Figure 3).

Each section of the Operations Manual of the Faculty has a nominated person who is responsible for monitoring its implementation and updating it. These persons include the dean, the vice deans and the head of administration.

An internal audit of the Faculty's quality assurance system (regarding Administration and Education) was launched in November 2008. This one-day function revealed the extent to which the Faculty's Operations Manual was followed in the departments as well as the points to be developed. The internal audit of Education concluded that the Operations Manual and processes are rather well described and known throughout the Faculty, the collection of feedback from students works well, but the collection of systematic feedback needs to be extended to working life. One measure in this direction has been the Faculty Day arranged in May 2009, described in more detail in Chapter 5. Information on the distribution of work at the administration office of the Faculty could be more visible so that the "right person" can be more easily contacted. The equalisation of processes throughout the Faculty, when feasible, was deemed a continuous process. The head of administration bears the main responsibility for the internal audits.

The Academic Planning Committee (Fig. 7) bears overall responsibility for the quality of the degrees. The Committee annually updates the part of the Operations Manual regarding Education. The Faculty's Academic Planning Committee is responsible for the degree as a whole, the degree structure and the degree objectives. The Committee is chaired by the vice dean in charge of undergraduate education, and its secretary is the head of academic affairs. The Committee includes representatives of all the departments, the students, and, as a consulting member, a representative of the Viikki Science Library. The Faculty senior lecturer in university pedagogy is also a member. The role of the Committee has been strengthened in recent years. The committee is responsible for the development of the degree programme and for preparatory work associated with curriculum design. The Committee also prepares standing orders on degrees for the Faculty Council's decision. When necessary, the Academic Planning Committee establishes working groups comprising the best experts on each issue.

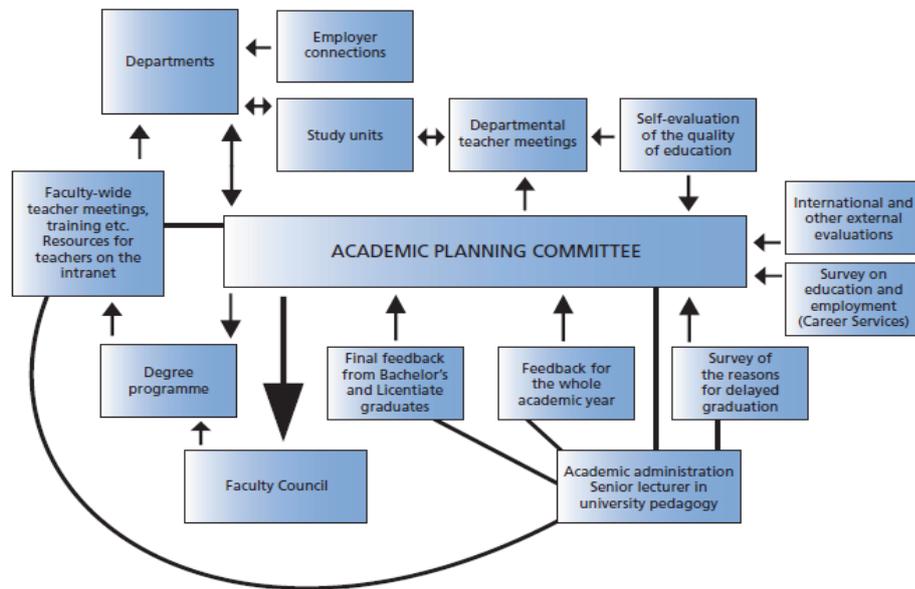


FIGURE 7. The role of the Academic Planning Committee

Chapter 2. ASSESSMENT OF STUDENTS, POSTGRADUATE EDUCATION AND STUDENT WELFARE

2.1 UNDERGRADUATE EDUCATION

Admission of students (AP 2)

A flow chart of student admission is presented in [Appendix 8](#).

Assessment of students when applying

Every applicant must take part in the entrance examination. The entrance examination is the same as that of the medical faculties in Finland. The entrance examination has integrated questions in biology, chemistry and physics. These are supported by material presented in the worksheet distributed in the examination. This material may consist e.g. of a scientific paper presented in a national journal. Half of the students are selected by their success in the entry examination, and the other half based on the entrance examination together with the student's grades in the national matriculation examination. Even though the matriculation examination is not a prerequisite for applying to the Faculty, more than 90% of the applicants have taken either the national or international (IB, RP or EB) matriculation examination. In case the applicant has not taken a matriculation examination, he or she must have completed at least a three-year professional degree. These requirements ensure that all students admitted have satisfactory knowledge in biology, chemistry and physics and are eligible for university studies. In practice, more than half of the students admitted have studied at the university level in other institutions or faculties before admission.

All applicants must pass the entrance examination in Finnish or Swedish. Thus, even though this system is basically open to foreign students, this language demand significantly limits their participation in the entrance examination. Additionally, the main teaching language at the Faculty is Finnish, and thus, no foreign students are currently pursuing an undergraduate veterinary degree at the Faculty.

Appeal procedure

After publication of the results of the entrance examination, applicants have two weeks time 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. Responses to the appeals are handled in the Faculty's Admissions Committee and verified in the Faculty Council. If the applicant is dissatisfied with the response, he or she can appeal the decision to the local administrative court.

Development of the assessment procedures and validation of the results

In harmony with the strategy of the University of Helsinki, the Faculty strives to choose the best and most motivated applicants. The Admissions Committee prepares admissions criteria, offers an opinion on the number of admitted students and is responsible for developing the admission of students to the degree programme in veterinary medicine in general. The chair of this Committee is the vice dean in charge of undergraduate education, and its secretary is the head of academic affairs. The Committee members include representatives of all the Faculty departments and the students, as well as the Faculty's senior lecturer in university pedagogy. The admissions criteria are annually validated in the Faculty Council.

The Faculty has long history of co-operation in admissions matters with other faculties of medicine in Finland. Co-operation on admissions matters is co-ordinated by the National University Admissions Committee of Medicine. The Development Committee of University Entrance Examinations in Medicine is in charge of the constant evaluation and development of the national

entrance examination. This Committee includes a group of experienced professors and lecturers who are committed to the continuous development of the entrance examination. The entrance examination and the assessment criteria are the same for veterinary medicine and all medical faculties. The National Committee for Entrance Examinations in Medicine is responsible for the administrative processes and practical preparation of the entrance examination. The Faculty of Veterinary Medicine has strong representation in all these Committees.

Table 2: Assessment of student admissions

Year	Number of students applying	Number of students admitted		Number of students appealing the assessment of their answers in the entrance examination	Successful complaints to the local administrative court
		Standard intake	Number of foreign students		
2008	635	72	0	10	1
2007	550	58	0	12	0

Assessment of selection criteria

The admissions procedures and selection criteria were extensively assessed in 2006-2007 in a project co-ordinated by the Faculty of Medicine, University of Turku. The project was supported by the Ministry of Education and included representatives of all medical faculties, including the Faculty of Veterinary Medicine. The project concluded that further harmonisation of the weight of grades in different subjects in the matriculation examination is needed between the faculties. No major changes in the entry examination were found necessary.

Approximately 90% of the applicants to the Faculty are female. The reasons for this phenomenon have been examined in a research project based on a questionnaire sent to applicants and young men preparing for their matriculation examination. The results were published in the Finnish Veterinary Journal (Ruohoniemi & Haga, 2006) and have been used in developing a brochure on veterinary education and other information directed to possible applicants. Based on this report, the multiple career and specialisation options as well as the good employment situation have been highlighted instead of the veterinarian's better known role in helping and taking care of sick animals.

According to a study by Mikkonen et al. (2009), both interest in the field of study and the future work are commonly mentioned as causes for applying to study veterinary medicine.

Procedures for assessing the performance of enrolled undergraduates

Enrolled students are assessed regularly using consistently applied, published criteria, regulations and procedures. Student assessment procedures are designed to measure the achievement of the intended learning outcomes and other programme objectives, including day-1-competencies. There is no central examination policy for the Faculty as a whole, other than the regulations provided by university legislation (e.g. Regulations concerning examinations, the grading of completed studies and the board of examination appeals at the University of Helsinki, 1999). Matters related to examinations and the assessment of students is handled in the Academic Planning Committee when necessary. This Committee has student representatives. Departments and teachers are responsible for the assessment of learning outcomes.

For every course, the assessment of student performance has been determined before each academic year. Examination dates are set in the course schedule. The results of examinations must be made available within one month. All examinations, including retakes, are scheduled at the Faculty level for the whole academic year. There are at least two retake opportunities for

each examination during every academic year. The number of retakes is unlimited. The mode of assessment is explained in the study guide and more details are provided on the e-learning system used in that course. In addition to traditional written examinations, other forms of assessment such as learning diaries, portfolios, project work, written assignments, oral presentations, are also used. Students' theses are assessed with evaluation matrices. The examination results rarely rely on the judgements of single examiners. In general, more than one teacher writes questions for each examination, and each teacher is also responsible for the assessment of his or her questions.

The grades of students who have passed the examination are published on a noticeboard and/or the e-learning system of the course by the student's number, not name. The total number of failures is also announced. The degree of each examination passed is registered in the Oodi system. Students' answers are stored in the departmental office for at least six months. Model answers can be seen at the student office of the department, and some teachers arrange feedback sessions after the examinations.

One measurement for the accuracy of the procedures includes monitoring the failure rate and the distribution of grades for all examinations. In general, the student must earn 60% of the maximum points to pass an examination. Grades 0-5 are generally used except for practical skills-oriented courses where pass/fail grading is used. The pass rate is commonly > 85%. If the failure rate exceeds 20%, clarification of the cause is recommended.

Theses

The Bachelor's thesis is evaluated using grades 0-5 and an evaluation matrix. The Licentiate's thesis is evaluated by two experts and graded on an eight-level Latin-language scale (ranging from *improbatur* to *laudatur*). The evaluation matrix of the Licentiate's thesis has recently been renewed, and there are separate criteria for the two types of theses: one is based on an extended literature review and the other includes a research project. Additionally, the student must defend his or her thesis in a seminar: after giving an oral presentation of his or her work, the opponent (a fellow student) comments on the work and poses questions. Each student has to participate in a certain number of seminars and, as an academic audience, has the opportunity to take part in the discussion.

Types and timing of assessment

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. The number of examinations has markedly decreased in the last couple of years. Alternative ways of assessment, such as learning diaries, are also used in some courses and in all strands. In a few courses, the student may select between a traditional written examination and some other, predetermined type of assessment, such as problem-based case reports (in clinical pharmacology) or a learning diary (in clinical chemistry).

Several courses have assignments that can substitute for part of the examination or contribute points to it. The purpose of this is to encourage the students to work during the whole course and not only before the examination. In large modules, the final grade consists of a number of grades, which relieves the student's pressure from one examination.

Several forms of examinations are used. A written examination consisting of short and essay-type of questions is the most common examination type used. Multiple choice questions are also used. Oral examinations are an essential part of the first year's practical training in anatomy. An oral group examination has been tested as part of production animal training with encouraging results. This also tests the students' ability to work as a team. Project-based group presentations, followed by experts in the field, have become a permanent procedure in epidemiology. An unlimited number of materials can be taken to the final examination in reproduction, which is based on problem solving.

This examination has been thoroughly evaluated in a dissertation (Koskinen 2005), supervised by the Faculty of Veterinary Medicine and the Faculty of Behavioural Sciences.

A good example of a practical clinical examination is the dissection examination in pathology, where students need to show their hands-on skills and be able to answer oral questions presented by the examiner. Students' clinical examination skills are tested in the equine and small animal clinic when the students begin their clinical year, during which their performance is continuously assessed (case log and clinical assessment form).

In general, students need not pass the examination within a certain time. There are certain points in their studies where students cannot progress unless they have passed certain examinations (e.g. a student cannot enter the course of food and environmental hygiene and toxicology unless she/he has passed the courses in microbiology and immunology, pathology and meat hygiene). All first year courses must be passed before entering the third year. Most of our students have previous studies at the university level in other faculties, and these are taken in account when possible. Thus, students have an opportunity to follow a genuine personal study plan provided that it is accepted by the head of academic affairs and the senior lecturer in university pedagogy.

Etappi checkpoint system

In connection with the implementation of the two-tier degree system in 2005, the normative duration of studies, the duration of the right to study and extensions to this right were amended along with the Universities Act. According to the Rector's Decision (No. 133/2008), the University of Helsinki aims to ensure that as many students as possible complete their degrees within the target duration of study (in veterinary medicine, six years), or at least within the normative duration of degree study allowed by law. At the same time, the University of Helsinki introduced a system of checkpoints (the Etappi system in Finnish) to support the smooth progress of studies and, consequently, the faster completion of degrees. In this system of checkpoints, study progress is monitored by assessing the accumulation of credits.

The Faculty has determined the minimum number of credits required at each five checkpoints (Table 3). Study progress is supported through the personal study plan and intensive supervision and tutoring by specified persons at the Faculty. The University co-ordinates the system and produces faculty-specific screening of students and relevant reports. The Etappi system offers checkpoints which allow the monitoring of student progress, thereby offering support as well as the opportunity to require the acceptance of a personal study plan before studies can be continued. Personal study plans were already in use before the implementation of the Etappi system for students whose studies have been delayed (≥ 10 years).

Table 3. Number of students caught at Etappi checkpoints in 2007 and 2008.

	Number of students caught at the first <i>Etappi</i> checkpoint*)	Number of students caught at the second <i>Etappi</i> checkpoint**)	Number of students caught at the third <i>Etappi</i> checkpoint***)
Spring 2008	1	3	Not yet in use
Spring 2009	2	5	39

Criteria for checkpoints:

*) < 25 ECTS earned by end of March in the first year

***) < 120 ECTS earned by the end of March in the third year

***) Bachelor's degree incomplete at the end of December in the fourth year. The number in 2009 includes students who have changed from the old to the new two-tier degree programme in the middle of their studies.

Compared to students in other faculties at the University of Helsinki, few veterinary students get caught in Etappi checkpoints. In fact, the true numbers are even lower than those presented in Table B, as occasionally studies have been completed but not yet recorded at the time of the checkpoint. The head of academic affairs contacts the students caught at the checkpoints, makes an appointment with them if needed, and checks their personal study plans. She redirects them to further counselling, e.g. to the senior lecturer in university pedagogy or the study psychologists, if necessary. Additionally, the students have the opportunity to discuss matters with teachers any time during their studies. The Faculty has set tight criteria at the third checkpoint purposefully as this offers a valuable opportunity for assessing the functioning of the whole Bachelor's degree and for identifying critical points in the delay of studies.

Self-evaluation

The University's Teaching Evaluation Matrix is completed in each of the Faculty's departments once a year. Table 4 shows examples of its use and results.

The overall experience in the use of the matrix in self-evaluation reveals that when used for the first time, there is a tendency to assess the situation more positively than in the following years. The turnover of teachers and, on the other hand, increased pedagogical awareness acquired in courses in university pedagogy are also factors that affect self-evaluation in varying ways. Thus, these assessments do not necessarily show the development of the department in the short term.

Table 4. Examples of self-assessment using the Teaching Evaluating Matrix in course assessment, and the results of all four departments of the Faculty in 2007 and 2008.

Aspect of teaching quality	Passable quality and results	Improving quality and results	Good quality and results	Excellent quality and results
Learning assessment criteria	The department has not defined learning objectives or assessment criteria for courses. Students are not informed of the criteria used in grading.	Some teachers have made their assessment criteria available to the students and thus students have arbitrary information about assessment policies. The grading scale for papers and Master's theses is inconsistent.	The department has defined learning objectives and assessment criteria for all courses and these very clearly and they are made available to students before the beginning of each course. Information is disseminated about grading policies. Teachers are instructed to use the grading scale in its entirety in a consistent manner.	The department has a versatile and pedagogically well-founded assessment system. The assessment criteria are compatible with learning objectives and methods. Part of the assessment is designed to form a part of teaching and learning situations. The distribution of grades is regularly monitored. The department ensures that international students understand the grading policies in use.
<ul style="list-style-type: none"> Results: 			In 2007, three departments graded their learning assessment criteria as good, one department as good - excellent. In 2008, three departments graded their learning assessment criteria as good, one department as good - excellent	
Learning assessment methods	Assessment is seen as an issue of control and surveillance. Teachers are not familiar with each other's grading policies. Examinations are based on regular routines.	Individual teachers compare grading policies and experiment with examination practices. Teachers are interested in student feedback concerning examinations and are willing to develop examination practices on the basis of this feedback.	The department recognizes that learning assessment methods strongly steer student learning. Before the beginning of studies, students become aware of the assessment methods used. The development of examinations is discussed from a pedagogical point of view and teachers are encouraged to develop their assessment methods. The department has documented information about the assessment methods in use.	The assessment methods used by the department support in parallel the objectives of learning and current teaching methods. The assessment of learning and feedback to students steer them towards thorough learning and understanding. Teachers receive training in the planning and implementation of assessment. Assessment methods and their development are continuously monitored.
<ul style="list-style-type: none"> Results: 		In 2007, one department graded their assessment methods as improving, two as improving - good, and one as good - excellent. In 2008, one department graded their assessment methods as improving and three as good.		

Summative and formative assessment

Summative assessment (i.e. assessment of student learning after the course) is the most commonly used. Formative assessment can be found in two forms: 1) the student receives constructive feedback during the course or studies (e.g. clinical assessment) or 2) the final grade consists not only of the results of the final examination, but the grades of smaller examinations throughout the course are also taken into consideration (e.g. healthy animal, pathology, reproduction).

The “life-cycle” of a course consists of various stages:

1. The teacher responsible for the course suggests the course objectives, content, methods and assessment.
2. These are discussed and developed, if needed, in an interactive workshop in the department, with representatives of the central administration of the Faculty also present (in spring).
3. The departmental steering group accepts the course (usually in May).
4. The Academic Planning Committee prepares the curriculum as a whole (in May- June).
5. The Faculty Council accepts the curriculum for the next academic year (in May-June).
6. The study guide is published both electronically and in hard copy.
7. The course is prepared, and further details are described in the e-learning system used in the course.
8. The students register for the course (in Oodi).
9. The course is arranged; formative assessment is possible during the course.
10. The learning outcomes are assessed (by examination or an alternative method of assessment; summative assessment is used only or as part of formative assessment. The teacher responsible collects feedback on the course.
11. The results of the examination are published.
12. The students receive feedback, and the course is reassessed. Return to 1.

Appeal procedure

If one or more students find problems in the student assessment system, they are advised to contact the teacher responsible for the course. Most problems are already resolved at this point but if needed, the student(s) can contact the administration office of the Faculty and/or the senior lecturer in university pedagogy. The head of academic affairs and/or the senior lecturer in university pedagogy can forward the problem to the vice dean responsible for undergraduate education to be handled in the Academic Planning Committee as needed. Such events are quite rare, occurring approximately once or twice a year. The student may also contact the University's Board of Examination Appeals. The Faculty is unaware of any cases taken to the Board in recent years. If there are problems unrelated to individual students, but in a certain examination in a wider sense (e.g. repeatedly high failure rates), the Academic Planning Committee may take an active role or the matter may be discussed in the professors' meeting (HALKE).

2.2 POSTGRADUATE STUDENT EDUCATION: ACADEMIC TRACK (AP 3a)

Postgraduate education performed: PhD programmes

The doctoral degree is the primary postgraduate degree in the University. The Faculty of Veterinary Medicine offers the following postgraduate degrees: Doctor of Veterinary Medicine and Doctor of Philosophy (Table 4). The Committee for Research and Postgraduate Affairs of the Faculty plays a major role in academic postgraduate education. It comprises professors from each of the four departments, a postgraduate student, a representative of the Finnish Food Safety Authority (Evira) and the vice dean of research as chairman. The doctoral studies are defined and supervised so that they can be completed in four years of full-time study. However, they can also be completed part-time, so there is a need to ensure and enhance the conditions of part-time doctoral students and their research opportunities.

Detailed instructions on these postgraduate studies are available on the Faculty's webpage (<http://www.vetmed.helsinki.fi/english/doctor.html>). The content of the instructions include

1. Postgraduate student admission: Research form and study plan, Forms
2. Registration at the University
3. Doctor of Veterinary Medicine degree: Objectives, Structure and content
4. Doctor of Philosophy: Objectives, Structure and content
5. Doctoral Dissertation: Writing the manuscript, Access to original research materials, Permission to publish, Public examination of dissertation, Language of the public examination, Publication and distribution of the dissertation, Dissemination of information on the dissertation, Rules and conventions of the public dissertation, Grading of the dissertation
6. Degree Diploma
7. University of Helsinki Grants for the completion and printing of the dissertation.

Admission procedures for national and international students

The admission procedures for national and international students are similar.

Admissions decisions are based on pre-determined and published criteria and systematic admissions. All doctoral students will draw up a personal study plan which consists of a research plan and a study progress plan. The personal study plan will be updated together with the supervisor throughout the doctoral studies.

The Committee for Research and Postgraduate Affairs evaluates both the personal study plan and the research plan and makes a recommendation for approving the student's admission to the Faculty Council, which will make the final decision about the student's admission. At the same time, the committee can offer feedback for the student about the personal study and research plans, if needed.

All doctoral students will be assigned a director of studies, who must be a permanent or fixed-term professor in the Faculty, and a dissertation supervisor or supervisors, one of whom must hold a professorship or docentship and all of whom must have a doctorate. Once the Faculty Council has appointed the director of studies and the supervisor(s), a separate application is needed if a new director of studies or supervisor is to be appointed.

After the Faculty Council has accepted the student's application, the student is enrolled in the student register as a postgraduate student. Subsequently, during the annual registration period, the postgraduate student must register at the University either as an attending or a non-attending student. The final registration date is 31 August. A student who fails to register for attendance or non-attendance by the deadline will lose his or her study place. If the student wishes to continue to study, he or she must apply to the Faculty for re-enrolment and pay the required fee.

Postgraduate students can join the Student Union when they register at the University. Student Union members have been entitled to use, subject to certain conditions, the services of the Finnish Student Health Service and may purchase partly subsidised meals from university cafeterias. From the beginning of August 2009, however, postgraduate students will be excluded from the health services.

Requirements and programme assessment

Academic postgraduate education has the following objectives:

- The students will become profoundly familiar with their research field and its societal significance and will acquire within that field the ability to apply scientific research methods critically and independently and to contribute to scientific knowledge.

- The students will become familiar with the historical development, fundamental issues and research methods of their field.
- The students will acquire sufficient understanding of general scientific theory and of the disciplines related to their research field so as to be able to follow future developments.

The Doctor of Veterinary Medicine degree consists of 40 ECTS of postgraduate studies (10 ECTS of general studies and 30 ECTS of field-specific studies) and a doctoral dissertation, which must be defended at a public examination. For the Doctor of Philosophy degree, the total extent of postgraduate studies is 60 ECTS (10 ECTS of general studies and 50 credits of field-specific studies).

The doctoral studies must support the dissertation and provide the knowledge and skills required for research work and other expert-level assignments. The general studies may consist of studies in the theory of science and research ethics, research planning and statistical methods, the treatment and care of laboratory animals, academic writing and reporting, university-level teaching and learning as well as personal supervision and other general studies that support the objectives of the degree programme. The field-specific studies may include the following: field-specific or project-specific training in methodology, scientific courses in the field of research, seminars in the field of study or research, international conferences and scientific meetings, personal supervision and examinations on designated literature.

The student must complete general and field-specific studies before applying for permission to publish the dissertation.

Supervision of the doctoral students

Each doctoral student is assigned one to three supervisors and a director of studies. It is recommended that supervision at the beginning of doctoral studies should receive particular attention. Each doctoral student must be provided with orientation in doctoral studies and with guidance in taking advantage of course offerings. The integration of doctoral students into the scholarly community must also be supported.

Each doctoral student must be regularly supervised both in research work and in doctoral studies. The Faculty has written general principles about the rights and responsibilities of both the student and the supervisor (http://www.vetmed.helsinki.fi/english/right_and_responsibilities.html). The supervisor(s) monitor adherence to the study plan.

Doctoral students are promoted to an advisory body (consisting of the supervisor(s) and two or three other scientists) which follows the progress of research and doctoral studies. The students funded by a Finnish Graduate School are already required to have an advisory body.

In the event of unresolved difficulties, the student and/or the supervisor are advised to contact the director of studies or the vice dean of research. Changes in supervision practices must be accepted by the Faculty Council.

Development of the procedures

The Faculty has written rules for the content of postdoctoral study as well the whole administrative process, which are publicly available on the webpage of the Faculty. These rules are regularly re-evaluated by the Committee for Research and Postgraduate Affairs, chaired by the vice dean responsible for research affairs at the Faculty. The changes are accepted by the Faculty Council.

The Teaching Evaluation Matrix includes a section on postgraduate studies. This part is systematically self-assessed once a year in conjunction with assessing the undergraduate studies in each department of the Faculty. The matrix includes the following aspects regarding postgraduate studies:

- Planning
 - Recruitment and status of postgraduate students
 - Planning of postgraduate education and curriculum
- Implementation
 - Courses offered to postgraduate students
 - Supervision of postgraduate students
 - Doctoral programmes and co-operation concerning postgraduate education
- Assessment
 - Assessment criteria
 - Feedback collected on postgraduate education.

In general, departments vary more in the self-assessment grades in postgraduate education than in undergraduate education. For example, in 2008, one department graded most aspects of their postgraduate education as “improving”, one as “improving - good”, one as “good - excellent”, and one as “excellent”. However, the collection of feedback appeared to be the weakest point in postgraduate education in all departments.

All doctoral students are included in Etappi screening. If they have not completed their postgraduate studies within seven years, they are requested to update their personal study plan for acceptance by the director of studies. In Graduate Schools, the doctoral student has an obligation to report on his or her progress once a year to the Council of the Graduate School.

Financial basis securing programmes

Most of the research at the Faculty is carried out with additional competitive funding from outside sources (e.g. from Academy of Finland, TEKES, private foundations or foundations of the University of Helsinki). Approximately 50% of the funding for Faculty’s research activities comes from outside sources on the basis of competition. The parent institution applies funding and supports research with this money (materials, doctoral student salaries, congress attendance, etc.).

The Faculty has had limited capability to support research programmes. The most important financial support is paying 50% of the salary of a research co-ordinator, who has the responsibility to organise and inform doctoral students about research training courses and to arrange courses paid by the Faculty. He or she is usually a doctoral student who simultaneously performs his or her own research and receives 50% of the salary from the parent institution’s grants.

In brief, studying at the University is free. Doctoral thesis research at the Faculty is performed in one of the Faculty’s research groups managed by senior scientists. Salaries for full-time doctoral students are paid from several sources: 1) the National Graduate School system, 2) the funds of the research group, and 3) private foundations. Part-time doctoral students can hold a teaching position at the Faculty.

The Finnish Graduate School system was established in 1995 and is funded by the Ministry of Education. It covers all fields of science including veterinary medicine. A key goal is to secure the high quality of researcher training and to shorten the time needed on a doctoral dissertation, thereby lowering the age at which the doctorate is awarded. Graduate schools are assigned the task of providing systematic teaching and supervision for the doctoral students involved. The aim is to complete the doctoral dissertation in four years. Studies at a Graduate School are full-time and salaried. As of 2008, the Graduate Schools to be funded are selected by the Academy of Finland (<http://www.aka.fi/en-gb/A/Science-in-soviety/The-researcher-career/Graduate-schools/>).

The Faculty is a member of two Graduate Schools: the Graduate School in Applied Biosciences (ABS) and the Graduate School in Animal Welfare (includes veterinary clinical research).

A Finnish Graduate School consists of supervisors, their students and a co-ordinator. These schools have an open call and select their students after evaluating the applicants. The students can be funded members of the schools (salaries paid by the School) or members paid from

other sources. The schools offer supervision and training courses for doctoral students. Most courses organised by the University of Helsinki are open and free of charge for doctoral students registered in the University.

The Faculty has had a Veterinary Research Programme since 2003. These doctoral student positions are funded by the University's own foundations for a maximum of four years. The Faculty has had a total of six positions during the period 2005-2009. The students for the Veterinary Research Programme are selected by the Committee for Research and Postgraduate Affairs. The criteria used include the scientific competence of the study plan as well as its appropriateness for the research strategy of the Faculty.

All postgraduate students writing a dissertation at the University of Helsinki may apply for a grant for the completion and printing of the dissertation together with their supervisors. The grant may be awarded for a period of one to three months and requires full-time work. The grant is available to students whose dissertations have not yet been submitted for pre-examination and who have no other funding for their research. The grant is not awarded to persons who are in full-time employment or who have received another grant. Moreover, the grant is not awarded to participants in doctoral programmes or to persons who work as researchers at the University or elsewhere.

Doctoral candidates may also apply to the University of Helsinki for a grant to cover the costs of printing the dissertation.

Assessment of postgraduate students

Pre-examination of the dissertation

Upon the proposal of the director of studies, the Faculty Council will appoint a minimum of two pre-examiners who must have the qualifications of a professor or docent or other equivalent academic qualifications. The doctoral student must have the opportunity to lodge an objection with the Faculty Council to the appointment of the pre-examiners. The pre-examiners will be asked to submit a reasoned written statement on the dissertation within two months of their appointment, either jointly or individually. There are detailed instructions for these statements.

In their statements, the pre-examiners are to recommend that the doctoral candidate be granted or denied permission to defend the dissertation at a public examination. The pre-examiners should also propose a grade for the dissertation on the scale 'approved with distinction', 'approved', 'failed'. If the work requires substantial structural changes or further research, the pre-examiner may return it, within a month, to the doctoral candidate and his or her supervisor with a statement citing the reasons for its return. If the dissertation includes an article submitted to a journal and this article has not yet been accepted for publication, the pre-examiners must assess the article as they would assess a manuscript for a scientific publication series. If the pre-examiner asks the doctoral candidate to make changes to or to conduct further research for such an article, the doctoral candidate must comply with this request in order to receive permission to publish the dissertation. If the pre-examiner does not approve the article, the doctoral candidate should not be granted permission to publish the dissertation. Moreover, the pre-examiners should not submit a final statement on an unfinished or formally deficient study.

The doctoral candidate must be given the opportunity to respond to the pre-examiners' statement(s) before the Faculty Council decides whether to grant the candidate permission to defend the dissertation at a public examination. If, due to a difference of opinion between the pre-examiners or to deficiencies found in the dissertation manuscript, the pre-examination cannot be concluded within the set time frame or within a reasonable additional time period agreed upon by the pre-examiners and the doctoral candidate with the issuance of a statement recommending that the candidate be granted permission to defend the dissertation at a public examination, the pre-examination process will be terminated, unless the doctoral candidate wishes to submit the matter for consideration by the Faculty Council.

Subsequent to the termination of the pre-examination process, the doctoral candidate may ask for a new pre-examination when he or she has made the changes specified in the pre-examination rejection statements or other changes to the manuscript, and when the supervisor(s) and the director of studies approve the restarting of the pre-examination process.

Public examination of the dissertation

The dissertation is defended at a public examination. The Faculty Council appoints one or two opponents for the public examination. The opponent(s) must have the qualifications of a professor or docent or other equivalent academic qualifications. After the Faculty Council has appointed the opponent(s) for the public examination, the doctoral candidate must submit to them the doctoral dissertation, which has been revised in accordance with the pre-examiners' corrections, if any.

The doctoral candidate must be given the opportunity to lodge an objection to the appointment of the opponent(s). The Faculty Council will appoint one of the permanent or fixed-term professors of the Faculty to serve as the custos (chairman) of the public examination.

Grading of the dissertation

The pre-examiners and the opponent(s) are asked to pay particular attention to the following aspects:

- Formulation of the research question
- Material and methods
- Individual input
- Research results
- Familiarity with the research field
- Discussion and conclusions
- Language and presentation.

The opponent is required to submit a reasoned written statement on the dissertation to the Faculty Council within two weeks of the public examination. In addition to paying attention to the aspects listed above, the opponent must take the doctoral candidate's defense at the public examination into account in the grading of the dissertation. Before the dissertation is graded, the doctoral candidate must have the opportunity to respond to the opponent's statement.

Based on the statements of the opponent and the two pre-examiners, the Faculty Council grades the thesis as "approved with distinction", "approved" or "failed". The grading is based on the written statements and numerical evaluation of the pre-examiners and the opponent. Only dissertations of exceptional quality receive the grade "approved with distinction". The Faculty grants this grade primarily in cases in which both the pre-examiners and the opponent propose it. Approximately one dissertation per year is approved with distinction (maximum 10% of the dissertations).

Candidates unsatisfied with the grading of their dissertation may apply for its re-evaluation by writing to the Board of Examination Appeals within 14 days of the publication of the grade decision. The Board may ask the Faculty Council to re-grade the dissertation. There have not been applications for re-evaluation of the grading.

Table 5. Figures for post-graduate academic education

	2008	2007
Number of students enrolled	Doctor of Veterinary Medicine: 7 students Doctor of Philosophy: 7 students	Doctor of Veterinary Medicine: 15 students Doctor of Philosophy: 6 students
Number of students passed	Doctor of Veterinary Medicine: 12 students Doctor of Philosophy: 4 students	Doctor of Veterinary Medicine: 4 students Doctor of Philosophy: 2 students
Mean number of papers per doctoral dissertation	4.46*	4.67
Mean number of impact factors obtained per student	2.49	2.18

* additionally 1 monography, not included in the calculation

2.3 POSTGRADUATE STUDENT EDUCATION: PROFESSIONAL TRACK (AP 3b)

Types of programmes offered, admission procedures for national and foreign students

The Faculty conducts six specialist programmes in

- Equine diseases
- Food and environmental hygiene
- Hygiene of food manufacture
- Infectious diseases
- Small animal diseases
- Production animal medicine

The Faculty Council has accepted general and field-specific instructions for the specialisation programmes. These instructions include information concerning admission procedures, the objectives of the training, the structure and administration of the training and supervision guidelines. The instructions are available on the Faculty's webpage in Finnish (<http://www.vetmed.helsinki.fi/opiskelu/jatkotutkinnot/erikoistuminen.html>).

Any veterinarian who has the right to work as a veterinarian in Finland can apply for specialisation studies. Foreigners must obtain the right to practice as a veterinarian from the National Food Safety Authority (Evira) in cases where they have earned their degree of veterinary medicine outside of EU's EEA (European Economic Area). Before applying for the right to pursue specialisation studies, the student must have worked for one year in tasks related to the field of specialisation.

After this one year's field-specific general studies and training, the student can apply for guided specialist training supervised by the Faculty. The duration of the guided training programme is three years. Thus, the total duration of the specialisation training is 4 years (240 ECTS). The training programme includes, for example, practical training and reports, writing an article, courses and a specialisation examination. It is also possible to incorporate international Diploma studies into the degree.

The department responsible for the specialist training programme approves student's work

experience when the student applies for the right to study in the Faculty.

One or more staff members, representing the specialisation field at the department nominate a supervisor for the student and recommend that the vice dean accepts the applicant as a student for the specialisation programme. The supervisor and/or departmental steering group approve his/her study plan. Other study achievements are approved by the supervisor. The student may have more than one supervisor.

Co-operation with other institutions

Students can perform parts of the guided specialisation training in private small animal and equine clinics approved by the Committee for Specialisation training. There are 57 approved small animal clinics and 12 approved equine clinics. The approval criteria include certain requirements for staff qualifications, patient numbers, facilities and equipment. In all specialisation programmes, it is also possible to work in a specialist training position outside the Faculty, such as in the National Institute of Health and Welfare, in Evira or abroad in accepted, high-standard veterinary hospitals. There are eight positions in the Faculty in different specialisation fields and one extramural position in food and environmental hygiene paid, in this case, by the city of Seinäjoki. It is a challenge for the Faculty to acquire new partners for training positions and course co-operation.

Student assessment procedures and results

During specialisation studies, discussions between the student and the supervisor play a major role in assessing the students and the progress of their studies. These discussions are carried out at least three times during the supervised training programme. As a result, the student must update his/her personal study plan. The student must also compile a portfolio during training (Ruohoniemi & Levander, 2005). At the end of the specialist training programme, the summary of the portfolio is sent to the supervisor for approval.

When the student has earned at least 160 ECTS in the specialisation programme, he or she is allowed to take part in the specialisation examination which is arranged once a year. To pass the examination, the student must earn $\geq 60\%$ of the maximum points.

The students in specialisation training are also involved in Etappi. If the student has studied for seven years without graduating, he or she must update his or her personal study plan in order to be able to continue studying at the Faculty. The supervisor then approves the updated study plan.

The major problem in the specialisation training is that the number of completed degrees, compared to the large number of students in specialisation training, is small (Table 6). The Faculty is actively trying to identify means to promote graduation. In 2007, the state of the national specialist veterinary training was discussed in a comprehensive seminar to which experts of several important stakeholders were invited. In 2008, the Ministry of Education appointed a Committee to evaluate specialist training. In its report (published in June 2009, summary in English: http://www.minedu.fi/OPM/Julkaisut/2009/Elainlaakareiden_erikoistumiskoulutus.html?lang=fi&extra_locale=en) the Committee suggested that the number of supervisors and positions for the completion of advanced studies be increased. It is widely accepted that changes in the operating environment will increase the need for specialist expertise in veterinary medicine. Accordingly, the objective is to double the number of completed specialist degrees over the next decade.

Table 6. Data on national track specialisation.

	Number of specialists on staff	Number of trainees overall in the specialization program 31.12.2008	Success rate: Completed degrees in 2007 and 2008
Small animal medicine	11	68	2007: 1 2008: 3
Equine medicine	6	21	2007: 1 2008: 0
Production animals	6	44	2007: 3 2008: 3
Infectious diseases	1	35	2007: 1 2008: 1
Food and environmental hygiene	2	25	2007: 3 2008: 1

In addition to the national specialisation training, several postgraduate students are completing their international Diploma studies (Table 7).

Table 7. Information on diplomats among staff, interns and residents.

Diplomate title offered	Number of Diplomates on staff (31 Dec 2008)	Number of interns		Number of residents	
		2008	2007	2008	2007
Small animal (valid for all SA residencies)		4	4		
Equine (valid for all equine residencies)		3	2		
ECVS - SA	1			1	1
ECVS - Equine	1			0	0
ECVN	1			1	0
ECVDI	2			1***	1
ECVO **	0			1***	1
EVDC **	0			1	0
ECEIM **	0			1***	0
ECVPT	1			1	0
ECVPH-PM	1			0	0
ECVP	1*			1*	1
Production Animal Medicine (ECAR 2, ECBHM 3, ECPHM 1, of which one is a double Diplomate ECAR+ECPHM)	6			1 (ECAR)	1 (ECAR)

* same person

** alternate track

*** board eligible: in addition to those mentioned above, one person who has completed residency abroad is ECVS board eligible

2.4 STUDENT WELFARE (AP 4)

Student health and welfare

Finnish Student Health Services (FSHS) provides preventive health care, medical care, mental health care, and oral health care for university students. All undergraduate students are members of the student union and have access to FSHS services. The service is available on weekdays during office hours. FSHS has a branch reception at the Viikki Campus. However, the queues for some services are long. There are also plans to centralise the services and to close the branch reception at Viikki, which would be detrimental to the Faculty's students.

Additionally, there is an occupational health service group at the Viikki Campus consisting of students, health care personnel and other quarters involved in student welfare. The Faculty has one student representative and one staff representative (head of academic affairs) in this group. The goal of this group is to promote student welfare through co-operation and joint projects. Problems associated with studying may also be raised and handled by this group. One example of this was in handling a situation out at the Veterinary Teaching Hospital, where the high workload and certain other problems associated with the clinical training had gradually worsened to the point that they threatened the welfare of the students and increased the risk of accidents. The report on this was published in 2007, by which e.g. the number of assisting staff members had been increased and the number of students' work hours had been limited.

Students have accident insurance which is in force during all studies included in the curriculum. In 2007, 14 student accidents were recorded at the Veterinary Teaching Hospital; in 2008, the corresponding number was 5. The most common accidents were associated with bites or kicking injuries. Instruction on protection against zoonoses is included in teaching in microbiology, pathology, epidemiology, clinical training and in food hygiene. In pathology dissections of cattle, the possibility of anthrax is the first thing to exclude.

Students are vaccinated against rabies three times during their studies: in the first and second study year, and one booster injection later by agreement. In connection with these rabies vaccinations, the students' vaccination status against tetanus can be checked. In case of exposure to anthrax in post-mortem examinations, all involved will be subjected to appropriate medication.

General and specific student counselling

The quarters responsible for student guidance are described in the study guide, on the University's intranet (Alma) and in the Operations Manual of the Faculty. Students are informed of these facilities in the orientation period at the beginning of their studies. Student tutoring is tied to the orientation period. In-house trained senior students help groups of first-year students to get acquainted with the Faculty, the Campus and the University from the student's point of view. The Faculty takes student welfare very seriously, is well aware of the most common problems that may arise, and does its best to help students early in their problems. Reasons for delays of studies have been clarified at three-to-four year intervals, and personal support is continuously offered to those in need of it.

The student affairs officials at the Faculty are responsible for student guidance and advice, the provision of information to new students, the protection of students' legal rights, the registration of completed studies (general studies and the recognition of studies completed elsewhere), retakes of Faculty examinations and communications on academic affairs. The student affairs officials help students in all practical matters, both at the departmental and faculty level, and know whom to contact if further actions are needed.

Students' study progress is supported through the personal study plan and intensive supervision and tutoring by specified persons at the Faculty. Personal study plans were already in use before the implementation of the Etappi system for students whose studies have been delayed (≥ 10 years).

The e-learning planner supports students in matters related to ICT and is responsible for teaching basic ICT skills.

Teachers at the Faculty are easily approachable and provide student guidance in their own field. Since 2009, each department has allocated half of the working hours of one of its teachers to student guidance, supervision, the development of teaching and curriculum planning. Placing such “counsellors” in all departments has been a strategic goal of the Faculty since the Evaluation of Education in 2001.

The Faculty senior lecturer in university pedagogy – a resource provided by the University since 2001– co-operates with staff working in the academic administration in supervising students facing problems in their studies for any reason or whose graduation has been delayed. Moreover, the lecturer supervises the writing of personal study plans. She also co-operates closely with the study psychologists of the University. One of the study psychologists holds reception hours at the Viikki Campus one day each week during terms.

The previously mentioned OPPI questionnaire is part of the Bachelor’s portfolio, and the senior lecturer in university pedagogy is responsible for it. A study psychologist participates in the feedback sessions when necessary. One major reason for implementing a portfolio-type open-ended personal study plan was to offer students an opportunity to practice reflection.

The Student Affairs and Student Financial Aid Service of the University provide general information and advice to students, attend to the University’s duties as a public authority in matters relating to student financial aid, co-ordinates the study progress monitoring system (Etappi) and offer special services to disabled students and international degree students. The Student Affairs and Student Financial Aid Services also maintain an office at the Viikki Campus.

Nyyti – Student Support Centre is a student association for promoting mental well-being. Students can send email through the website and trained volunteers answer them. Nyyti offers confidential support for all kinds of difficult situations in the students’ lives.

Chapter 3. ASSESSMENT OF TEACHING STAFF (AP 5)

Staff recruitment and appointment procedures

The evaluation of teaching and scientific merit takes place during recruitment and in the annual personal review meetings between superior and employee and in personal work performance assessments associated with the new salary system introduced in 2006.

The staff recruitment and appointment procedures include a means for ensuring that all new staff possess at least the minimum necessary level of competence. Of course, different levels of teaching and research positions (e.g. professors, university lecturers, clinical teachers, university instructors and teaching assistants) have different requirements. A university portfolio is used in recruitment as requested by the University Senate. The evaluation of teaching skills includes the assessment of pedagogical training, practical experience in teaching, the ability to produce material for teaching and learning, and other merits in teaching as well as teaching skills shown in a demonstration lesson. There are written instructions for the 20-minute lesson, which is assessed based on the following criteria:

- selection of the topic
- structure of the lesson
- ability to explain and justify statements
- ability to utilise the newest research in the field
- ability to teach in an innovative and thought-provoking way
- ability to use means for illustrating the lesson
- ability to interact with the audience
- ability to convey the message in a clear and intelligible way
- time management
- level of teaching material
- other observations.

Role of students in assessing teachers

Students are involved in the recruitment of teachers and play an important role in assessing the demonstration lesson. For professors and docents, the demonstration lesson is given to the Faculty Council, and for other teaching positions, to the departmental steering group.

The base for assessing the quality of teaching and learning is the Faculty's established student feedback system (described in detail in Chapter 1).

The staff is evaluated "indirectly" by evaluating the quality of teaching. The Faculty does not systematically collect feedback on individual teachers, but teachers may do so themselves when they find it useful. Based on national regulations, feedback on an individual teacher cannot be viewed by other teachers without the teacher's permission. However, the present system allows one to identify problem points and points of excellence without the need for the names of individual teachers.

Teaching performance and excellence

The teaching performance and excellence of individual teachers is taken in account in the personal work performance assessments associated with the new salary system. There are also systems of reward for teaching excellence in operation. The veterinary students annually award the "Teacher of the Year" prize, which the teachers greatly esteem. In addition, several teachers of the Faculty have been awarded prizes at the university level:

Magister Bonus: awarded to the professor of surgery in 2001. The criteria for the Student Union's Magister Bonus award include special skills and interest in teaching and students. Proposals can be made by any member of the University.

Eino Kaila Distinguished Teacher Award: awarded to a group of teachers of veterinary pharmacology and toxicology in 2007. The criteria for the award include teaching philosophy and methods, learning assessment practices, ideas and merits in the production and application of teaching materials, interaction with students, innovation in the development of teaching and the application of recent research in teaching. Student views of the teacher's merits play an important role in the selection process.

Educational Technology Award: awarded to a group of teachers in anatomy for the virtual animal model Vielo in 2002. The purpose of the competition for the Educational Technology Award is to seek existing projects or projects under development that will yield feasible applications and set an example for others. The aim is to promote interactive teaching and learning based on new information and communications technologies, and to support the versatile development of the learning environment.

Centres of excellence in teaching: awarded to the Department of Food and Environmental Hygiene in 2004. The University of Helsinki has been rewarding its units on the basis of the quality of their teaching since 2003. The internal performance evaluation conducted at the University every three years focuses on the central aspects of planning, implementation, evaluation and postgraduate studies. The assessment criteria consist of those compiled in the Teaching Evaluation Matrix, which specifies in concrete terms the University's strategic aims and development challenges.

Available staff development facilities

Staff members are encouraged to take part in national and international congresses and continuing education. The goal is for every teacher to participate on average, in one international and one to two national field-specific congresses or other events related to continuing education with the full or partial financial support of the Department.

Teaching staff is also given opportunities to develop and to extend their teaching capacity and are encouraged to improve their skills. Opportunities for didactic and pedagogic training and specialisation are available. Departments are responsible for providing the teachers with training in university-level teaching and learning during working hours.

The development of the teaching staff is supported by means of inhouse training. The organisation of pedagogic in-house training is provided both in a centralised and decentralised (on the campuses and in the faculties) manner. The University finances pedagogical training provided in the form of a centralised service by the Centre for Research and Development of Higher Education (<http://www.helsinki.fi/ktl/yty/english/index.htm>), located in the Faculty of Behavioural Sciences.

The University provides funding for lectureships in university pedagogy (a total of 15 posts) in all of its faculties. The Faculty has had one of these posts since 2001. The main duties included in the posts are pedagogical research and development. In addition, the Faculty's senior lecturer in university pedagogy provides counselling and support for teachers in their daily work. Together with the Centre for Research and Development of Higher Education, the four senior lecturers in university pedagogy at the Viikki Campus arrange a basic course in university pedagogy (10 ECTS) once a year. Several teachers at the Faculty have participated in the advanced course (an additional 15 ECTS) and individual teachers up to 60 ECTS (Table 7).

Table 8. Teachers' participation in pedagogic training offered by the University of Helsinki.

	2007- 2008
University pedagogy I (Basic course, 10 ECTS)	18 teachers
University pedagogy II (15 ECTS)	4 teachers
University pedagogy III (35 ECTS)	1 teacher
- 60 ECTS in total	

The Educational Centre for ICT (<http://ok.helsinki.fi/english/>) provides the University's teaching staff with services, support and training related to the use of educational technology. The Centre's experts offer consultation on the use of ICT in teaching, the development of learning environments and materials, and web-based teaching. The Centre follows up and enhances the pedagogic use of the newest technological innovations. The Faculty's e-learning planner supports teachers in all matters related to the use of ICT in teaching (e.g. in the use of learning management systems and in collecting course feedback electronically).

The senior lecturers in university pedagogy and e-learning planners together organise a meeting place for teachers at the campus level (Viklo Café), four times a year (two hours at a time). Other types of co-operation, such as seminars, ICT workshops also take place needed.

A development day for the whole staff of the Faculty is arranged once or twice a year.

Chapter 4. ASSESSMENT OF LEARNING OPPORTUNITIES (AP 6)

Promoting and monitoring the teaching-learning environment

The curriculum includes both theoretical and self-directed learning as well as supervised practical training (Table 9). Each academic year encompasses 60 ECTS. Each year, a varying number of hours are allocated for elective studies and theses.

Table 9: General table of curriculum hours taken by all students

Year	Hours of training								
	Theoretical training		Self-directed learning	Supervised practical training			Exams	Allocated for electives and thesis	Total
	Lectures	Seminars		Laboratory and desk-based	Non-clinical practical work	Clinical work			
First	362	36	848	102	183		35	54	1620
Second	463	18	703	84	183		34	135	1620
Third	255	59	656	181	286	9	12	162	1620
Fourth	497	95	510	8	24	281	16	189	1620
Fifth	45	Incl. in clinical work	25 + Incl. in clinical work	12	14	1404	12	108	1620
Sixth	252	22	533	141	118		14	540	1620
Total	1874	230	3275	528	808	1694	124	1188	9720

Lecturing is still the most common teaching method. However, an increasing number of lectures include active student participation and lectures are used for more than just for distributing information. The concretisation of theory is important to our students' learning, thus most lectures are supplemented by the use of real-life examples and cases. Research has shown that our students consider lectures valuable for their learning (Ruohoniemi and Lindblom-Ylänne, 2009) and participate in them actively. Problem-based learning is not widely used in its pure form, but elements of it can be found in various teaching situations. Case-based teaching is an essential element throughout the studies. The same is true for blended learning (combining computer-assisted learning with traditional methods). In several courses, the students practice skills to seek out, critically assess and analyse knowledge, acquired using ICT. Small group teaching and learning are used to train microscopy, laboratory work, project work, formulating research plans and evaluating scientific papers. Practical exercises, especially those with hands-on experiences, are highly valued (necropsies, examining microbiological samples, practicing surgical procedures on cadavers, clinical work).

E-learning environments are often used to support teaching and studying. In nearly every course some learning management system (BSCW, WebCT, Blackboard, Moodle) is used – not necessarily in interactively, but as a valuable tool for the distribution of course details and materials. Most lectures (in PowerPoint form) are also displayed there. Access to the learning management system remains throughout the programme, which makes it comfortable and easy for the students to go back and check out the details taught earlier. Additionally, students may ask questions and provide anonymous feedback during the course using the learning management system.

The Teaching Evaluation Matrix, used as a tool for assessing and monitoring the quality of teaching in all departments once a year, includes several aspects of teaching. With regard to learning opportunities, the sections "Management of the Teaching and Learning Environment" and "Teaching Methods" (Table 9) are the most important.

Table 10: The criteria in the Teaching Evaluation Matrix for different levels of quality with regard to aspects related to learning opportunities and results of the four departments' self-evaluation in 2007 and 2008

Aspect of teaching quality	Passable quality and results	Improving quality and results	Good quality and results	Excellent quality and results
Management of the teaching and learning environment	The use of department premises and facilities is unplanned and unorganized and acquisitions of necessary equipment have been neglected. The department assumes no responsibility for the situation and takes no steps to remedy it. Students do not feel welcome at the department and, in fact, are rarely seen on the premises.	Problems concerning the premises have been noted and there are plans to resolve them. Students do not have their own space or facilities to use computers on the premises. However, students feel welcome at the department.	The department premises are well established and equipped, also from the point of view of ICT and applied sciences. Teachers, researchers and students have had the opportunity to participate in the planning of the premises. The students have their own premises at the department, which has improved cooperation and interaction between researchers and students. The demands of an international learning environment have been taken into account in signage and instructions. The library is an integral part of a high quality learning environment.	The department premises are appropriately equipped and are easily converted to suit the need of various teaching situations. Neighboring departments and faculties have joined forces and found satisfactory solutions to particular mutual needs. Library services have been developed in cooperation with the library to meet the needs of the department and its students, and to contribute an inspiring learning environment.
<ul style="list-style-type: none"> Results: 			<p>In 2007, one department graded the management of the teaching and learning environment as good, three departments as excellent.</p> <p>In 2008, one department graded the management of the teaching and learning environment as good, three departments as excellent.</p>	
Teaching methods	Teaching methods are not consciously evaluated. Teaching is routinely based on traditional methods and ICT is not used in teaching.	Individual teachers experiment with new teaching methods (including the use of ICT), suitable for different teaching situations and exploring different alternatives.	The department supports the development of teaching methods. The matter is discussed openly in the department and the connection between learning objectives and learning assessment is understood. Teachers make use of their training in university-level teaching and use of ICT in the development of teaching methods.	Versatile learning situations and teaching methods support different learners and the attainment of learning objectives. The importance of applying relevant pedagogical methods in various teaching situations is understood, and a range of methodological options are in use. The department closely follows the latest publications on educational research.
<ul style="list-style-type: none"> Results: 			<p>In 2007, one department graded their teaching methods as good, one as good - excellent and two as excellent.</p> <p>In 2008, three departments graded their teaching methods as good and one as excellent.</p>	

One tool for monitoring the teaching-learning environment is the ETLQ, which has been used systematically since 2006 in the Bachelor's phase. Research on learning provides valuable information on the national, field-specific teaching-learning environment (Haarala-Muhonen et al., 2009, Ruohoniemi and Parpala, 2009). Additionally, several teachers at the Department of Food and Environmental Hygiene have analysed and reported their teaching in international journals (Korkeala et al., 2003, Lundén et al., 2007, Maijala & Korkeala, 2007, Korkeala & Lindström, 2009). Undergraduate training in animal welfare at the Faculty has also been reported (Hewson et al., 2005).

Learning opportunities for the students are described in the study guide and in the e-learning systems of the courses. This includes the types of learning opportunities (e.g. lectures, laboratory work, supervised group work, homework in the form of written assignments). All courses are awarded credits according to the national credit allocation and accumulation system similar to the European Credit Transfer System (ECTS; 1 ECTS = 27 hours of student's work). In most cases the number of hours allocated for each type of supervised training is given in the study guide, and the remaining hours are reserved for self-study. The study guide is updated annually.

Departments are responsible for teaching in their fields. The competence of the teachers is assessed in the recruitment process, and teachers are encouraged to participate in pedagogical training. Each teacher is responsible for his or her teaching. One of the main principles in teaching at the University of Helsinki is that teaching is based on research. Updating the information according to the latest research in the field is important. The course materials, including the PowerPoint slides shown in the lectures, are commonly included in the learning systems of the course and are available for other teachers in the department as well.

The provision of IT and library facilities at the Faculty level

The Viikki Science Library (<http://www.tiedekirjasto.helsinki.fi/english/>) serves the four faculties (Agriculture and Forestry, Biosciences, Pharmacy, Veterinary Medicine) and research institutes (Neuroscience, Biocenter) located on the Viikki Campus. Each faculty has one member in the Library Board and the rest of the members are from the library staff, research institutes and students. The Library has three advisory boards with members representing teachers, researchers and students, so that the primary customers are able to contribute to the development of the library. Each subject area has its own subject librarian (subject specialist) nominated by the Library Board. The subject specialist in veterinary medicine is the link between the Faculty and the Viikki Science Library. She also ensures that the financial input from the Faculty is spent to the benefit of veterinary medicine, oversees the collection of veterinary titles in the library, is responsible for the description of the collection, and teaches information literacy. The subject librarian is a consultant member of the Faculty's Academic Planning Committee.

The Viikki Science Library provides staff and students access to the National Electronic Library, FinELib, and through that, access to ca. 20 000 e-journals, 131 databases and almost 300 000 e-books. In addition, the Viikki Science Library subscribes to 342 e-journals not included in the FinELib collection. The number of printed journals is 2300, and there is an extensive book collection. Through the Nelli-portal (National Electronic Library), staff and students have access to the electronic material from home also. This service is greatly appreciated by the students.

Every year, the staff of the Faculty is asked to name new titles they wish to see in the library. The Viikki Science Library also receives a list of all course books mentioned in the Faculty's study guide and acquires at least two copies, usually four or five, of each textbook. The Library staff also checks whether electronic versions of textbooks are available. All the books and journals are catalogued and indexed in the electronic catalogue of the Helsinki University Libraries, Helka.

On weekdays during the term, the library is open from 8 am to 8 pm, on Saturdays from 10 am to 4 pm and is closed on Sundays. During vacations, opening hours are on Mondays from 9 am to 6 pm, Tuesday to Friday from 9 am to 4 pm, and on Saturdays and Sundays, the library is closed. The Information Desk of the library is open from 10 am to 4 pm on weekdays.

The total number of study places in the Viikki Science Library is 381. The self-study room is available 24 hours each day once the student has signed for key. In addition, the veterinary students have five group-study rooms in the learning centre of the EE building.

The Faculty has two small reference libraries: one in the Clinicum building and the other in connection with the learning centre in the EE building. The students have 24-hour access to the reference library in the Clinicum, and the library in the learning centre is open from 8 am to 6 pm. In addition, the books in these reference libraries are catalogued in the Catalogue of Helsinki University Libraries, Helka.

In connection with the learning centre at the EE building, there is a computer class for veterinary students with 31 computers, and the four group-study rooms also have one computer each. The students have access to this class 24 hours per day. The class is also used for teaching during undergraduate and doctoral courses. Another 18 computers are available in the hallway in the EE building. The Clinicum has a corner with 11 computers and each of the group-study rooms has one computer. The students that work in the animal hospital can also use their computers. In addition, there are two computer classes in the Viikki Science Library.

The Viikki Science Library is responsible for the teaching of information literacy. The ICT driving licence (3 ECTS) is included in the obligatory Bachelor's studies. The studies on information literacy are partially integrated in the veterinary curriculum. The first-year students learn to use one reference database (PubMed) in their problem-based projects. For the second-year students, information literacy is part of the Bachelor's thesis project. This includes a lecture on literature searching and personal training on the student's own topic. Before attending clinical studies, students must take a course on Evidence-Based Medicine which includes literature searches of databases used in clinical sciences (CAB and Medline). For students beginning their Licentiate's thesis, the Viikki Science Library arranges courses on RefWorks and advanced literature searches that focus on their own topics. All information literacy is taught by the library subject specialist in veterinary medicine with teachers of the Faculty assisting in the subject matters. The teaching of information literacy is similar in all four faculties of the campus, but each of them has their own subject specialist.

Chapter 5. ASSESSMENT OF TRAINING PROGRAMMES AND THE AWARDING OF THE TITLE OF VETERINARY SURGEON (AP 7)

Explicit intended learning outcomes and provision of a structure that promotes life-long learning

The general learning objectives of the whole undergraduate curriculum and the learning objectives of each course are presented in the study guide and in the course information on the learning management systems used in the courses. The learning objectives of the whole curriculum were set by the Faculty's Academic Planning Committee and approved in the Faculty Council in 2005. The requirements of the EU Directive, the University of Helsinki and the Bologna Process as well as the Faculty's own mission have been taken in account in preparing the list of objectives. The official list of objectives of the undergraduate curriculum (i.e. objectives of the degree of the Licentiate of Veterinary Medicine) is available in the study guide and includes:

- comprehensive basic knowledge of the disciplines that form the basis of the work of a veterinarian
- ability to make scientifically and ethically justified decisions independently and critically
- ability to communicate and co-operate in a variety of ways
- ability to perform the professional duties of a veterinarian and practice veterinary medicine independently
- ability to follow developments in the field and continue learning
- ability to pursue further academic and professional training.

The degree of the Licentiate of Veterinary Medicine offers the information and skills necessary to become a legal veterinarian under Finnish law and to practice as a certified veterinarian in the different fields of veterinary medicine as described in EU regulations.

The objectives of the curriculum are in agreement with and supported by the learning objectives of courses and other learning opportunities within the curriculum. The degrees offered by the University of Helsinki encourage lifelong-learning and provide skills for the development of personal expertise and communication. Thus, the curriculum includes studies on the general skills of an academic individual, such as co-operation, communication (including language skills) and information technology and literacy skills. The Bachelor's degree provides a versatile foundation for studies towards a higher academic degree, which focuses on deepening one's skills and knowledge. The Licentiate's degree provides the student with skills and knowledge in the fields expected of an international academic professional. The Licentiate's thesis, where students are expected to produce new information and to communicate it in public both orally and literally, shows the student's ability to fulfill most of the general objectives of the curriculum.

Based on the learning objectives and content of the courses, strands, modules, clinical training and students' theses, all day-1-skills are embedded in the curriculum. Thus, passing all obligatory studies ensures that the student has acquired the required knowledge and skills. The requirement to become a legal veterinarian under Finnish law, and to practice as a certified veterinarian in the different fields of veterinary medicine as described in EU regulations immediately after graduation, is demanding.

Discussion on the national day-1-skills at the Faculty has begun. The subject specific and generic outcomes of the whole curriculum were discussed and worked on collaboratively on Faculty Day in May 2009 ("What are Finnish day-1-competences"). The Finnish Veterinary Journal will serve as a channel to obtain feedback from professionals working in the field for development of the curriculum.

Additionally, a national project is ongoing at the Faculty (2007-2009), aiming to further define the learning outcomes and to make concurrent changes in other aspects of course planning (assessment, teaching methods) when necessary. Understood this way, learning outcomes are

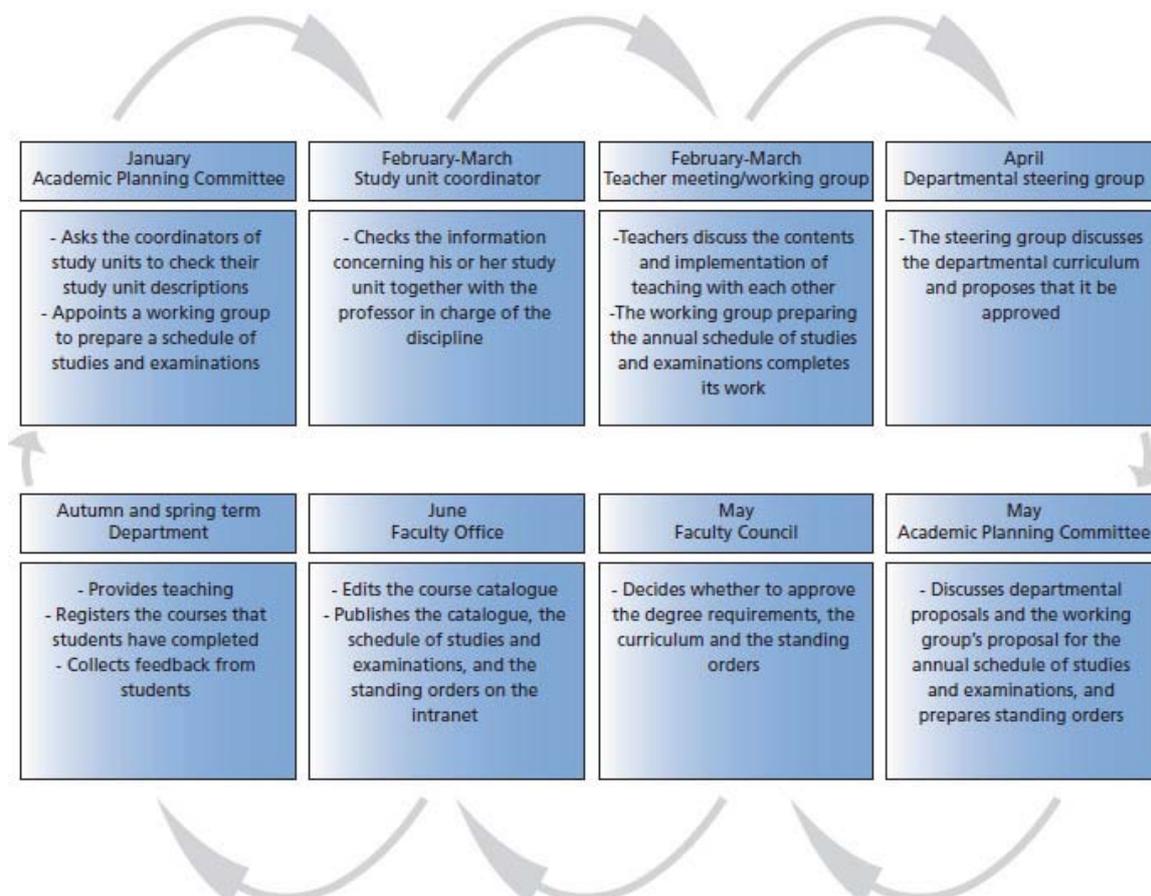
statements of what the learner is expected to know, understand and/or be able to demonstrate after the completion of a learning process (e.g. after a course), and are closely connected in the assessment. Clear and concrete assessment criteria help the student to understand what is expected of them at the end of the course. More focus on the outcome helps the students to set their goals and manage their learning process. Students will know the threshold criteria and criteria for achieving a higher grade in a more concrete way than at present. The Academic Planning Committee has accepted this as policy at the Faculty level, and according to current plans, the learning outcomes of all courses will be completed by spring 2010. A planning officer, supervised by the Faculty's senior lecturer in university pedagogy, has been employed in this project. The counseling teachers in all four departments have also participated in training on learning outcomes.

The main value of learning outcomes in our curriculum is that they encourage greater focus on assessment. The creation of learning outcomes will also make the generic outcomes of the course more explicit. The generic outcomes will be assessed in the same manner as the subject specific ones are. Concrete learning outcomes will make cumulative learning explicit, and thus strengthen the profile of the curriculum.

Procedures for formal curriculum and teaching programme approval and regular reviews

The curriculum is reviewed annually. The curriculum design consists of several stages, numerous associates and various activities that take place at different, but predetermined times as shown in Figure 7 (Chapter 4). At present, the departmental curriculum is discussed each year in the departmental steering group. During the past two years, there has been a preceding interactive "curriculum workshop" at each department, joined by the department head, teachers responsible for the courses and modules, the head of academic affairs, the planning officer for academic affairs, and/or the senior lecturer in university pedagogy. This approach has increased discussion between disciplines and further strengthened the co-ordination of teaching. At the same time, it ensures that the wider Faculty view is taken into account in the departmental curricula, which form part of the whole curriculum.

FIGURE 8. Curriculum design as an administrative process



Procedures for monitoring the delivery of the curriculum and the teaching procedure

The study guide is published both electronically and as a paper copy. The study guide and the brochure on veterinary studies, together with information provided by all the departments and the Veterinary Teaching Hospital, are available on the Faculty's webpage.

Application of the ECTS system to the degree programme and evidence of its use

In association with the Bologna Process in 2005, the previous system of "study weeks" (1 week corresponding to 40 hours of student work) was changed to ECTS (1 ECTS corresponding to 27 hours of student work). The workload of each course was reassessed and the change was made mechanically (x 1½) only in those cases where the workload had been found adequate based on both calculations and student feedback. Assessing and monitoring the students' workload is an important aspect of quality assurance at the Faculty. The content of the degrees is presented in Tables 11 and 12.

Table 11. Content of the Bachelor of Veterinary Medicine degree. Each year = 60 ECTS.

Year	Studies	Personal study plan ^a	L ^b	ICT ^c	E ^d	Res ^e
I	Study guidance 2 ECTS Anatomy, physiology and biochemistry (integrated, "Healthy Animal") 50 ECTS Electives* (2 ECTS)	0.5 ECTS	2.5 ECTS	3 ECTS		
II	Animal hygiene (incl. genetics) 13.5 ECTS Farm practice 6 ECTS Parasitology 5 ECTS Microbiology and immunology 11.5 ECTS Pathology 8.5 ECTS Meat inspection technique 1.5 ECTS Electives* (2 ECTS)	0.5 ECTS	6.5 ECTS		1 ECTS	4 ECTS
III	Epidemiology 10 ECTS Pathology (continued) 8.5 ECTS Meat inspection 6 ECTS Meat inspection practice 6 ECTS Veterinarian as an officer 2 ECTS Pharmacology and toxicology 7 ECTS Introduction to clinical work 7.5 ECTS Electives* (3 ECTS)	1 ECTS	1 ECTS	2 ECTS	2 ECTS	4 ECTS

a = Bachelor's portfolio (2 ECTS)

b = Language studies (Finnish, Swedish and English) and communication (written & oral) skills (10 ECTS)

c = Information and communication technology studies (5 ECTS)

d = Veterinary ethics and animal welfare (3 ECTS)

e = Introduction to scientific work (2 ECTS), Bachelor's thesis (6 ECTS)

* The students must earn 7 ECTS of electives during the Bachelor's studies

Table 12. Content of the Licentiate of Veterinary Medicine degree. Each year = 60 ECTS.

Year	Studies	Personal study plan ^a	(L) ^b	(ICT) ^c	(Et) ^d	Res ^e
IV	Internal medicine (companion animals, horse) 13.5 ECTS Anesthesiology, intensive care 3 ECTS Surgery (companion animals, horse) 9 ECTS Reproduction 12 ECTS Herd health, production animal medicine and surgery 11.5 ECTS Electives** (2 ECTS) Clinical practice 4 ECTS	+	+	+	+	5 ECTS
V	Clinical training (rotations) 52 ECTS Veterinary health services and municipal administration (2 days) Clinical practice 4 ECTS	+	+	+	+	4 ECTS
VI	Food hygiene and food inspection 18.5 ECTS Environmental hygiene and toxicology 9.5 ECTS Health protection practice 3 ECTS Veterinary health service and municipal administration 5 ECTS Practice Management 3 ECTS Electives** (4-9 ECTS)	1 ECTS	+	+	+	+ 11-16 ECTS

a Licentiate's portfolio (1 ECTS)

b Applied language and communication skills studies

c Applied information and communication technology skills

d Applied veterinary ethics and animal welfare

e Licentiate's thesis 20 ECTS (literature review) or 25 ECTS (research project)

+ Included in teaching, but no separate ECTS allocated

** Based on the type of the student's Licentiate's thesis, he/she must gain 6 or 11 ECTS in electives during the Licentiate phase

Degree certificates are accompanied by a supplement (Diploma Supplement) that describes the overall content of the degree. The purpose of this supplement is to improve the international comparability of degrees and to facilitate mobility for either postgraduate study or employment.

Granting the license to work as certified veterinary surgeon

The Finnish Food Safety Authority (Evira) works under the Ministry of Agriculture and Forestry. Evira grants licences to work as certified veterinary surgeons to the graduates of the Faculty's Licentiate of Veterinary Medicine programme. For foreign degrees not recognised in Finland or in EU, Evira requests an individual evaluation and the need of additional studies from the Faculty. Evira is the authority that ensures compliance with veterinary practice based on the current legislation in the country.

Assurance concerning the participation of students, stakeholders and graduates in quality assessment activities

Students are represented in the Faculty Council and in committees and working groups of the Faculty. The student feedback system is described earlier in this report (Chapter 1).

The Career Services of the University systematically collects feedback from recent graduates. Unfortunately, the response rate has been very low.

In general, collecting feedback from stakeholders and graduates has been found to be one of the main objects in need of development. As the connections within the veterinary profession

are tight and the trade is relatively small, there are plenty of opportunities for obtaining informal feedback. The Annual Veterinary Meeting, arranged by the Finnish Veterinary Association, offers a good possibility for discussion. The elective courses in which graduated veterinarians can also participate are valuable to this end. The Department of Food and Environmental Hygiene has close connections with veterinarians working in slaughterhouses and control tasks in veterinary public health.

Chapter 6. ASSESSMENT OF QUALITY ASSURANCE FOR CLINICS, LABORATORIES AND FARM (AP 8)

Clinical services

Quality assurance is part of the daily clinical work and its assessment at the Veterinary Teaching Hospital. The staff reports on unexpected events to the head of the corresponding unit and, in cases requiring administrative or financial measures, to the Hospital Director.

Daily rounds, lead by a senior veterinarian of the corresponding unit of the Hospital, offer an excellent opportunity to ensure the quality of clinical work. At the same time, discussions of these rounds provide a strong educational benefit to those participating in them. Journal clubs, where veterinarians present the latest literature reviews on clinically interesting and important topics, have been integrated as part of the regular meetings of the units of the Hospital.

The Veterinary Teaching Hospital carried out extensive assessment of its quality assurance in 2007. This document is available on the University's intranet. There are detailed instructions for students about clinical work and activities at the Veterinary Teaching Hospital. These instructions are updated every year and are available on the intranet. Additionally, there are other practical instructions (e.g. regarding hygiene, aseptic principles and performance in operating theatres as well as biosecurity) on the intranet and in the learning management system (BSCW) used in the clinical departments.

A project on the welfare of the whole staff of the Hospital was carried out in 2006-2008 in co-operation with the occupational health service of the University. Targeted coaching for superiors and the development of teams were important goals of the project. The commitment of the entire staff was considered vital. The project has, at some points, clarified the functioning of the Hospital and has improved communication in many ways.

The Veterinary Teaching Hospital publishes information about its activities and functioning on its recently renewed webpage. The Hospital collects feedback from its clients, and the results are published on the intranet. Clients also have an opportunity to provide feedback and to contact the Hospital Director directly. The Hospital Director is 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.

Laboratory services

Diagnostic services for the Veterinary Teaching Hospital are provided by the departments of Equine and Small Animal Medicine, Production Animal Medicine and Basic Veterinary Sciences.

In the Central Laboratory of the Department of Equine and Small Animal Medicine pre-analytical quality assurance includes the visual evaluation of sample quality and identification problems, which may lead to the subjective rejection of the sample by an analyst. The clinicians are informed directly about the problems, which are not recorded by the laboratory.

Analytical quality at the Central Laboratory is monitored by internal and external quality assessment. The internal quality assessment scheme includes daily one-level control samples for clinical chemistry and haematology analysers. Commercial pre-assayed control samples are available for most of the tests performed in the laboratory. The results of the control samples are evaluated by comparing them to target mean values with accepted ranges assayed in the laboratory, which also serve as guidelines for the acceptance of patient results. The results of the control samples are recorded and saved in the quality control files of the analysers.

The external quality assessment scheme includes ten unknown samples for chemistry and three two-level sample surveys for haematology per year. The statistical assessment of laboratory performance is made on the basis of the results by the independent producer of the service according to the guidelines for laboratory medicine. The reports are examined by the head of the

laboratory, and reparative actions are made as needed.

The internal quality assessment of some of the animal hospital laboratory methods is conducted by the Central Laboratory. The level of the results from the dry chemistry analyser is adjusted to equate with the results of the chemistry analyser in the Central Laboratory. The conformity of the dry chemistry results with the wet chemistry results is occasionally evaluated by analysing the same patient samples with both methods. The blood-gas analyser has a programmed internal quality assessment protocol with four-level control samples.

The laboratory in the Production Animal Hospital serves the staff of the Veterinary Teaching Hospital, Department of Production Animal Medicine, outside veterinarians and clients. The quality of the chemical samples is observed using Labquality LongTrol control serum. The laboratory participates in national quality assessment rounds ten times a year. The haematological quality control sample is the Basic Blood Count, which is sent by the above-mentioned Central Laboratory three times a year. The quality assessment scheme includes daily one-level control samples for the analyser. All the results of clinical samples that turn out to be out-of-line are controlled by reanalysing the sample and the respective veterinarian is informed. Haematological samples are checked manually in cases where the analyser fails to give a reliable result. The electrolyte analyser also has its own regularly used control samples. Mastitis diagnostics are controlled by identifying three bacteria from the Veterinary Laboratory once a year. The temperature of the freezers and deep freezers is checked daily. Microscopes are serviced annually and other devices as necessary.

The Department of Basic Veterinary Sciences plays a major role in teaching students the basics of laboratory work, including safety issues. Detailed instructions are available on the University's intranet regarding e.g.:

- Equipment and responsibilities (in Finnish)
- Quality assurance and instructions (in Finnish)
- Instructions on chemical refuse collection (in Finnish)
- Instructions for laboratories (in English)
- Instructions for the virology laboratory (in English)

The section of Pathology and Parasitology at the Department of Basic Veterinary Science provides diagnostic services in its own disciplines. Services in Pathology include necropsy as well as biopsy and cytology services. Samples originate mainly from the Veterinary Teaching Hospital, but samples from private veterinarians and animal owners are also analysed. Undergraduate students participate in diagnostic necropsy work under the supervision of teachers, but the responsibility of the report rests on the teacher. Biopsy and cytology is performed by staff members only. Since the residency programme began in 2009 a great deal of pathology services has been provided by residents but all reports written by them are scrutinised by the programme supervisor who holds DipIECVP.

The diagnostic service in Parasitology is a small-scale activity that consists mainly of sample analysis referred either from the Central Laboratory of the Department of Equine and Small Animal Medicine or from extramural veterinary clinics, and involves a small number of faecal or ectoparasite samples.

Farms

The Faculty does not have its own farm. Instead, two nearby dairy farms are used for teaching purposes where needed. One of them is a research farm owned by the University of Helsinki and is located close to the Equine and Small Animal Hospital on the Viikki Campus. The other one is owned by a professional training institute (Keuda Vocational College, near the Production Animal Hospital in Saari).

Additionally, students have a compulsory two-week extramural training period on a dairy farm and another on a piglet-producing farm. These farms must have up-to-date production recording schemes for e.g. milk production, calving or farrowing dates and the growth rates of the animals. Farms must have a minimum of 30 dairy cows or 30 sows.

Chapter 7. ASSESSMENT OF CONTINUING EDUCATION (AP 9)

The obligation to maintain professional skills and for continuing education is written in the law. The Faculty maintains that continuing education is vitally important to the goal of life-long learning for veterinarians. The Faculty organises continuing education by offering optional undergraduate courses that graduated veterinarians can take part in and also offers the expertise of its staff to other institutions. Other institutions that offer continuing education are the Palmenia Centre for Continuing Education, Evira, Ministry of Agriculture and Forestry, and the Finnish Veterinary Association through its educational unit Fennovet Ltd.

These institutions are represented on the Continuing Education Advisory Board co-ordinated by the Faculty. The Continuing Education Advisory Board interacts with institutions that organise continuing education. Together they set the goals of continuing education, develop the registration of continuing education study credits and try to disseminate information on continuing education. In addition, the role of the pharmaceutical and other industries in continuing education in some fields is marked.

In the Department of Production Animal Medicine, a veterinarian can improve his or her professional skills and expertise with the Continuing Education Diploma of Production Animal Veterinarian. The continuing education diploma comprises 30 ECTS (<http://www.vetmed.helsinki.fi/saari/diplomi/>).

The Department of Food and Environmental Hygiene offers a 40-ECTS Diploma in Environmental Health Management (http://www.vetmed.helsinki.fi/elintarv/opiskelu_diplomi.html). Together with the relevant traineeships, passing the veterinary inspector examination entitles veterinarians to practice as veterinary inspectors in line with decision 5/93 of the Department of Food and Health of the Ministry of Agriculture. The Food Safety Hygienist examination and the training attached to it constitute professional postgraduate education, which is part of specialist training in environmental health and food safety hygiene. A new training programme begins every second year.

Shared courses for undergraduate students (elective courses) and graduated veterinarians (arranged in 2008):

- The ABC of Animal Experiments 6 ECTS. This course for scientists using laboratory animals follows the guidelines established for C-category competence courses in laboratory animal science by the European Union, the Council of Europe, and the Federation of European Laboratory Animal Science Associations (FELASA) curriculum. The feedback from this course has been collected electronically. The participants have noted that it was useful and well implemented, but contained too much content within the given time.
- Beef cattle “from farm to table” 2 ECTS
- Game and reindeer “from wild to table” 2 ECTS

These two courses were assessed electronically immediately after their completion. The great majority of participants evaluated both courses as good or very good. The subjects were found to be interesting, and the lecturers mainly good or very good. The main subjects to be developed were: “Beef cattle from farm to table”: compact course, should include more brakes; “Game and reindeer from wild to table”: some overlap between the lectures, underrepresentation of some topics, some lecturers were not so good.

- Equine anesthesia 3 ECTS
- Evidence Based Medicine 3 ECTS

These courses are web-based and offer the possibility for continuous participant feedback.

- Equine neurology 1 ECTS
- Basic course in veterinary acupuncture 2 ECTS.

Feedback has been collected at the end of the course, and participants have found the course inspiring and highly useful.

- Food hygiene in the fish production chain 3 ECTS
- Course for stud farm veterinarians 3 ECTS
- Reproduction and health care of pigs 3 ECTS
- Mare course 3 ECTS
- Udder health 3 ECTS

Assessment by the participants has been collected from these courses either in paper form or in a discussion at the end of the course.

These courses are free of charge for undergraduate students and for students in specialist training at the Faculty but graduated veterinarians coming from outside the Faculty must pay a course fee. The number of participants in most courses is limited.

Continuing education will play a greater role at Finnish Universities in the future. The new law will require universities to play a more active role in offering continuing education.

Chapter 8. ASSESSMENT OF RESEARCH (AP 10)

The Faculty actively promotes research-based teaching and learning. The Bachelor's studies include a short thesis, which is a review based on scientific articles. The topics are related to subjects they study during the Bachelor's studies and are given annually by teachers and all scientists of the Department of Basic Veterinary Sciences. A lecture on scientific writing and another on literature searching precede the project. If needed, the students acquire hands-on supervision of their literature searches from the Viikki Science Library. A professor at the Department of Basic Veterinary Sciences is in charge of the thesis (responsible teacher). In addition to teachers, researchers at the Department of Basic Veterinary Sciences actively supervise students' Bachelor's thesis. The supervisors receive training and they use a form designed by the Academic Planning Committee to evaluate the theses. Written rules on the supervision process are published on the University's intranet. Based on student feedback, the Bachelor thesis and its supervision works well.

Instead of a separate course on statistics, students receive training in these matters especially in association with quantitative epidemiology. This coupling proved functional for students' learning. An evidence-based approach is introduced throughout the studies.

The vice dean responsible for undergraduate education is the teacher responsible for the Licentiate's thesis. Written instructions are available for the thesis (on the intranet), and an evaluation matrix is used for its assessment. Students may perform the Licentiate's thesis in the form of a literature review or the work may consist of a small research project and a written report. The evaluation matrix has recently been rewritten, and as of the beginning of 2010, both types of theses have their own grading scales as was noted in Section 2.1.

Students are encouraged to complete their Licentiate's theses in the research groups of the Faculty, which offers them an opportunity to receive authentic training in research. Many students are involved in research projects, sometimes leading to a contribution to internationally published papers. An innovative aspect of the teaching programme is the Summer School run by the Department of Environmental and Food Hygiene. This annual summer school admits a number of students by application. Students participate in various research projects of that department and work intensively in collaboration, under systematic supervision, each aiming to complete a high-quality Licentiate's thesis during the summer. A report on the Summer School has recently been published in an international journal (Korkeala & Lindström, 2009).

Scientific publications accepted for publication in international scientific journals go through a common review process. This internationally accepted quality assurance process provides us with a third-party perspective on the quality of our science. The faculty annually collects data on scientific publications published by each department. Bibliometric methods common to the University are followed in the classification of these publications. One quantitative measure of research activity is the number of doctoral theses completed each year (agreement with the university administration).

Teaching should be based on recent research, a principle is confirmed by the fact that the majority of academic teaching personnel is, in addition to teaching actively involved in their own research projects. The Faculty has close contacts with veterinary professional associations, and researchers commonly serve as teachers/lecturers in different annual events targeted for practising veterinarians.

Research programmes have been discussed in Chapter 2.2.

University of Helsinki has as one of its policy targets the quality assurance of all of its activities dealing with either teaching or research. The international evaluation of research quality and activity at the whole university is set to take place every six years. The previous research evaluation took place in 2005, and the next one is scheduled for 2011. A written report on the evaluation in 2005 is available. The research activity of all departments at the Faculty was evaluated at a

high level: Department of Food and Environmental hygiene, 7/7 credits; Department of Clinical Sciences, 6/7 credits; Department of Basic Veterinary Science, 5/7 credits).

In addition to evaluations of the University of Helsinki, other science actors may perform their evaluations as well. One important evaluation is performed by the Academy of Finland, the major science funding organisation in Finland. The quality and activity of Finnish Food sciences, including food safety and food hygiene research at the Faculty (DEFEH and DBVM), was evaluated by an international evaluation committee in 2006. (Assessment: 6/6 credits. Food Sciences and Related Research in Finland 2000-2004. Publications of the Academy of Finland 2/06).

The Faculty has one of the Centres of Excellence in Research nominated and funded by the Academy of Finland for 2008-2013 (CoE in Microbial Food Safety Research). The activity of the Centre was evaluated in the highly competitive application process (only 23 of the applicants received funding).

List of publications

The total number of international peer-reviewed publications has been steadily growing during the recent years. The rise has been most evident at the Department of Basic Veterinary Science. The list of publications of years 2006 – 2008 is included as [Appendix 9](#).

Chapter 9. ASSESSMENT OF INTERNALISATION OF EDUCATION AND RESEARCH (AP 11)

The University of Helsinki Strategic Plan 2007-2009 cites internationalisation as one of the five key areas for development. The Faculty also sees internationalisation as a very important element in veterinary training. Until now, the Faculty has not been able to meet the objectives set by the University in the number of outgoing exchange students. One reason for this has been the structure of the curriculum. However, the Faculty has developed the curriculum according to the Bologna Process and has kept in mind also the challenges of internationalisation. At present all obligatory courses are arranged annually which makes it easier for students to go to study abroad; previously several courses were arranged only every second year. However, there is practically no harmonization between curricula in different countries and an exchange period longer than a couple of months inevitably cause some delay in the student's studies.

There are no foreign undergraduate degree students studying at the Faculty. This is due to the fact that the vast majority of the undergraduate courses are in Finnish, and only a few are in English; parts of the clinical training as well as most of the study books are in English, however.

The target number of foreign degree students set by the university is 13 for the years 2007-2009. This number cannot be reached until most courses are taught in English or there is a joint Master's programme with another faculty. Thus far, the Faculty is not a partner in any international joint degree or in the Erasmus Mundus programme.

The Strategic Plan also states that the University prepares an action plan related to its language policy and will include this in the policy programmes. For the first time, the University is assembling its views on the relationship between Finland's national languages (Finnish and Swedish), English, and other foreign languages, as well as their status within the University. The University's Language Policy (http://www.helsinki.fi/inbrief/strategy/HYn_kieliperiaatteet.pdf) specifies the development challenges stated in the Strategic Plan and in policy programmes.

As one way to increase "internationalisation at home", the University of Helsinki has also stated in its strategy that it will expand international recruitment. Consequently, the Department of Equine and Small Animal Medicine has advertised all professorships internationally for years. Furthermore, clinical teacher positions in those areas in which the Faculty lacks expertise nationally (or few to no competent applicants are expected from Finland) have been advertised internationally as well. In these cases, there has also been an emphasis on the European and/or American specialisation so that those recruited are able to serve as supervisors for residents and thus build up the expertise of the Finnish veterinarians. Naturally, all the lectures and clinical teaching given by these foreign teachers takes place in English, which further contributes to the internationalisation of the basic degree students as well.

Based on the Evaluation of Education 2007-2008, the students of the Faculty consider the need for internationalisation to be met to some extent through use of English textbooks, having some English-speaking teachers and having contact with foreign students. Additionally, most students are highly committed to their course, and are thus reluctant to leave their classmates. They also find that most parts of their programme, especially the clinical parts, are of a higher level than are foreign programmes they know about. These attitudes deserve special attention when trying to increase the number of outgoing students.

With regard to the size and resources of the Faculty, the exchange of teachers has been active. Teachers play a key role in encouraging students to study abroad. Teachers who have had personal experiences at foreign universities are likely to be more willing and better able to recommend an international period of study for students as well. Stays abroad and exchanges can provide teachers with valuable experiences in the form of exchanging good teaching practices, methods and improving language competencies. The incoming visiting lecturers have been actively engaged as lecturers in the students' elective courses.

Incoming exchange students

The annual number of incoming exchange students has been approximately 20 (Table 13). Since the new Erasmus placement was included as an opportunity in the Erasmus Programme in 2007, students from abroad have also been seeking placement at the Veterinary Teaching Hospital. The number of incoming students currently meets the goals set by the University of Helsinki.

Most incoming exchange students spend a practical clinical period (three to six months) at the Veterinary Teaching Hospital. The students are integrated into the groups of Finnish students, and in these situations, the clinical rotations are supervised in English. The students acquire plenty of clinical hands-on experiences under supervision, which the students very much appreciate, especially those who are usually allowed to watch demonstrations only at their home university. There are also other options for exchange students; studies in pathology, and being integrated into research projects of the Faculty, but in practice these have been limited to single individuals.

A student tutoring system for incoming students has been developed at the Faculty in order to help them integrate with Finnish students and familiarise themselves with the daily activities of the University Teaching Hospital. Tutors write a report on their tutoring experiences, and these evaluations are used to improve conditions for both tutors and incoming exchange students.

The University arranges an orientation week, a pick-up service and language courses for incoming exchange students and assists them in finding housing. The University also publishes an orientation handbook for international students. There are also several other services described at <http://www.helsinki.fi/exchange/>.

Thus far, no official feedback has been collected from incoming exchange students. This shortcoming has been noticed in the Faculty, and a feedback system for exchange students will be implemented there in the near future. The exchange students are asked orally about their experiences and are encouraged to provide feedback during their exchange period. However, as some students may feel uncomfortable giving particularly negative feedback face to face, this may not bring out all opinions and feelings about their experiences. In those cases where negative feedback is received, actions are taken to correct the problem that has been identified.

International exchange students are members of HYY – the Student Union of the University of Helsinki. HYY provides its members with a variety of services and looks after their interests. The Erasmus Student Network is a sub-committee of HYY that organises various social activities for exchange students. The association of veterinary students (EKY) promotes the interests of its members and arranges diverse extracurricular activities for the incoming exchange students.

Outgoing exchange students

Mobility periods are promoted through events, internet, email and personal consultation. The University also publishes guidebooks and organises information and orientation events for students planning to study abroad. The University also has a library with material from foreign universities and about studying abroad in general. Students who have been on an exchange programme have written reports which are available on the intranet for other students to read.

The low number of outgoing exchange students (from two to nine per year) has been recognised as a challenge in the Faculty, and actions to improve the situation will be taken in the forthcoming academic year(s). The target number of outgoing students set by the university is 16. More action will be taken to improve the situation through use of different ways to inform students of various opportunities to study or work in another country. The head of academic affairs and the senior lecturer in university pedagogy have helped students to build up such personal study plans where most studies completed abroad can be maximally accepted into the student's degree at his or her home university. At the departmental level (e.g. in Department of Equine and Small Animal Medicine), all studies completed during exchanges are accepted as part of the standard

curriculum or as elective studies. These are agreed upon already before the exchange takes place.

There is co-operation with the association of veterinary students, and, for example, in autumn 2009, a common evening will be held for all students in order to inform them of various opportunities for studying abroad.

Table 13. Number of incoming and outgoing exchange students

	Incoming	Outgoing
2008	19	4
2007	22	4

The Faculty has integrated international affairs into the normal plan of work and into daily activities. Since May 2009, the Faculty has had a full-time planning officer for international affairs; for the past couple of years, the position had been run only part-time. The tasks of the planning officer include:

- bilateral agreements with partner universities
- promotion of international mobility
- co-ordination of Erasmus and Nordplus mobility programmes
- managing of the Faculty's international relations
- co-ordinating the legalisation of foreign veterinary degrees
- daily routines of the NOVA co-operative network
- co-operation with student organisations and other interest groups in international affairs
- organising international meetings and seminars

International partner institutions

International mobility is an important aspect of international education. The Faculty is participating in the European Union's Life-long Learning Programme through the Erasmus programme (an exchange and placement programme). The Faculty has Erasmus partners in 12 countries (a total of 14 institutions). Additionally, two agreements are in process with Liverpool (Great Britain) and Sydney (Australia). It would be very important to increase the number of English-speaking partner institutions and several agreements that have been lapsed previously will likely be renewed. The Faculty also has plans to contact new universities for Erasmus agreements.

The Faculty's Nordplus partners (seven countries, a total of ten institutions) are largely the same as in Erasmus.

International postgraduate students

There were 13 international postgraduate students studying at the Faculty in 2007. This is more than the University had set as a target number (ten). There are also approximately 20 students acquiring the qualifications required to work as a licensed veterinarian in Finland. These students have a foreign degree and are completing the qualifications in order to obtain a license to work as a veterinarian. Many staff veterinarians are also undertaking studies and training in foreign universities under European specialist training.

NOVA network

The Faculty is a member of the Nordic co-operative network for forestry, veterinary and agricultural universities and faculties (NOVA) comprising altogether nine member universities. Co-operation with the Baltic BOVA network is strong as well. NOVA is governed by a board consisting of rectors and deans from member institutions and one student representative. NOVA-KUF is another network in which members are responsible for the prioritising of NOVA-sponsored projects, supervise the progress and evaluate the results. The local co-ordinator is responsible for contacts

between member institutions and the NOVA secretariat. The Faculty has representatives both on the NOVA board and in NOVA-KUF. The Faculty is a member of some field-specific NOVA networks active in arranging courses for participants from the Nordic and Baltic countries.

The Faculty has a local NOVA team that regularly handles NOVA issues. Additionally, a NOVA Blog for distributing information has been established on the Faculty's home page. The NOVA network and courses arranged by it play an important role in supporting the teaching resources of the Faculty.

There is an agreement between veterinary faculties in the Nordic countries regarding what are known as so-called NOVA "windows" for undergraduate students in August and in January (two weeks each) that are free from obligatory training in the parent country so that it is possible to arrange voluntary courses on an international basis. Thus far, this resource has seen limited use. Grants for travel and accommodation expenses for are available to participating students. Nordic co-operation could also be enhanced by simplifying the acceptance of studies between countries.

Internationalisation of teachers and researchers

The internationalisation of staff members is to a great extent related to their research, where international networks, contacts and visits of varying length are a necessity. In addition to Nordic co-operation, many doctoral students have supervisors from other countries. The FiDiPro professorship at the Department of Basic Veterinary Sciences has intensified its international activities. Researchers and professors of the Faculty give presentations outside Finland, and the Faculty also welcomes many top-level researchers as guests annually. Recently, the departments have also hosted several international conferences and courses (e.g. on food control research, the molecular epidemiology of the *Clostridium botulinum* food poisoning bacterium, veterinary anesthesiology, and mastitis research). Nordic research courses and conferences have been organised co-operatively in microbiology, infection pathology and parasitology.

Several staff members are also active members in various international societies and associations, and contribute to international postgraduate training (see also Section 2.3). For example, the Department of Basic Veterinary Medicine has twice organised and hosted a large two-week training course for the European College of Veterinary Pathology. Both times, the "ECVP/ESVP Summer School" drew nearly 100 students from over 20 different countries (Kipar et al., 2007a,b).

Additionally, some professors and other teachers of the Faculty have been involved in the international evaluation of other faculties by EAEVE.

Chapter 10. ASSESSMENT OF COOPERATION WITH STAKEHOLDERS AND SOCIETY (AP 12)

The Faculty publishes an Annual Review ([Appendix 10](#)) in which one can find accurate information about the achievements of the past year, the statistics of students and studies, and highlights of the year. There are also assessments of how expectations were met during the year reviewed. The Annual Review is published in paper and on the webpage of the Faculty. The University's webpage contains statistics about the budget, resources and students faculty by faculty. The University's Career Services regularly publishes the employment destinations of former master (licentiate) and doctoral students from every Faculty.

The webpage of the Faculty regularly shares short news about different aspects of studying at the Faculty (for example the beginning of the academic year, courses, graduation etc.). Comprehensive statistics on the Faculty's student admission are also published there.

The Faculty takes part in several expositions on an annual basis. At the UniExpo, different fields of studies are presented to Finnish high school students. At the StudiaExpo, the Faculty is presented to anyone studying in a high school or vocational school. The Faculty also has its own stand at the Agricultural Fair (Farmer Exposition) open to all the public, in order to present its recent research and to attract new students. The students of the Faculty also visit upper secondary schools (high schools) where they present their studies in order to attract new students.

The Veterinary Teaching Hospital plays a major part in the Faculty's co-operation with stakeholders and society. Its societal interaction is versatile. In addition to its clientele covering the whole of Finland, it plays a significant role as a national expert organisation of veterinary medicine and as a partner of several national and international actors.

In autumn 2009, the Veterinary Teaching Hospital will open its doors to all the public via a national television show consisting of 40 episodes. The show represents the real life of the Veterinary Teaching Hospital, as well as the daily lives of the students.

The Faculty has had its own communications officer since autumn 2008, which has greatly improved the production and targeting of information and co-operation with several actors. The Faculty has also drawn up a communications plan. The impact of this is evident in the greater number of visitors to the Faculty's webpages as well as in the general visibility of the Faculty both in media and in society as a whole.

The focus on the communication is to promote research. As part of the University of Helsinki, all education is based on research. In promoting the highlights of research (e.g., doctoral theses), the Faculty also promotes its high-level education. Additionally, the Faculty has partially financed a follow-up study on the performance of ABS Graduates later in working life.

The Finnish Veterinary Journal (Suomen Eläinlääkärilehti), published by the Finnish Veterinary Association, regularly shares short news items about the Faculty, such as about the festive diploma conferment ceremony. The new, two-tier degree system was also presented in the Journal in 2008. Students entering the Faculty commonly join the Finnish Veterinary Association in the beginning of their studies. Keeping in close interaction with the Association, the Faculty also maintains connection with its former students (alumni).

The alumni association and communication with former students is, at the moment, about to begin. The University of Helsinki does not have a strong tradition of alumni activity. The Faculties on the Viikki Campus have begun an alumni project as an alliance, a planning officer has been involved in the project since autumn 2008. Currently, there are plans to use of alumni in supporting first-year undergraduate students (Haarala-Muhonen et al., 2009). It is possible for former students to join the alumni network via the University's webpages. The Faculty meets its alumni in the Annual Veterinary Meeting, a two-to-three day exposition to which all the veterinarians in Finland

are welcomed. The alumni also receive a newsletter from the University and the Faculty four times a year.

The Faculty assesses the quality of co-operation with stakeholders and society using with several indicators in different areas as follows:

- Co-operation with research institutes. Indicator: the number of co-operation partners and activities
- Activating the amount of research and study co-operation with the business community. Indicators: the number of licentiate degrees, co-operation projects, the quantity and value of chargeable services and the satisfaction of the needs of the working life
- Continuing education. Indicator: the number of occasions of continuing education
- The functioning of the Veterinary Teaching Hospital. Indicators: visibility, public image and feedback, the number of patients, adherence to the budget
- Participating in expert activities. Indicator: statements shared with ministries, parliament, public administration and the business community
- Meeting the expectations of working life. Indicator: research on employment destinations.

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APPENDIX 1

Faculty of Veterinary Medicine in Brief

Faculty of Veterinary Medicine is a part of the University of Helsinki. The University of Helsinki is the largest University in Finland, with 38 000 students and 11 faculties in four campuses.

Faculty of Veterinary Medicine is located at the Viikki campus, a few kilometres from the center of Helsinki, the capital of Finland. The Viikki Campus is an internationally recognised centre for life sciences. The growing campus is a multidisciplinary science community of over 6 500 students and almost 1 800 staff members. The Faculty of Veterinary Medicine moved into Viikki in 2004 and 2006.

Objective of the faculty is to sustain and develop education and research of internationally high standard in veterinary medicine with consideration to changes within the discipline and the society.

Faculty of Veterinary Medicine is the only institute in Finland which offers degrees in veterinary medicine. The faculty is quite small, with about 500 students (Bachelor, DVM, PhD and specialist degree students) and about 300 staff members.

The basic degree in veterinary medicine is the Licentiate in Veterinary Medicine. The basic degree is 360 ECTS and takes approximately 6 years to complete. Approximately 50 Licentiates in Veterinary Medicine graduate yearly.

There is a lack of veterinarians in Finland and that's why there has been an increase in the amount of new students per year. Since last year (2008) the amount of new students have been 70. Veterinary studies are quite popular with over 600 applicants each year.

The faculty consists of four departments (until the end of 2009)

- Department of Basic Veterinary Sciences
- Department of Equine and Small Animal Medicine
- Department of Food and Environmental Hygiene
- Department of Production Animal Medicine

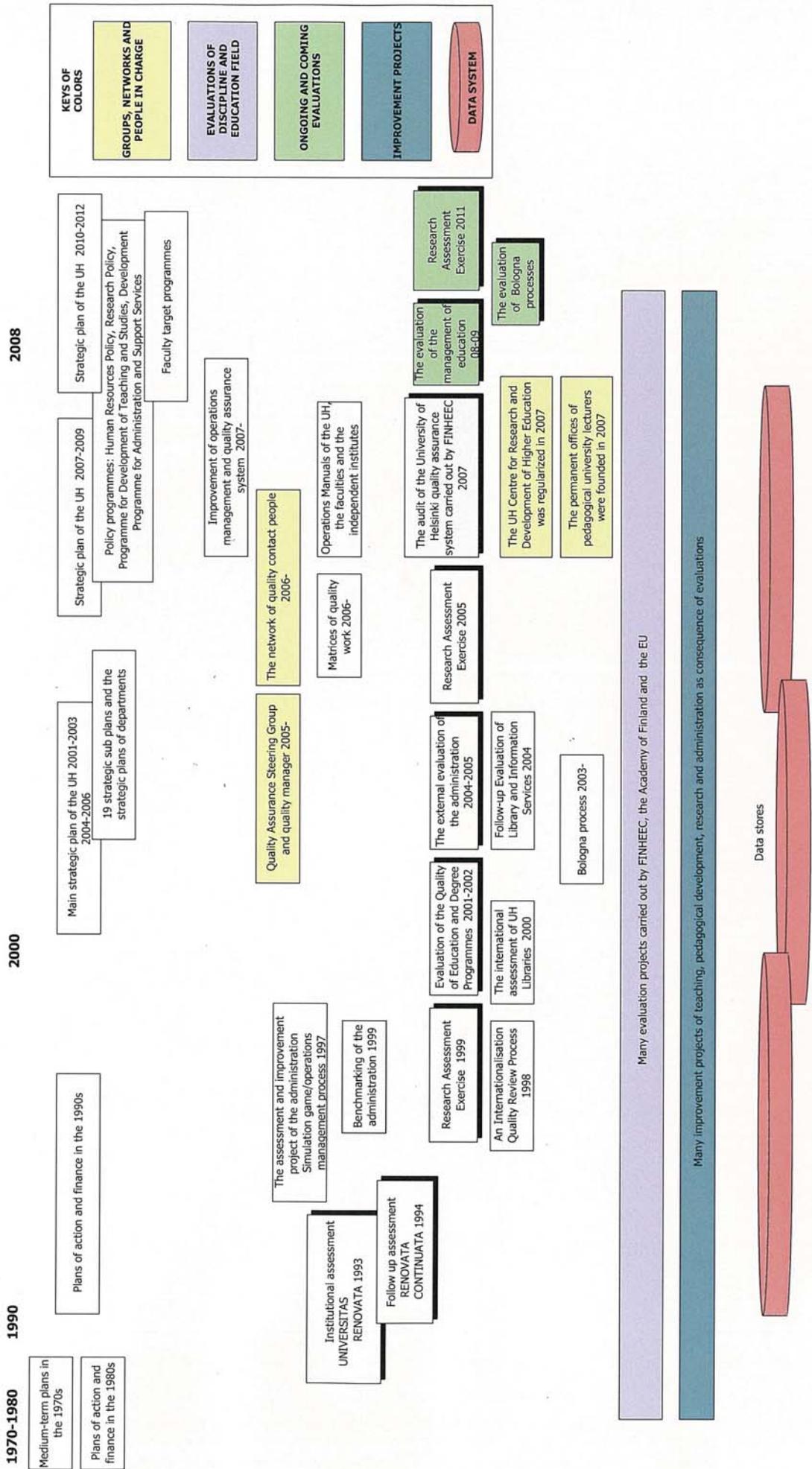
- and Veterinary Teaching Hospital.

The Veterinary Teaching Hospital consists of the Small Animal and Equine Hospitals located in Viikki, and the Production Animal Hospital in Mäntsälä.

www.vetmed.helsinki.fi/english/index.htm

ABSTRACT
<p>Published by The Finnish Higher Education Evaluation Council FINHEEC</p>
<p>Name of publication Audit of the University of Helsinki quality assurance system</p>
<p>Authors Eero Vuorio, Tapio Huttula, Jussi Kukkonen., Kyösti Kurtakko, Kaj Malm, Anne Mikkola, Maire Mäki, Eila Rekilä, Anu Yanar, Helka Kekäläinen, Sirpa Moitus & Kirsi Mustonen</p>
<p>Abstract</p> <p>The purpose of the audit of the University of Helsinki quality assurance system, carried out by FINHEEC, was</p> <ul style="list-style-type: none"> – to evaluate how the HEI’s quality assurance system works as a tool for quality management and enhancement; – to evaluate the quality assurance system against the ten predetermined audit targets and recommend either that the HEI pass the audit or that a re-audit is called for; – to support the HEI’s development by means of feedback on the strengths and development needs in its quality assurance system; and – by describing and evaluating the quality assurance system, validate its effectiveness and reliability for the HEI’s partners. <p>The audit was based on material provided by the University in advance and visits to the four campuses between 26 and 30 November 2007.</p> <p>The audit team notes that the quality assurance system largely covers the university operations and the procedures used in it constitute a systems structure that works fairly well at the level of the university, but its effectiveness still varies between operations and fields of education. The quality assurance system is linked to management and the direction of operations at the institutional and faculty levels. The strategy process is implemented and carried over to the faculties in a systematic and planned manner, and it commendably uses information produced by evaluations. The production of manuals and process descriptions have been an effectual way to make quality work visible at the faculty level. The university leadership are committed to the development of the quality assurance system at all levels. The University has a clear overall picture of the development needs in the system and plans for its continual development.</p> <p>The audit team makes the following development recommendations to the University of Helsinki:</p> <ul style="list-style-type: none"> ■ Indicators relating to monitoring procedures and strategic main tasks need to be further developed as a tool for the direction of operations. In this connection it would be worthwhile to document the procedures and measures which the leadership use to identify defective quality and their response to it. ■ At the department level, quality assurance needs to be stepped up and made visible by means of documentation. At the same time it would be worthwhile to make certain that strategic aims are passed on from the faculty level to the level of departments. ■ The procedures for assessing learning need to be further developed in order to make sure that students achieve the aims set for the high-quality degrees. The assessment methods need to be diversified to enable students to get feedback on their learning outcomes. ■ The University should systemise the handling and use of student feedback and to make sure that the consequent development measures are documented. ■ Quality assurance in postgraduate education should be further developed with the help of good practices developed in the University’s own graduate schools. ■ To ensure that the University can achieve the strategic aims it has set for internationalisation, quality assurance relating to international matters and international studies need to be developed. ■ The University has varied cooperation with stakeholders but their role in quality assurance needs clarification. ■ The University needs to develop procedures for managing and monitoring the entity of quality assurance in order to maintain the system as a holistic entity. <p>At its meeting on 29 February 2008 FINHEEC decided that the University of Helsinki fulfils the criteria set for the quality assurance system as a whole and for quality assurance in its primary missions. The audit is valid for six years.</p>
<p>Keywords Evaluation, auditing, quality assurance, quality, higher education institutions, university</p>

History of the quality assurance system at the University of Helsinki





TEACHING EVALUATION MATRIX

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I INTRODUCTION

This introduction to the Teaching Evaluation Matrix defines the salient values and changing strategic themes related to the quality of teaching at the University of Helsinki. The definitions are based on the University's Strategic Plan and the Programme for the Development of Teaching and Studies 2007-2009. In the evaluation matrix, the above-mentioned values and themes are considered in light of the various aspects of teaching quality. The second part of the Teaching Evaluation Matrix contains a four-level framework which sums up the whole spectrum of quality from poor to excellent. As the category of excellence is based on the same elements as those in the 'good' column, these elements have not been repeated in the 'excellence' column.

1. ENDURING VALUES

Research-based teaching

According to the teaching philosophy of the University, teaching and studies are always based on research. The objective of studies is a student-oriented, thorough education that provides a solid basis for lifelong learning. Teaching is based on appropriate methods that draw on the research and development of higher education. At the University, students will acquire skills to seek out, critically assess, analyse and exploit scholarly knowledge, and to produce and communicate new knowledge in their field. Both competence and the application of theoretical knowledge are surveyed when evaluating learning. At a research-intensive university, the starting points for teaching include broad-based research and excellent teachers who are qualified researchers and teachers in their fields. The high esteem enjoyed by teaching is evident from the significance given to teaching qualifications in the filling of posts. Research-based teaching also entails that students are familiarised with and participate in departmental research work as part of their studies.

(Programme for the Development of Teaching and Studies 2007–2009)

Focus on learning

At the core of the University's teaching philosophy are the promotion of thorough learning based on understanding, high-quality expertise and the ability to apply knowledge in problem solving. The purpose of teaching and supervision is to support learning and professional growth and to encourage lifelong learning and self-development. The principle of student-centredness means that the student is an active and responsible participant in the academic community. The success of teaching is measured by the quality of student learning and learning results. This principle challenges the University to regard students as individuals and as diverse learners. Closely connected to student-centredness is the collective creation of knowledge, which enhances teaching methods that rely on seeking, producing and evaluating information in collaboration. Learning in peer groups steers students to share their expertise and supports their professional development before and during their careers.

(Programme for the Development of Teaching and Studies 2007–2009)

Research-based teaching means that research is featured in instruction in various ways and that students are encouraged to get acquainted with and participate in research. When planning teaching, consideration is given to the fact that today's students may be tomorrow's top researchers. Furthermore, studies are designed to allow professors to teach first-year courses and students to form contacts with the department's research right from the beginning of their studies. The curricula will include state-of-the-art research information and teachers are urged to integrate instruction with their own research and the ongoing projects at the department. Research-based teaching encourages students to engage in a learning process where they will search for and independently build up a model of the subject of learning. Students are understood to be members of the scientific community. Teachers and researchers cooperate in the arrangement of instruction. Teachers are provided with opportunities to engage in research work. Teaching and the development of teaching draw from research information on university-level teaching and learning.

Student-centredness means that the student him- or herself is responsible for the learning process. The department, for its part, is responsible for ensuring opportunities for the learning process. The department has adopted versatile teaching methods and teachers are offered training in their application. Student evaluations are collected on a large scale and students receive feedback on their learning results. Students devise personal study plans, whose implementation is monitored in combination with supervision. The department also offers students alternative and flexible learning opportunities. The success of the department's teaching is measured by the quality of the students' learning results. Different learning styles are taken into account.

The principle of learning-centredness is manifested in the primary objectives of teaching, which are in-depth learning, based on understanding and high-quality expertise. The department's teaching methods, learning styles, evaluation criteria and feedback systems are in line with the above-mentioned principle. Students participate in the planning of the objectives and contents of teaching. Learning-centredness also takes into account the substance of instruction, and equal attention is paid to the quality of instruction and teaching methods.

Goal-oriented long-term development of teaching

The strategic goals and objectives set by the academic community concern all its members. These goals and objectives can be reached in various ways and can be assessed critically. The freedom of teaching enjoyed by the academic community extends to both the content and methods of teaching. The purpose of managing teaching is to support the achievement of objectives set for the quality of teaching and learning, and for the development of teaching methods.
(Programme for the Development of Teaching and Studies 2007–2009)

In the development of teaching, the best results can be achieved through goal-oriented long-term development work. The common strategic goals and objectives of the academic community are concretely announced in unit-specific target programmes which are implemented with determination. The departments evaluate and revise their target programmes regularly; moreover they make use of various kinds of evaluation methods when choosing areas of emphasis and means of implementation. For the purposes of improving the quality of teaching, the departments conduct self-evaluations and obtain feedback from external assessors. These assessments will have clear implications for the development of teaching. The development needs revealed by the assessments will be recognised and appropriate action will be taken.

The development of teaching is a common concern for the entire department; the development work should not depend on certain individuals or special projects. Development projects will be planned as part of the regular operations of the unit, in accordance with the principle of continuous improvement. All teachers and students may participate in or obtain information on teaching experiments. The departments follow innovations and developments in other departments and universities in Finland and abroad. The departments are active members of national and international networks related to the development of teaching in their fields.

Esteem and support for the teaching profession

Ensuring that the teaching staff are competent and can cope with their work is a challenge for the heads of the faculties and departments and the entire teaching community. The University will encourage units to cooperate and create a sense of unity. The high esteem in which teaching is held is evident, for example, in the emphasis given to teaching qualifications in application processes for vacant positions. The University will continue to improve teachers' teaching skills. Departments will be responsible for providing the teachers with training in university-level teaching and learning during working hours.
(Programme for the Development of Teaching and Studies 2007–2009)

Departments can provide concrete examples of how the teaching profession is appreciated and how it is promoted. The departments have considered opportunities for the professional development of their teaching staff and have established functional practices for their professional advancement. Teachers have information about pedagogical training and are offered opportunities to obtain this training. Sufficient teaching qualifications are required in the filling of teaching positions. The departments have discussed the need to consider teaching qualifications and are committed to take continuous heed of the matter. The high esteem for the teaching profession becomes evident in the definite emphasis given to teaching qualifications in the filling of teaching positions.

2. CHANGING STRATEGIC THEMES

The quality of learning and student guidance as well as an international learning environment have been designated as key development areas at the University of Helsinki during the strategic period 2007–2009. Special attention will be paid to defining and teaching learning objectives. Efforts will be made to increase international activities and establish them as part of everyday teaching.

Quality of learning and student guidance

At the University, learning of high quality means thorough understanding of new knowledge as students reach the learning objectives defined in the curriculum. With the support of teaching and supervision based on high standards, students will grow into independent and cooperative experts in their field, who competently communicate in their native language, one or both of the national languages and the foreign languages prevalent in the field.
(Programme for the Development of Teaching and Studies 2007–2009)

An international learning environment

An international learning environment can be created by promoting multilingualism and multiculturalism so that opportunities will be offered for student mobility, the recruitment of degree students from a wide variety of countries, the completion of studies in Finnish and Swedish as a foreign language, and the completion of courses given in languages other than Finnish or Swedish, and for teachers and other staff to receive support in the challenges of internationalisation. Learning and teaching in an international environment will broaden our understanding of how things are learnt and understood, and how things are communicated in different languages and situations. An international learning environment will enhance thorough learning and hone awareness of the significance of languages and cultures, and will prepare students to act in increasingly international work environments.
(Programme for the Development of Teaching and Studies 2007–2009)

II ASPECTS OF THE QUALITY OF TEACHING

ASPECTS OF TEACHING QUALITY	Passable quality and results	Improving quality and results	Good quality and results	Excellent quality and results
1. OBJECTIVES AND PLANNING				
Management of the quality of teaching				
Management and strategic planning of teaching	The department is not familiar with teaching strategies at the University or faculty level, nor does it have a perspective on it. It is unclear who is in charge of teaching guidelines, decision-making and the division of labour at the department.	University and faculty strategies are familiar and have been discussed, but the department's own views have not been noted down. No decisions on departmental guidelines or adaptations of strategic programmes have been made.	The department has devised its own teaching strategy which is in line with the University and faculty strategies. When devising the strategy, the department's own objectives and means for creating an international learning environment have been surveyed. The head of department and the steering committee play an active role in the implementation of the teaching strategies.	The leadership of the department is committed to carrying out University and faculty strategies and monitors their effects systematically. The division of tasks among the teaching staff and the channelling of resources comply with the strategic guidelines. Strategic guidelines are prepared and carried out in cooperation with the entire teaching staff and students.
Planning of education and curriculum design	Neither the department nor the teachers have a complete picture of the educational programme. Teachers do not know what their colleagues are teaching. The courses do not form a sensible whole and the effectiveness of the curriculum is not monitored. There are bottlenecks in the way of study progress, but they go undetected and thus are not removed. Teachers and students are unsure about how and when they could influence curriculum design.	There are individual teachers who try to ensure the compatibility of their own teaching with that of other courses. No practices have been developed to ensure an efficient and comprehensive planning of the teaching programme.	The department has a well-defined curriculum. Both teachers and students are aware of their unit's and discipline's share in the entire degree programme. Besides defining learning objectives, the curriculum specifies the prerequisites and workload for each course. The courses, each taking students to a deeper level of understanding, form a sensible entity. The department expects teachers to continually develop the contents of their teaching and to ensure that their teaching functions as a sensible whole. When designing the curriculum, consideration is given to alternative ways of completing the requirements and to the possibility of having studies completed elsewhere incorporated into the degree.	The department's well-defined curriculum is comprehensively applied and forms a functional part of the degree. The curriculum specifies learning objectives, the contents of teaching, and assessment and teaching methods towards the same effect. The whole department, including researchers and students, participates in the planning. Goals are set in accordance with international standards in the field, and teaching is developed further together with national and international partners. The achievement of objectives is monitored through the assessment of student performance and study progress.
Learning objectives and core elements	Learning objectives have been documented in the faculty course catalogues. They bear little relevance to the teaching of individual teachers, nor help individual students in their learning efforts. The students are not aware of what is the core expertise required of an expert in the field.	Learning objectives are discussed in the department only when the degree requirements or the entire syllabus are being fundamentally reformed. Then, learning objectives and the roles of different sub-fields are agreed upon together. Care is taken to update teaching materials. The analysis of the core curriculum is a familiar concept, but the department lacks knowledge of how it can be implemented in the setting of learning objectives.	The curriculum and learning objectives are regularly discussed and monitored at the department. Learning objectives are presented to the students in a lucid and concrete manner. Also, the demands of the labour market have been taken into account when agreeing on learning objectives. Teachers and students are aware of what the essential core elements in the degree requirements are. On the basis of an analysis of the core curriculum, teachers and students can make a distinction between the core	Course contents and learning objectives have been chosen to form a balanced whole, catering for both academic standards and professional demands. Also students participate in the definition and evaluation of learning objectives. The department uses international research results as reference material when deciding on degree requirements. The department regularly reviews the core curriculum on the basis of international developments and feedback from the labour market.

ASPECTS OF TEACHING QUALITY	Passable quality and results	Improving quality and results	Good quality and results	Excellent quality and results
<p>Quality assurance of education</p> <p>The department lacks information on the quality assurance of education and is not interested in it. Old routines are followed by habit and established practices are not questioned. Responsibilities are divided randomly or according to tradition, and no documented information exists on this.</p>	<p>The department is aware of the responsibilities involved in the quality assurance of education and practices have been discussed. The division of responsibilities is clear at least to departmental administrators, and all members of the staff know their own responsibilities. Practices have been documented to some degree, but clear guidelines and objectives are lacking.</p>	<p>Established practices and their present state, division of responsibilities and available resources have been discussed at the department. A well-prepared document on the division of responsibilities has been drafted and is available to staff and students alike. All members of the staff know their own responsibilities.</p>	<p>The department actively develops measures of quality assurance and acknowledges their importance to the improvement of operations. All practices related to the entire learning process have been made transparent, i.e. are documented in writing, have been evaluated and areas in need of development have been recognised. Self-evaluation is regarded as an essential element in gaining recognition for the activities of the department, and monitoring and developing them further. Students are actively involved in evaluation. The information obtained from evaluations is used towards improving operations.</p>	
<p>Management of the quality of resources</p>				
<p>Student recruitment</p> <p>Student admission follows traditional practices. The department sees no reason to invest in reforming the student admission system.</p>	<p>Reforming the student admission system is regarded as important, but finding new methods is seen as a difficult challenge. Some individual changes have been made, but there is uncertainty about their real effects. International students are admitted without checking their ability to cope with studies and ensuring the quality of the teaching and supervision offered to international students.</p>	<p>With its selection process the department wishes to ensure the motivation and skills of new students. Consistent development work has been done and the results are systematically monitored. There are different channels for different applicant groups. The admissions criteria for international students have been thoroughly investigated and correspond to the teaching on offer. The department has also invested in marketing and disseminating information about its field.</p>	<p>Student recruitment is part of the faculty's teaching strategy and target programme. The selection process is implemented as efficiently and expeditiously as possible. Good practices have also been found for the selection processes for Master's programmes. The implementation of objectives and student quotas in different fields are monitored regularly. Marketing and the dissemination of information both in Finland and abroad is appropriate and makes use of online services.</p>	<p>The department's human resources policy is implemented and monitored systematically. The whole staff, including researchers and students, are aware of the overall resources of the department, and together explore solutions for the lack of resources. New solutions have been found for the shortage of resources, and plans extend far into the future. International teacher exchanges support the human resources policy: visiting teachers contribute to teaching resources and teachers returning from abroad bring back valuable experiences that can be exploited in</p>
<p>Management of human resources</p> <p>The department has not fully succeeded in ensuring the teaching staff's academic competence or other necessary expertise. The division of labour and prioritising of tasks are not considered together with staff. The teachers are overburdened, but the department has taken no action within its power to remedy the situation. The teachers have no clear idea of the department's overall resources.</p>	<p>The distribution of labour and priorities are discussed on the basis of the faculty human resources policy. The professional competence and job satisfaction of the teaching staff are regarded as a common challenge for the department. The department is aware of the possible lack of teaching resources or expertise. Some individual solutions have been found in some disciplines or fields, but these have not been of a permanent nature.</p>	<p>To ensure the professional and scholarly competence of its teaching staff, and to enhance their well-being at work, the department has devised its own human resources policy. The policy also considers the opportunities and challenges brought about by international teaching cooperation and international staff at the department. An even distribution of labour (incl. international cooperation, coordination of international projects and related tasks) and priorities have been agreed upon. Many researchers teach and supervise students.</p>	<p>The department's human resources policy is implemented and monitored systematically. The whole staff, including researchers and students, are aware of the overall resources of the department, and together explore solutions for the lack of resources. New solutions have been found for the shortage of resources, and plans extend far into the future. International teacher exchanges support the human resources policy: visiting teachers contribute to teaching resources and teachers returning from abroad bring back valuable experiences that can be exploited in</p>	<p>Teaching evaluation matrix</p>

ASPECTS OF TEACHING QUALITY	Passable quality and results	Improving quality and results	Good quality and results	Excellent quality and results
Teaching qualifications in the filling of teaching posts	<p>The majority of the teaching staff are employed on a fixed-term basis.</p> <p>Teaching qualifications, such as pedagogical training and the use of ICT in teaching, are not taken into account when teaching posts are filled. Such merits are viewed with suspicion or belittlement.</p>	<p>Teachers have academic portfolios which are used when applying for a position. It is unclear, however, how teaching qualifications are assessed and what the department's view of them is.</p>	<p>Teachers are encouraged to participate in higher education development courses, cooperation and networks. Students participate in the planning of the department's future activities and the contributions of all personnel groups are highly appreciated.</p> <p>The department has drawn up a consistent set of principles according to which teaching qualifications are considered and assessed. Faculty guidelines for the filling of posts (incl. evaluation of teaching qualifications, international teaching experience) are fully implemented. Teachers are encouraged to compile academic portfolios and the department's atmosphere is favourable towards the upgrading of teaching qualifications.</p>	<p>departmental activities. The system of teaching periods facilitates the integration of teaching and research work. Teachers are motivated and can cope with the pressures of their work.</p> <p>The leadership of the department is committed to consistently promoting teaching qualifications and the high quality of teaching. This is a self-evident and predictable practice and continuously produces good results. The department and the faculty monitor the implementation of the relevant guidelines in the filling of posts.</p>
Teaching skills	<p>Teachers have no pedagogical training, and teaching skills are not taken into account in the planning and management of operations at the department. The head of department is not informed of the teachers' qualifications, and does not conduct review meetings with the staff.</p>	<p>Some teachers have taken the initiative to acquire pedagogical training and training in the use of ICT in teaching, even though this is not encouraged at the department. Review meetings are a familiar concept but have not yet been introduced or have been replaced with assessment discussions related to the new salary system.</p>	<p>The department encourages the development of teaching skills. Most teachers have acquired pedagogical training and/or training and in the use of ICT in teaching. Student feedback praises the high standard of teaching. As the head of department conducts review meetings with the teachers, communications have improved and the discussions contribute to the planning of teaching.</p>	<p>The goal is that all teachers, including non-permanent staff, receive pedagogical training and training in the use of ICT in teaching. The results of higher education research are taken into account in many ways in departmental planning and management. New teachers are familiarised with the teaching tasks in accordance with the department's teaching philosophy. Teachers who teach international student groups are offered the opportunity to participate in special training in intercultural teaching. The department has issued recommendations for the language requirements of teachers teaching international student groups.</p>
Management of the teaching and learning environment	<p>The use of department premises and facilities is unplanned and unorganised and acquisitions of necessary equipment have been neglected. The department assumes no responsibility for the situation and takes no steps to remedy it. Students do not feel welcome at the department and, in fact, are rarely seen on the premises.</p>	<p>Problems concerning the premises have been noted and there are plans to resolve them. Students do not have their own space or facilities to use computers on the premises. However, students feel welcome at the department.</p>	<p>The department premises are well established and equipped, also from the point of view of ICT and applied sciences. Teachers, researchers and students have had the opportunity to participate in the planning of the premises. The students have their own premises at the department, which has improved cooperation and interaction between teachers and students. The demands of an international learning environment have been taken into account in signage and</p>	<p>Appendix 4: Teaching evaluation matrix</p> <p>The department premises are appropriately equipped and are easily converted to suit the need of various teaching situations. Neighbouring departments and faculties have joined forces and found satisfactory solutions to particular mutual needs. Library services have been developed in cooperation with the library to meet the needs of the department and its students, and to contribute to an inspiring learning environment.</p>

ASPECTS OF TEACHING QUALITY	Passable quality and results	Improving quality and results	Good quality and results	Excellent quality and results
			instructions. The library is an integral part of a high-quality learning environment.	
ASPECTS OF TEACHING QUALITY	Passable quality and results	Improving quality and results	Good quality and results	Excellent quality and results
2. IMPLEMENTATION				
Teaching methods	Teaching methods are not consciously evaluated. Teaching is routinely based on traditional methods and ICT is not used in teaching.	Individual teachers experiment with new teaching methods, (including the use of ICT), suitable for different teaching situations and exploring different alternatives.	The department supports the development of teaching methods. The matter is discussed openly in the department and the connection between learning objectives and learning assessment is understood. Teachers make use of their training in university-level teaching and the use of ICT in the development of teaching methods.	Versatile learning situations and teaching methods support different learners and the attainment of learning objectives. The importance of applying relevant pedagogical methods in various teaching situations is understood, and a range of methodological options are in use. The department closely follows the latest publications on educational research.
Supervision and guidance of learning	The department is not able to provide its students individual supervision related to their study plans, nor does the department have teacher tutors.	The students devise personal study plans, but the department has not organised the relevant supervision and follow-up. Student supervision and guidance is not taken into account in the division of labour or teachers' working hours. Student supervision and guidance is provided in the form of teacher tutoring, for example.	The department actively develops supervision and organises a teacher tutor system in accordance with the various stages of study progress. Students are offered supervision, tools and web-based applications for devising their personal study plans. The personal study plan is connected to the system of monitoring study progress and other studies.	Various supervision processes covering the entire time of study have been surveyed and are well-established. The implementation of supervision and guidance is monitored and practices are developed further on the basis of feedback. The special demands related to the supervision of international students have been recognised and teachers attend training in intercultural supervision.
Student advice	Student advice and guidance is restricted to consultation hours. The department has not assigned any division of labour or responsibilities in this matter.	The department has established a division of labour and has clearly assigned the persons responsible for student advice and guidance.	Student advice is understood to be an important task for the entire staff and to contribute to smooth academic progress. Guidance is included in the calculation of working hours. Student advice also comprises introducing students to the opportunities and means of internationalisation.	The department has established a clear division of labour for students advice and guidance, which is systematically implemented and monitored on a yearly basis. There is sufficient guidance available at every level of studies. The division of tasks between those providing student advice is clear and teachers are well informed about each other's work. Cooperation is efficient.
Learning strategies	The department sees no connection between teaching students study skills and the domain of its discipline.	Individual teachers are acquainted with different learning and studying techniques. On their own courses, they try to support different types of learners, e.g. by offering a variety of ways of completing the course.	The department has invested in developing the students' study and learning skills. Students with learning difficulties or students whose studies are delayed are directed to seek various support services on offer at the University.	Appendix 4: Teaching evaluation matrix The department focuses on the acquisition of good learning strategies right from the beginning of studies. The significance of these skills for graduates in their professional life is fully understood. The principle of lifelong learning is introduced to students as an integral part of the work of an expert in their field.

ASPECTS OF TEACHING QUALITY	Passable quality and results	Improving quality and results	Good quality and results	Excellent quality and results
Learning materials	The material is often gathered hastily: handouts, transparencies, slides, etc., which lack cohesion and a pedagogical foundation. Feedback from students has no effect on the quality of learning materials.	Individual teachers have attempted to develop their teaching material, such as handouts, text books and web-based courses, but the department takes no interest in their efforts. Courses taught in Swedish lack learning material in Swedish.	The department coordinates and supports the preparation, availability and distribution of diverse learning materials. It invests in educational quality and teachers are encouraged to learn new ways of producing materials. The use of learning materials is well-reasoned and is developed further on the basis of feedback. Care is taken to have the language of English-language learning materials checked.	The whole department, including students, is involved in the development of learning materials. The principle of cooperation is a fruitful one in the planning of learning materials. All the materials are available to all teachers and the availability of course textbooks is ensured in cooperation with the library.
Contacts with the labour market	Students are not aware of how and what kind of studies support orientation to working life. The teachers' and researchers' labour market contacts are not made use of in planning the contents or methodology of teaching.	Practical training or professional orientation studies are part of the Bachelor's degree. The student is responsible for finding the work placement. Teachers may provide some contacts with the job market.	Also the Master's degree may include practical training related to the field. Contacts with the labour market, skills required in professional life and job seeking skills are developed together with various partners (Career Services etc.) The department may arrange work placements, and in most cases, the trainee is paid a salary. Through work experience the students obtain an idea of the skills needed in working life.	The experience and skills acquired during professional orientation studies and practical training, including international traineeships is surveyed by means of student reports and contacts with employers. The credits obtained from practical training must be proportionate to the duration of the training period. Students are encouraged to apply for international traineeships. The department is well-informed of the demands of working life. Special attention has been paid to the traineeship and employment of the department's international students.
ASPECTS OF TEACHING QUALITY	Passable quality and results	Improving quality and results	Good quality and results	Excellent quality and results
3. ASSESSMENT	Learning assessment criteria	Some teachers have made their assessment criteria available to the students and thus students have arbitrary information about assessment policies. The grading scale for papers and Masters' theses is inconsistent.	The department has defined learning objectives and assessment criteria for all courses and these very clearly and they are made available to students before the beginning of each course. Information is disseminated about grading policies. Teachers are instructed to use the grading scale in its entirety in a consistent manner.	Appendix 4: Teaching evaluation matrix The department has a versatile and pedagogically well-founded assessment system. The assessment criteria are compatible with learning objectives and methods. Part of the assessment is designed to form a part of teaching and learning situations. The distribution of grades is regularly monitored. The department ensures that international students understand the grading policies in use.
Learning assessment methods	Assessment is seen as an issue of control and surveillance. Teachers are not familiar with each other's grading policies. Examinations are based on	Individual teachers compare grading policies and experiment with examination practices. Teachers are interested in student feedback concerning examinations and are willing to develop examination	The department recognises that learning assessment methods strongly steer student learning. Before the beginning of courses, students become aware of the assessment methods used. The development of examinations is discussed from a pedagogical	The assessment methods used by the department support in parallel the objectives of learning and current teaching methods. The assessment of learning and feedback to students steer them towards thorough learning and understanding. Teachers

ASPECTS OF TEACHING QUALITY	Passable quality and results	Improving quality and results	Good quality and results	Excellent quality and results
Provision of feedback to students	<p>regular routines.</p> <p>Students do not receive individual feedback for their learning, skills or progress. Teachers regard giving feedback as a burden. Feedback is given only during consultation hours and students do not really take advantage of this opportunity.</p>	<p>practices on the basis of this feedback.</p> <p>Feedback is given to students only randomly. Some teachers have developed their own methods of giving feedback. Feedback is not, however, understood to be a part of the teaching process as a whole.</p>	<p>point of view and teachers are encouraged to develop their assessment methods. The department has documented information about the assessment methods in use.</p> <p>The significance of feedback as an instrument of learning is recognised among teachers and students alike. Students are encouraged to seek feedback. The provision of feedback is under development and is regarded as an integral part of high-quality instruction.</p>	<p>receive training in the planning and implementation of assessment. Assessment methods and their development are continuously monitored.</p> <p>Individual feedback is used to support thorough learning as a natural part of the teaching process. Modes of providing feedback are developed systematically in cooperation between colleagues and help is sought from experts when necessary.</p>
Student feedback for teaching and supervision	<p>Feedback on teaching and supervision is not collected on a departmental scale. Some individual teachers may collect feedback for their own purposes. No channels exist for student feedback.</p>	<p>There are attempts to maintain a student feedback system. Continuity is uncertain, for students are passive and teachers do not wish to or know how to make use of feedback obtained from students in teaching or supervision. The importance of feedback is acknowledged, but is also conceived as complicated, laborious and even oppressive.</p>	<p>Feedback is collected on learning, teaching and supervision. The department is engaged in continuous development and includes students also in this work. Feedback is appreciated and taken into account in activities. Students are regularly informed of the development of feedback practices.</p>	<p>The department develops feedback practices in order to ensure appropriateness and objectivity. Feedback is also used as an instrument in the development of collegiality and interaction. Both teachers and students focus on developing their abilities to provide and receive feedback. Feedback is always given constructively in a spirit of mutual respect. Students are also asked to provide feedback on the success of the department's international activities.</p>
Feedback from the labour market	<p>No feedback is collected from employers. There is no precise information about graduate employment and careers.</p>	<p>The department has carried out individual surveys on graduate satisfaction regarding their education, or has randomly made use of feedback collected elsewhere.</p>	<p>The department has collected some information on employer and graduate satisfaction, or has regularly made use of feedback collected elsewhere. The faculty or department has an advisory committee which communicates with interest groups in the field.</p>	<p>Feedback from employers is gathered systematically using various channels. Contacts between the faculty or department and their interest groups and alumni are solid. The information obtained from feedback is used in the planning of education.</p>
Follow-up of graduate employment	<p>The department has no accurate information about the employment situation of its graduates.</p>	<p>Organisations in the field produce information about the employment situation of graduates. The department follows developments.</p>	<p>The department has collected some information on the employment situation of its graduates, or has regularly made use of information collected elsewhere. The department is also informed about the future labour market needs for graduates in the field.</p>	<p>The department is well informed about the educational needs of the field and the employment situation of graduates, and uses this information in the planning of operations. Students receive information about employment prospects in the field early on in their studies.</p>

Appendix 4: Teaching evaluation matrix

ASPECTS OF TEACHING QUALITY	Passable quality and results	Improving quality and results	Good quality and results	Excellent quality and results
4. POSTGRADUATE STUDIES	PLANNING Recruitment and status of postgraduate students <p>The admission criteria for postgraduate studies are unclear and incoherent. Students find it difficult to obtain information on the admission requirements and funding. The department has no up-to-date information on the number of its postgraduate students or the stage of their studies.</p>	<p>Information is available on the application process for postgraduate studies, but there are inconsistencies between the practices of different disciplines, which are not documented anywhere. Registration is arbitrary and it is difficult to obtain up-to-date information on the progress of postgraduate studies.</p>	<p>The faculty and departments have launched consistent admission criteria for postgraduate studies. All postgraduate students have been registered and their studies are registered in the Oodi system. The study and research opportunities of part-time students are catered for. Advice on funding is also available.</p>	<p>The department actively recruits postgraduate students from Finland and abroad. Admission is based on previously determined and announced selection criteria and systematic student selection. The admission criteria are available in the national languages and English. At the selection stage, the department ensures that high standard supervision and guidance is available in the field of the prospective dissertation. The progress of postgraduate students is followed by means of an up-to-date register. This follow-up is part of the supervision of students and their personal study plans.</p>
Planning of postgraduate education and curriculum design	<p>The department lacks information on postgraduate education as a whole, as well as on the scope and requirements of the degree. Curriculum design is not coordinated. Postgraduate students do not know how and when they could contribute to curriculum design.</p>	<p>The department is aware of the University guidelines for doctoral degrees, but no departmental practices exist for effective and comprehensive planning of postgraduate studies.</p>	<p>The planning of postgraduate education is coordinated and is in line with University guidelines. The students are aware of the relationship between the dissertation, research work and the required studies for the doctorate. The students know which courses are available at their own department and which courses from other faculties and doctoral programmes may be incorporated into their degrees.</p>	<p>The department has a clear plan for postgraduate education which is implemented comprehensively over a long period. The entire department, including researchers and doctoral students, are involved in the planning of postgraduate education. Objectives are set with a view to international standards and education is developed in cooperation with national and international partners. The implementation of objectives is monitored by surveying the quality of learning results and the progress of studies. The department has guidelines for the recognition of studies completed in other universities in Finland or abroad for the doctoral degree.</p>
IMPLEMENTATION Courses offered to postgraduate students	<p>Very few courses are offered on the postgraduate level and the department has no coordination in the provision of such courses.</p>	<p>The department has discussed the development of postgraduate level courses and with the help of individual projects has been able to momentarily diversify the range of courses on offer.</p>	<p>The department coordinates the provision of postgraduate level courses. Courses on the philosophy of science, research ethics and international research cooperation and exchanges are an integral part of postgraduate studies. Students are encouraged to include various expertise-oriented elements into their studies, such as courses on leadership, development of higher</p>	<p>Various cooperation opportunities have been exploited in the provision of teaching, including courses offered by graduate schools and doctoral programmes. The courses on offer support the writing of the dissertation and provide competence for research and expert positions. Teaching takes into account also professional demands outside the research community.</p>

ASPECTS OF TEACHING QUALITY	Passable quality and results	Improving quality and results	Good quality and results	Excellent quality and results
Supervision of postgraduate students	Postgraduate students are appointed a supervisor, but only formally. The department does not share a common conception of the rights and responsibilities of students and supervisors.	The department has discussed the principles of the supervision of research and postgraduate studies. There are individual teachers who put special effort into postgraduate supervision. Research groups operate separately from the department. Postgraduates who are involved in the research groups are likely to receive better supervision than those who are not.	Each postgraduate student has been assigned a supervisor, and care is taken to ensure the supervision of part-time doctoral students as well. The department makes use of good practices passed on by doctoral programmes and graduate schools. The department actively discusses the principles of the supervision of research and postgraduate studies students, as well as the rights and responsibilities of students and supervisors.	A personal study plan, which includes a research plan and a plan for study progress, is devised with each postgraduate student. This plan is regularly up-dated together with the supervisor throughout studies. Faculty guidelines are consistently followed in the drafting and up-dating of the plan. Special attention is paid to the supervision of the initial stage of postgraduate study.
Doctoral programmes and cooperation concerning postgraduate education	There are no doctoral programmes or graduate schools and no cooperation in postgraduate studies in the field, and the department takes no interest in these.	Some postgraduates in the field have taken part in some doctoral schools or programmes, but there is no accurate information available.	There are graduate school and doctoral programmes in the field and researcher positions are sought after. The department has put great effort in the funding and organisation of postgraduate studies.	The graduate schools and doctoral programmes in the field are well established and their results are internationally acclaimed. Education is also organised in cooperation with international partners. Quality and results are monitored and evaluated.
ASSESSMENT Assessment criteria	The department has not defined the assessment criteria for postgraduate studies nor the doctoral dissertation. Students are not informed of the criteria used in grading, nor of the distribution of grades.	Students have only arbitrary information about assessment policies and grading. The grading scale of the doctoral dissertation is used too narrowly.	The department has defined learning objectives and assessment criteria for postgraduate courses and they are made available to students before the beginning of each course. Clear descriptions of the assessment criteria for doctoral dissertations have also been devised. Examiners are instructed to use the grading scale in its entirety in a consistent manner.	The department has a versatile and pedagogically well-founded assessment system. The assessment criteria are compatible with learning objectives and methods. The distribution of grades and application of the grading scale are regularly monitored. The department ensures that international students understand the grading policies in use.
Feedback collected on postgraduate education	Feedback on postgraduate education is not collected on a departmental scale. No channels exist for student feedback.	Feedback is collected in various ways, but the students are passive and the department lacks information about how best to benefit from feedback.	The department is determined to ensure that the feedback system functions properly in the entire unit. Feedback is appreciated and taken into account in activities. The department makes continuous efforts for improvement and involves postgraduate students in the process.	The leadership of the department has clearly expressed that the feedback system must be functional and have an effect on operations. Practices are developed further to ensure appropriateness and objectivity. Feedback is collected on postgraduate studies, instruction and supervision.

Teaching Evaluation Matrix

APPENDIX 1: TABLE OF CLASSIFICATION

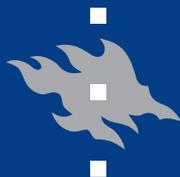
	Passable	Improving	Good	Excellent
1. OBJECTIVES AND PLANNING				
Management of the quality of teaching				
Management and strategic planning of teaching				
Planning of education and curriculum design				
Learning objectives and core elements				
Quality assurance of education				
Management of the quality of resources				
Student recruitment				
Management of human resources				
Teaching qualifications in the filling of teaching posts				
Teaching skills				
Management of the teaching and learning environment				
2. IMPLEMENTATION				
Teaching methods				
Supervision and guidance of learning				
Student advice				
Learning strategies				
Learning materials				
Contacts with the labour market				
3. ASSESSMENT				
Learning assessment criteria				
Learning assessment methods				
Provision of feedback to students				
Students feedback for teaching and supervision				
Feedback from the labour market				
Follow-up of graduate employment				
4. POSTGRADUATE STUDIES				
PLANNING				
Recruitment and status of postgraduate students				
Planning of postgraduate education and curriculum design				
IMPLEMENTATION				
Courses offered to postgraduate students				
Supervision of postgraduate students				
Doctoral programmes and cooperation concerning postgraduate education				
ASSESSMENT				
Assessment criteria				
Feedback collected on postgraduate education				

APPENDIX 2: KEY INDICATORS

Department-specific key indicators can be obtained and printed from the University's ILMI reporting service. The data in ILMI has been produced by connecting various information in the University's databases. The ILMI reporting service is available at <http://ilmi.helsinki.fi>. When printing out reports, it is possible to obtain precise definitions of the key indicators. *Departments will fill in only the department-specific objectives.*

DEGREE	2004	2005	2006	Objectives for 2004-2006
Bachelor's degree (180 credits, new degree structure)				
Master's degree (120 credits, new degree structure)				
Bachelor of Science (Pharmacy) and Bachelor of Education (Kindergarten teacher) degrees (old degree structure)				
Master's degree (160 credits, old degree structure)				
Doctoral degrees				
Licentiate degrees				
Specialisation degrees				
TEACHING RESOURCES	2004	2005	2006	
Professors				
Other permanent teaching posts				
Part-time teachers, docents				
Researchers (recommended share of annual working hours for teaching: 5%)*				
DEGREE STUDENTS	2004	2005	2006	
New students pursuing the Bachelor's degree				
New students pursuing the Master's degree				
Holders of Bachelor's degrees pursuing the Master's degree				
Students pursuing the Bachelor's degree				
Students pursuing the Master's degree				
Students pursuing the Master's degree in accordance with the old degree structure				
Postgraduate students				
Students with positions in doctoral programmes				
Students pursuing specialisation degrees				
International students pursuing the Bachelor's or Master's degree				
International postgraduate students				
Minor subject students				
KEY FIGURES	2004	2005	2006	
Completed Master's degrees per teacher				
Completed Master's degrees per professor				
Completed doctoral degrees per professor				
New students per teacher				
Students pursuing the Bachelor's and Master's degree per teacher				
Postgraduate students per professor				
Credits per teacher				
Credit units (old degree structure) per teacher				
Average time to complete a degree:				
Bachelor's degree (180 credits, new degree structure)				
Master's degree (120 credits, new degree structure)				
Bachelor of Science (Pharmacy) and Bachelor of Education (Kindergarten teacher) degrees (old degree structure)				
Master's degree (160 credits, old degree structure)				
Doctoral degree				

* University of Helsinki Research Policy 2007-2009



HELSINGIN YLIOPISTO
HELSINGFORS UNIVERSITET
UNIVERSITY OF HELSINKI



Opetuksen ja opintojen kehittämishjelma Utvecklingsprogram för undervisningen och studierna

Programme for the development of teaching and studies

1. Teaching and studies at a research-intensive university

The University will educate its students to become versatile and responsible experts in their fields. Teaching will be based on scientific research, and the provision of teaching will draw from research information on university-level teaching and learning. All teachers do research and all researchers teach.

1.1. Teaching and studies in the Strategic Plan of the University of Helsinki

The University of Helsinki has always set great store by the high quality of its teaching. Since 1993 the University has had a programme for the development of teaching and studies, confirmed by the University Senate. The strategic starting points for these programmes have included goal-oriented leadership, professional expertise, student participation, development work and incentives for high quality.

In the Strategic Plan of the University of Helsinki for 2007 – 2009, the University Senate outlines objectives and key areas of development for research and teaching. To aid in their implementation, the University has decided to devise four policy programmes. The Programme for the Development of Teaching and Studies is one of these four programmes.

According to the teaching philosophy of the University, teaching and studies are always based on research. The objective of studies is a student-oriented, thorough education that provides a solid basis for lifelong learning. Teaching is based on appropriate methods that draw on the research and development of higher education. At the University, students will acquire skills to seek out, critically assess, analyse and exploit scholarly knowledge, and to produce and communicate new knowledge in their field. Both competence and the application of theoretical knowledge are surveyed when evaluating learning. The same principles and objectives are followed in adult education, which puts the continuum of lifelong learning into effect.

At a research-intensive university, the starting points for teaching include broad-based research and excellent teachers who are qualified researchers and teachers in their fields. The high esteem enjoyed by teaching is evident from the significance given to teaching qualifications in the filling of posts. Research-based teaching also entails that students are familiarised with and participate in departmental research work as part of their studies.

The University's graduates, who enter the labour market with degrees based on high standards, are the University's most significant contribution to Finnish society and the international community. Every year, the University's graduates, who find employment either in the private or public sectors or in international organisations and companies, take with them the latest scholarly knowledge, methods and ways of thinking, as well as advanced means of communicating new knowledge and ideas. Continuing education and the Open University offer opportunities for lifelong learning to a broad target group. Continuing education and the Open University are also important instruments in the University's regional engagement.

1.2. Learning in the academic community

The academic community is a teaching and learning environment as well

The University of Helsinki is a stimulating teaching and learning environment, where instruction and studies are based on research. The University fosters a motivating and encouraging learning and teaching culture and atmosphere, and supports cooperation networks. The characteristics of such a high-standard learning environment include the following:

- Teachers at the University are qualified researchers and teachers in their fields. Cooperation between teachers in the planning and implementation of instruction will enhance the quality of teaching and student supervision.
- Right at the beginning of their studies, students will be introduced to study skills needed for university-level studies. They will be familiarised with the learning environments available at the University, such as libraries and online environments, and opportunities offered by research groups.
- Studies will be completed in the student's native language, one of the national language (Finnish/Swedish) and in languages prevalent in the field of study. Multiculturalism and different communication cultures are considered to enrich the study programme.
- Research and professional ethics will be integrated into studies in the major subject. Departments will be responsible for integrating the basics of research and professional ethics into studies leading to the Bachelor's and Master's degrees as part of methodology studies and thesis work. Postgraduate programmes will include field-specific training on research ethics.
- The University is a community which highly esteems the principle of sustainable development. Multidisciplinary studies, research and cooperation across departmental and faculty boundaries will offer students opportunities to gain an insight into the concept of sustainable development and to investigate the causes, effects and solutions of environmental and developmental problems.

- Support services for teaching and students will be flexible, efficient and of high quality. A research-intensive university has top-level library and information services.

Objective: high-quality results of learning

At the core of the University's teaching philosophy are the promotion of thorough learning based on understanding, high-quality expertise and the ability to apply knowledge in problem solving. The purpose of teaching and supervision is to support learning and professional growth and to encourage lifelong learning and self-development. High-quality learning requires the simultaneous development of communication skills both in the native language and in the languages prevalent in the field.

The principle of student-centredness means that the student is an active and responsible participant in the academic community. The success of teaching is measured by the quality of student learning and learning results. This principle challenges the University to regard students as individuals and as diverse learners.

Closely connected to student-centredness is the collective creation of knowledge, which enhances teaching methods that rely on seeking, producing and evaluating information in collaboration. Learning in peer groups steers students to share their expertise and supports their professional development before and during their careers.

Learning is a lifelong process

The University offers multiple opportunities for self-development and lifelong learning for people of different ages, life situations and occupations.

The **degrees** offered by the University of Helsinki encourage lifelong-learning and provide skills for the development of personal expertise and communication skills. Thanks to these skills, academically educated citizens may advance in their careers, acquire new knowledge, skills and points of view, and evolve through problematic professional situations into experts in their fields.

The Open University and continuing education are closely connected to the continuum of lifelong learning. Today people are expected to continuously upgrade their skills. Organisations offering adult education must, for their part, follow developments in society and recognise needs for education. The University is facing this same challenge as well and can meet it by interacting with various actors.

Liberal education offered by the University is planned and implemented together with civic organisations dedicated to the promotion of liberal education. The Committee for Liberal Education organises a lecture series entitled *Studia Generalia* on a regular basis.

The professional development of the teaching staff is supported by means of **in-house training**. The principle of lifelong learning is also carried out through the research and development of teaching and the investigation of best practices. Teachers are encouraged to form networks and engage in cooperation with colleagues. The University will ensure that all teachers and researchers have at least basic skills in the use of information and communication technology in teaching and electronic library services.

In addition to making the local library services available to the public, the University's **library system** furthers the University's educational and cultural mission by engaging in cooperation with partners from outside the University. Of special interest in this respect are research institutes in fields represented at the University and organisations providing continuing education.

1.3. Societal interaction as a resource

In carrying out its mission of providing a broad-based education, the University supports the students' growth into active citizens. The participation of teachers and students in community activities within the University and in society at large is a valuable element in the University's societal interaction.

The ongoing changes in the labour market and various sectors of society and the consequent needs are important signals for the University, and will be seriously considered in the planning and development of education. In order to be able to develop expertise in various areas, the University needs feedback from the labour market as regards employers' expectations of academic education. The University also receives valuable feedback from students who work during their studies and especially from recent graduates.

Interaction with society, and especially working life, is of special importance to adult education. This interaction does not mean just one-sided communication but rather continuous dialogue with an extensive network of partners so that the University will be able to consider the needs of the labour market and civic society. The dialogue covers both content-related and field-specific choices and problems related to teaching methods and arrangements.

The recruitment of students is also part of societal interaction. Competition for talented students will become tougher and, with the requirement for lifelong education, talented mature students will become an increasingly important target group for student recruitment. Cooperation with working life and other levels of the education system will improve the University's competitiveness in this respect.

From the point of view of students, practical training is one of the best ways to learn to apply theoretical studies in one's field in practice. In future, the University

will need to develop ways to combine work and studies in an appropriate way. The assignments and theses included in studies also provide students with opportunities to apply research-based theory in practice. This entails that organisations and companies, which are interested in participating in interactive cooperation, are engaged in partnerships.

1.4. Objectives of degrees and other studies

The objective of degrees and other studies completed at the University is always profound, research-based competence and expertise in one's field (Figure 1). The curriculum is planned, and teaching is organised to be able to meet the challenges presented by changes taking place in society and the labour market.

In the development of education leading to degrees, the University will take into account the fact that academically educated experts are increasingly employed in jobs requiring cultural awareness, openness to international interaction, readiness for change, and familiarity with various operational environments, especially business. In doctoral programmes, special attention will be given to the labour market and business contacts.

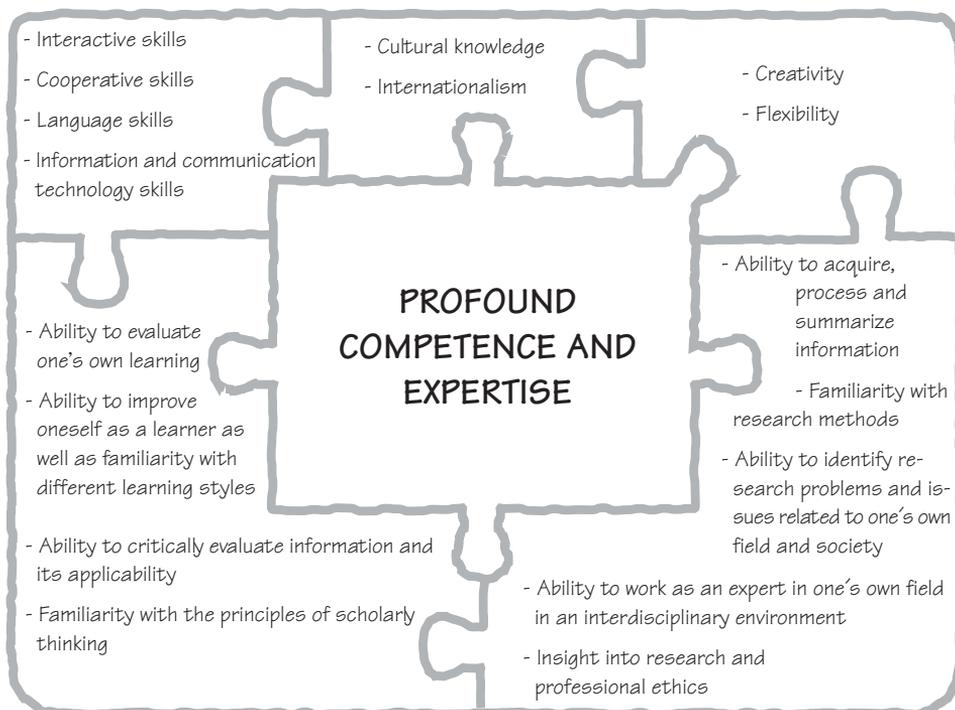


Figure 1. Components of an academic degree of high quality

The lower academic degree – The Bachelor’s degree

At the University of Helsinki, the Bachelor’s degree is the lower academic degree, completed as an interim stage on the way to the Master’s degree. Apart from a few exceptions, students in all fields are admitted to pursue the Master’s degree. In some fields, the Bachelor’s degree provides professional qualifications (pharmacist, kindergarten teacher). The Bachelor’s degree supplies students with a versatile foundation and prepares them for the completion of the Master’s degree, which requires more profound competence and expertise in one’s field. Nevertheless, in addition to including communication studies in the student’s native language, the national languages and in foreign languages, the Bachelor’s degree comprises a great deal of those studies that provide the knowledge and skills expected of an academic professional, and hones the students’ learning skills.

The higher academic degree – The Master’s degree

A Master’s degree obtained from the University of Helsinki is of the highest quality, thus providing students with essential academic expertise. Graduates with the higher academic degree have the ability to develop as international experts in their fields. Profound competence and expertise in one’s field form the core of each degree. Skills related to the production and application of new information and the ability to improve one’s learning skills are qualities that are essential for academic experts. A high-quality degree also contributes to the general qualities of an academically educated person by emphasising cooperation skills, communication skills, information and communication technology skills, and openness to international interaction based on language skills and knowledge of different cultures. Furthermore, academic qualifications include the ability to develop further one’s field and its language, as well as familiarity with the labour market in one’s field. The development of communication skills is a never-ending process that should be included in all stages of studies.

Master’s degree programmes

Education leading to the Master’s degree may also be organised in the form of an independent Master’s degree programme, which must be set up in accordance with the guidelines issued by the Senate of the University of Helsinki. Such programmes must be based on the educational needs of a discipline or of society and on the strategic objectives of the faculty. The establishment of programmes and their resources must be agreed upon in writing between the partners involved. The University will support development procedures concerning the planning, implementation and evaluation of Master’s degree programmes established in cooperation between faculty depart-

ments and independent institutes carrying out research. Researchers that participate in teaching are a valuable additional resource.

Teacher education

Teacher education will be geared to provide wide-ranging qualifications to meet the challenges presented by a wide variety of learners and by multiculturalism. The development work engages various partners, especially the municipalities of the greater Helsinki region.

Medicine

In the medical fields, the basic degree is the Licentiate of Medicine, Licentiate of Dentistry or Licentiate of Veterinary Medicine.

The doctoral degree

The doctoral degree is the primary postgraduate degree at the University of Helsinki. The degree can be obtained in four years of full-time study, but can also be completed on a part-time basis. The selection and supervision of part-time doctoral students will be enhanced to ensure that their studies fulfil the requirements of a high-quality degree and that their studies progress smoothly.

Doctoral graduates are capable of current and independent research, which is based on solid research ethics. Holders of the doctoral degree may act as national or international experts in their field. They have often held teaching posts in the field of their research and are familiar with the labour market situation of their field.

Doctoral degrees from the University of Helsinki may include, besides studies in the major subject and the dissertation, studies in methodology, philosophy of science, and ethics, and international studies and/or international scholarly activities. The degree may also include elements preparing for general expertise, such as studies in project work, leadership skills, university-level teaching and learning, and science communication.

The Licentiate degree and specialist degrees

The Licentiate degree is an interim degree towards the doctoral degree and in some fields it functions as a professional qualification or a specialist degree. As a rule, however, a postgraduate study plan will be devised to lead to the doctoral degree.

In medicine, the degrees of Specialist in Medicine, Specialist in Dentistry and Specialist in Veterinary Medicine are available. A specialist's degree in psychology can be completed as a professional postgraduate degree, and the same applies to the special-

ist's degrees in speech therapy and in social work. In the natural sciences, equivalent specialist training leads to the Licentiate degree in hospital genetics, hospital physics, hospital chemistry or hospital microbiology. In pharmacy, the professional Licentiate degree is available in industrial pharmacy.

The Open University and continuing education

The Open University promotes educational and regional equality by offering people in different life situations flexible opportunities for both target-oriented learning and self-improvement for the sake of edification. Open University education is based on the degree requirements of the faculties and is always approved by the faculties and relevant departments. The coordination, development and implementation of Open University instruction is the responsibility of the Open University, which is an independent institute of the University and closely cooperates with University departments and faculties.

The target group for continuing education provided by the University consists primarily of academically educated professionals, who are offered tailored continuing education to meet specific professional needs.

Open University instruction and continuing education will be developed in accordance with the principles of lifelong education to better meet the needs of different regions and population groups. The development work will be done in cooperation with partnership networks in the private and public sectors, as well as in the third sector.

2. Key development areas and measures to be taken

2.1. Key development areas in 2007-2009

Quality of learning and student guidance

At the University, learning of high quality means thorough understanding of new knowledge as students reach the learning objectives defined in the curriculum. With the support of teaching and supervision based on high standards, students will grow into independent and cooperative experts in their field, who competently communicate in their native language, one or both of the national languages and the foreign languages prevalent in the field.

An international learning environment

An international learning environment can be created by promoting multilingualism and multiculturalism so that opportunities will be offered for student mobility, the recruitment of degree students from a wide variety of countries, the completion of studies in Finnish and Swedish as a foreign language, and the completion of courses given in languages other than Finnish or Swedish, and for teachers and other staff to receive support in the challenges of internationalisation. Learning and teaching in an international environment will broaden our understanding of how things are learnt and understood, and how things are communicated in different languages and situations. An international learning environment will enhance thorough learning and hone awareness of the significance of languages and cultures, and will prepare students to act in increasingly international work environments.

Quality of learning and student guidance

Definition of learning objectives in the curricula

- In all departments, students will receive understandable, reliable and well-reasoned information about study requirements and what is expected of them as far as study progress and learning assessment are concerned.
- The curriculum will define learning objectives, prerequisites (if any) and the workload of each course.
- The learning objectives and assessment criteria must be lucidly and visibly displayed and available to all students in each department.

- Departments will together devise the assessment criteria for doctoral dissertations, Master's theses and other extensive assignments into a public document distributed by the faculty.
- The faculties are responsible for ensuring that learning objectives and assessment criteria are defined by each and every department.

Guidance of the student's learning process

- Special attention will be given to the students' learning skills. At the beginning of their studies, students will be introduced to university-level learning skills and methods, the information and communication technologies provided by the University, the management of the learning process as a whole, and to the planning of studies. When the personal study plan is updated, the student will receive guidance in the learning skills needed at the next stage of studies.
- Adequate time for absorbing the core knowledge of courses must be reserved in the curricula and the students' personal study plans.
- When planning teaching, the departments will ensure that multifaceted learning situations and methods that support different kinds of learners will be used in teaching.
- In conjunction with the assessment of study performance, students will receive an evaluation of their learning, in other words, feedback on how well they master the study requirement. This feedback will support the development of the students' self-evaluation skills.

Learning assessment methods

- Assessment methods and feedback practices have a great effect on the students' study and learning methods, as well as on learning results. The assessment methods used should not steer studying towards superficial learning, but rather motivate the students to thoroughly understand and assimilate the teaching.
- The assessment methods should be compatible with the topic and methods of learning. Good assessment methods motivate the students and support their development.
- Assessment must not be affected by the student's gender, age, ethnic origin, religious belief, opinions, disability, sexual orientation, or any other equivalent factor. The distribution of grades between genders will be monitored by the faculty.
- The University will launch a programme to study how students can take their examinations anonymously, using only their student number.

- Learning objectives will be perceivable in the assessment criteria so that levels of performance, such as the difference between excellent and satisfactory, are easily discernible. Often, mere repetition of information will not suffice for the grade excellent, whereas the application of knowledge in a new situation will earn the grade excellent.
- In the course of studies, learning and development will be assessed using versatile assessment methods and practices. Sometimes, part of the assessment will be designed as a part of teaching and learning situations. In such cases, the assessment will support the students' personal growth and develop their self-evaluation ability.
- The competence and learning results obtained from extensive study modules will be assessed using methods that measure thorough understanding.
- The implementation of the grading scales adopted in the autumn of 2005 will be monitored by the faculties.
- As required by the Act on the Protection of Privacy, student numbers will be used in the announcement of examination results.

Personal study plan

- In all disciplines, students devise a personal study plan. The plan extends until the completion of studies, and it will be revised regularly with the support of guidance and feedback.
- The purpose of the guidance is to help students to assume responsibility for their own learning, plan their studies and complete their degrees successfully. Career options will also be considered in the course of the studies.
- The objectives of guidance will be promoted by a learning environment that supports students in making independent choices. During their studies, students will be guided by appropriate teaching methods and learning processes to assume responsibility independently, engage in cooperation, and develop their expertise and other competencies required in professional life.
- The salience of learning objectives and assessment criteria, and connecting them with workloads, will aid students in planning their studies and teachers in guiding the students.

Organisation of guidance, division of labour and resources

- Supervision and guidance processes covering the entire length of each student's studies will be surveyed, and an agreement on the division of labour will be established. At the same time, areas in need of development will be identified and appropriate action will be taken.

- The University will survey the resources needed by the supervision and guidance system and where necessary, will redirect resources so that high-quality guidance can be provided in accordance with its objectives. With the help of project funding from the Ministry of Education for 2007 and 2008, the University will be able to support departments and faculties in the development of guidance related to the personal study plan.
- Digital applications, especially the eHOPS study plan tool of the WebOodi student information system, will be exploited in the drawing up, revision and guidance of study plans.
- Faculties will be responsible for integrating training in information retrieval into the curricula and for organising this training. The departments and libraries will cooperate in the implementation of training in information retrieval.

Supervision of postgraduate students and their personal study plans

- The supervision of postgraduate studies will be improved. From the time that students are first admitted into postgraduate programmes, care will be taken to ensure that they will receive high-quality supervision and support in the field of their dissertation.
- The personal study plan will also be introduced at the postgraduate level. The plan will be revised together with the supervisor in the course of the studies. The planning of studies and supervision also includes the consideration of career options.
- Care will be taken to ensure supervision and appropriate study opportunities for part-time postgraduate students.

Study progress checkpoints

- The Etappi system of study progress checkpoints supports the smooth, target-oriented progress of studies towards a degree by offering intensified guidance at regular intervals to those students who have not achieved the objectives set by their faculties.
- The essential point of the guidance related to the monitoring of study progress is to consider the studies comprehensively from the point of view of completion of the entire degree.
- The students' overall situation will be surveyed and when necessary, they will be advised to seek appropriate guidance and support services.
- The system of study progress checkpoints will be integrated with other guidance systems and with the devising of the personal study plan. The study plans

required by the system of study progress checkpoints will be incorporated into the eHOPS application.

- The information produced by the system of study progress checkpoints will be used in the planning of teaching and the direction of resources for guidance. Structural problems detected in study progress will be resolved by guidance without delay.
- The monitoring of study progress will be implemented and administered with as little bureaucracy as possible, taking advantage of the cooperation established between faculties, the Student Register and Student Services.
- Student Services, faculties and departments will ensure that students are adequately informed of the system of study progress checkpoints; the dissemination of information is of special importance from 2006 to 2009, the years in which the system will gradually be introduced.
- The functionality and effectiveness of the system will be evaluated in conjunction with evaluations of the quality of education.

An international learning environment

Promotion of a multicultural and multilingual community

- By 2009 international undergraduate students will account for 5% and international doctoral students for 15% of the overall number of students.
- International mobility is an important form of international activities among students. The University's aim for student mobility is that the University will send out 1100 exchange students and receive 1100 exchange students annually.
- "Internationalisation at home" will be promoted, and study opportunities for immigrant students will be enhanced.
- Teacher's international contacts and cooperation will be carried out through teacher exchange. From 2007 to 2009 special attention will be given to the improvement of the quality of teacher exchange programmes by, for example, setting the goals of enhancing teaching skills and gaining teaching experience in an international context and integrating the teaching provided by visiting teachers into departmental teaching programmes.
- The number of outgoing and incoming exchange teachers will be increased, with the aim of maintaining a balance between these numbers. Teacher exchange activities will be carefully increased and teacher mobility will be planned as part of the overall activities of departments, so that the experiences gained from the exchanges will benefit the entire department.

- Extensive use of information and communication technologies will be made in the promotion of international activities instead of travel, so that internationalisation will be implemented in accordance with the principles of sustainable development.

English-language teaching: Emphasis on Master- and Doctoral-level education

- In order to achieve the goal set for the number of international students, emphasis will be put on offering studies leading to the Master's and doctoral degrees.
- When designing teaching offered in the English language, field-specific differences must be taken into account, so that students may choose between well-defined modules that enable them to complete their Master's degree entirely in English. Theoretically, this means that during the 2007 – 2009 planning period, about 30 English-language Master's degree programmes are to be set up or an equivalent number of ordinary Master's degree programmes are to be converted into modules offered in the English language.
- Funding for the planning and development of English-language Master's degree and doctoral programmes will be reserved from the University's project funds for the development of teaching, in addition to which sources of funding from outside the University will be sought.
- The programmes will be developed in such a way that after the planning period, they can become part of the faculty's teaching programmes leading to degrees, implemented with the support of the University's basic funding. The University's internal system for the distribution of funding will take into account the needs of teaching provided in languages other than Finnish or Swedish.
- The students in the English-language Master's degree programmes will consist of both Finnish and international students, which will promote internationalisation at home for the Finnish students and the integration of the international students into the University community and Finnish society at large.
- The University's performance criteria will be revised to provide incentives for reaching the goals set for internationalisation.

English-language teaching at the Bachelor-level

- At the Bachelor-level, the English-language teaching to be offered will cater for exchange students and promote the internationalisation at home of Finnish undergraduate students. Some fields may also have English-language Bachelor's degree programmes, if educational cooperation opportunities in these fields are restricted to the Bachelor's degree.

Cooperation in teaching and European joint degrees

- Clear guidelines for international cooperation on teaching leading to degrees will be devised in accordance with the Decision of the University Senate (dated 9 June 2004) on the principles for Master's degree programmes and joint degrees. Model agreements will be produced to serve as a basis for cooperation negotiations.
- Primarily, the University of Helsinki will engage in cooperation with other research-intensive universities. When deciding on cooperation, consideration will be given to the fact that while international joint degrees bring added value to degrees, they also require long-term commitment from the organisation and the financing of teaching, guidance and administration.
- The University will continue the development of joint doctoral degrees together with other high-standard universities abroad.
- The University will cooperate with other leading European universities as a developer and producer of high-quality, research-based online learning materials, and will actively participate in the construction and use of flexible, joint learning environments in the context of international teaching cooperation.

Recruitment of international students and services for international students and teachers

- The University will intensify the recruitment of international students and enhance recruitment-related marketing as part of the overall development of student recruitment. The University will actively cooperate with other universities in the greater Helsinki region in the marketing of study programmes offered in foreign languages.
- The University will draw up a plan for international recruitment and marketing. The aim is to attract talented and motivated students.
- The objective of the development of international student services is to reach the same level of service as is offered to Finnish students. The University will investigate what services are needed for attaining the objectives of internationalisation and how, and by whom, these services should be provided.
- Career and recruitment services for international students will be developed. The aim is to increase knowledge about the Finnish labour market among international students. The number of traineeships reserved for international students will be increased in order to enhance their employment prospects and integration into Finnish society.
- Versatile instruction in various levels of Finnish and Swedish will be offered to students from abroad. Studies in the national languages of Finland will pro-

mote the integration of international students into the local academic community and labour market and into society at large.

- English-language training, guidance and communication concerning library services for international students, teachers and researchers will be increased.
- The international teaching staff will be offered English-language pedagogical training as part of the University's programme on university-level teaching and learning.

Organisation of and support for teaching given in English

- As a rule, English-language teaching will be integrated with other teaching which also supports the objectives of student recruitment. The teaching provided in the English language will be of high quality and appropriate to the purpose.
- In the definition of learning objectives for teaching given in the English language, care will be taken to ensure that students are also familiarised with the central terminology in the national languages.
- Teachers who plan and provide instruction in English will be offered in-house training to enhance their language skills and ability to teach in a multicultural academic environment.
- Language services supporting the production of learning materials in English will be offered to teachers giving instruction in foreign languages.
- Training in languages and intercultural communication will be offered to the entire staff in units which have English-language study programmes and large numbers of international students.

2.2. Other development areas

In addition to focusing on the two key development areas, the University will implement its strategic plan by further developing curriculum design, the management of teaching, educational quality assurance, student recruitment, bilingualism and Swedish-language instruction, and support and services for the development of teaching.

Curriculum design, the management of teaching and educational quality assurance

Constructive alignment

- In order to be consistent, all the elements of teaching should promote learning and competence to help students achieve high-quality, profound under-

standing. From the point of view of consistency, teaching is based on four important stages:

- Determination of learning objectives
- Determination of the subject and content of teaching
- Determination of assessment methods
- Determination of teaching methods
- In curriculum design, these four stages must be aligned. When the different stages support each other, teaching has a unified and consistent effect on the learner.

Curriculum design

- Curriculum design may be described as the conscious planning of teaching into a target-oriented activity. The clear structure of degree studies designed from the perspective of learning objectives supports cumulative learning and successful student progress.
- Students' learning objectives are to be defined in the curricula.
- Faculties and departments will support curriculum design. The faculties will be responsible for degree-level matters and the departments for discipline-level matters. Feedback and assessment will be used to monitor the implementation and success of the curriculum and the achievement of learning objectives.
- The University will improve the social relevance of degree programmes and non-degree studies by promoting the appropriate reconciliation of work and studies and by establishing closer connections with employers through the alumni network, for instance.
- The University will use feedback from employers in both undergraduate and postgraduate curriculum design. To use this feedback more effectively, practical training will be developed as part of field-specific studies.
- The University will provide specialist training leading to a professional qualification and will develop this training together with employers.

The strategic plan of the University and the management of teaching

- The strategic goals and objectives set by the academic community concern all its members. These goals and objectives can be reached in various ways and can be assessed critically. The freedom of teaching enjoyed by the academic community extends to both the content and methods of teaching. The purpose of managing teaching is to support the achievement of objectives set for the quality of teaching and learning, and for the development of teaching methods.

- The high esteem in which teaching is held is evident, for example, in the emphasis given to teaching qualifications in application processes for vacant positions.
- In practice, the management of teaching refers to the following: the coordination of curriculum design, the ascertainment and improvement of teachers' qualifications and teaching skills, the ascertainment of the availability of support services for teachers, and the assessment and monitoring of the results and quality of teaching.
- The University will continue to develop information systems that support curriculum design and the management of teaching at departments, faculties and other units.
- To obtain comparable and reliable information and to guarantee the equal treatment of students, the University will strive to standardise, where appropriate, practices used in academic administration.

Quality assurance system and assessment

- The University will develop educational quality assurance as part of the quality assurance system that covers all its operations. This system was created on the basis of recommendations concerning quality assurance in the European Higher Education Area.
- The systems for educational quality assurance and feedback will be extended to cover the whole studying process: student admissions, curricula, courses, the provision of teaching, teaching methods, the assessment of learning, examinations, study materials, the learning environment, student services, academic administration and student feedback. The University will also collect feedback from employers and graduates.
- Self-assessment is part of educational quality assurance. To aid in self-assessment and reporting, University units can use the Teaching Evaluation Matrix. The Academic Affairs Committee will continue to develop this matrix.
- The Teaching Evaluation Matrix will be used in the internal allocation of results-based funding at the University. The University will conduct evaluations based on this matrix once every three years and will give feedback to the units in the course of the evaluation process.
- The University will obtain external feedback on the quality of its education by participating in the national evaluation of units providing high-quality undergraduate and postgraduate education.
- As part of quality assurance, the University will conduct an international evaluation of its education at regular intervals.

- The University will participate in an audit of its quality assurance system from 2007 to 2009. Arranged by the Finnish Higher Education Evaluation Council, this audit will cover the quality assurance of all operations at the University.

Systematisation of feedback practices

- The collection of student feedback is part of educational quality assurance. The University collects feedback to meet the needs of teaching and learning.
- The University will collect feedback in an appropriate and equitable manner to support teaching and learning, not to burden them. The University will also develop its feedback practices to ensure their appropriateness and objectivity.
- The University will listen to student views and will solicit student feedback at all stages of studies. It will take these views and feedback into account in the development of operations and at all stages of planning and decision-making.
- Student Services, an administrative unit at the University, will collect study- and work-related feedback from recent graduates and will monitor the graduates' career progress at least once every three years after a certain number of years from graduation. The information thus obtained will be used in the planning of degree studies, Open University education and continuing education.

Distribution of responsibilities related to educational quality

- Departments, faculties and the University as a whole participate in the management of teaching. The University is responsible for overall educational quality and the allocation of resources.
- Each faculty is responsible for the quality of the degrees it awards, for the achievement of results it has committed to producing, and for the detailed allocation and prioritisation of its resources.
- Each department is responsible for the quality of teaching and courses in its field, including curriculum design, the establishment of learning objectives, the determination of field-specific criteria and methods for the assessment of learning results, and teachers' qualifications and competence.
- Each teacher is responsible for the quality of his or her teaching and the assessment of student learning.
- Each student is responsible for his or her learning and progress in studies.

Student recruitment

Development of student admissions

- To be able to select the best students, the University will re-determine objectives and quotas for its student admissions to better meet the needs of each discipline and degree programme.
- The University will give special attention to the admission of bilingual (Finnish- and Swedish-speaking) students. The University will also support the recruitment of Swedish-speaking students to its Swedish-language disciplines, particularly in fields in which the University of Helsinki is the only Finnish university providing Swedish-language education. In addition, the University will take due account of the recruitment of students from immigrant backgrounds.
- The University is involved in the development and adoption of the Finnish joint application system and will ensure that the needs of Swedish-language instruction are recognised in this system.
- The faculties will assess the methods currently used in the admission of applicants who transfer from another university or field of study and will apply best practices in the development of admissions to Master's degree programmes complying with the new degree structure.
- Postgraduate recruitment is based on specific admission criteria and systematic student selection. Before admitting a student to a postgraduate degree programme, the University is to ensure that he or she will be given high-quality supervision and support in the field of the dissertation.
- Most undergraduate students will be admitted to complete a Master's degree. Admission based on studies completed at the Open University will be developed according to policy decisions made by the faculties; the faculties will define the fields of study that will be the focus of this development from 2007 to 2009. Purposeful development of this type of admission requires successful cooperation between the faculties and the Open University.

Student recruitment and the marketing of education

- The University will review its student recruitment materials and expand its online services so that they provide a better overview of study opportunities at the University and form a coherent entity complying with the University's visual identity. In addition, information about the content of studies should be provided to applicants in the brochures and websites of faculties and departments.

- The University will foster cooperation with upper secondary schools and particularly with careers advisors. It will improve the quality of its informational materials and channels so as to increase the distribution of correct, useful information to applicants.
- The University will divide marketing duties and responsibilities associated with student recruitment more clearly and will improve competence at all levels. There will be a particular focus on the improvement of competence in the acquisition and use of marketing-related knowledge and on efforts to find suitable partners.
- The University will monitor the results of student recruitment more closely by improving the compilation of statistics and by further developing communications related to student recruitment. The objective is to target recruitment more accurately.
- The University will also target Finnish and international student recruitment to prospective Master's and postgraduate students and will develop suitable marketing methods.

Bilingualism and the development of Swedish-language instruction

- In planning education, the University will take into account the needs of the bilingual Finnish society and of employers. Furthermore, the University will ensure that the scope of Swedish-language education is adequate in fields in which experts with Swedish skills are needed.
- The bilingualism of the University and its Swedish-language instruction will be secured with adequate resources for Swedish-language teaching positions.
- The University will promote the opportunities provided by bilingualism in curriculum design. In addition, the University will pay special attention to practices that support bilingualism in the development of teaching and will encourage Finnish-speaking students and teachers to participate in Swedish-language instruction. The degree requirements of Finnish-language study programmes should include some Swedish-language course literature.
- The learning objectives in each field will include knowledge of the central concepts in both Finnish and Swedish. This objective will be achieved through the coordination of cooperation between subject teachers and language teachers.
- The University will investigate opportunities to offer bilingual or trilingual degree programmes providing students with bilingual or trilingual expertise. Information about the bilingual or trilingual expertise and language skills provided by a degree programme would be clearly provided in the degree diploma.

- The bilingualism of the University and its Swedish-language instruction will be supported through regional and Nordic cooperation. The University will promote cooperation with Swedish universities particularly in the field of postgraduate education and will also support Nordic exchange programmes for teachers and students.
- The University will provide Swedish-language subject teacher education together with the Åbo Akademi University.
- The University will expand Swedish-language training, guidance and communications relating to the library services aimed at Swedish-speaking students, teachers and researchers.
- The University will ensure the sufficient provision of Swedish-language continuing education.

Support and services for the development of teaching

The competence and coping skills of the teaching staff

- Ensuring that the teaching staff are competent and can cope with their work is a challenge for the heads of the faculties and departments and the entire teaching community. The University will encourage units to cooperate and create a sense of unity.
- Teachers will be encouraged to cooperate and network in their own department, faculty and University and with national and international organisations.
- The University will use the system of teaching periods to set the pace for the teaching and research work carried out by teachers.
- The University will enhance the time management ability of the teaching staff by introducing common practices relating to office hours and other channels of communication (e.g. e-mail, telephone, network environments).
- The research- and development-oriented approach of teachers to their work ensures the quality of teaching and is also one of the basic constituents of research-based teaching.
- To determine the scope of support services for the development of teaching and to target these services appropriately, the University will use the faculties' target programmes to assess the support necessary for improving teachers' competence.
- The University will continue to improve teachers' teaching skills. Departments will be responsible for providing the teachers with training in university-level teaching and learning during working hours.
- To be able to provide high-quality guidance and supervision to students, supervisors must enhance their educational skills, and teachers and researchers

who act as supervisors must be offered training. The University will improve the competence and skills associated with supervision and supervisory practices to meet the needs of an increasingly multicultural student body.

- The University will improve teachers' ability to use ICT in teaching and curriculum design and to use the available support services and online resources.
- The Educational Centre for ICT will draw up clear instructions for teachers on relevant copyright issues and on the terms and conditions of online resources.
- The University will ensure that all teachers have the skills needed to use its printed and electronic information resources and its library and information services.
- In-house training in ICT will be targeted to ensure that the faculties, which currently employ educational technology advisors, will also have a total of about 300 employees capable of developing and promoting online instruction as part of a support team for online teaching.

The distribution of duties associated with the provision of support for educational training and development, and the consolidation of this support

- The University will support its teachers' pedagogical and ICT skills and expertise by offering training in university-level teaching and learning and in ICT as a permanent part of its in-house training. This training will be given in both Finnish and Swedish, and the University will further develop English-language training.
- The Centre for Research and Development of Higher Education operating under the auspices of the Faculty of Behavioural Sciences will be responsible for study modules in university-level teaching and learning. Basic studies can also be offered by faculties and some independent institutes.
- Campuses and faculties may establish their own units for developing and supporting teaching. The University will consolidate its common, centrally funded services in the long term, which will allow the faculties to create their own services and thus supplement the University-wide services as they wish.
- The Centre for Research and Development of Higher Education will coordinate psychological counselling at the University. Students on every campus will have equal access to psychological counselling services. Psychological counselling is part of the support services for the further development of teaching.
- The pool of university lectureships in higher education will be restructured so that each faculty will be allocated one professorship from this pool to support the development of teaching. The Academic Affairs Committee will prepare a procedure whereby the pool resources and the competence of the post holders can be used for supporting the development of teaching as efficiently and permanently as possible.

- Faculties and departments will decide whether postgraduate students are allowed to teach either as part of their studies or on a paid basis. The Open University also offers opportunities for the accumulation of teaching experience. Practical teaching experience and the opportunity learn about teaching are important elements of academic career progress, and teaching work offers an interesting opportunity to learn about topical issues in the field.
- One of the teaching skills required of teachers is the ability to use ICT in teaching. The Educational Centre for ICT is responsible for in-house training and support services in the use of ICT in teaching and for coordinating the development of online teaching at the University.

The teaching, studying and learning environment

- The University will give more attention to the quality of facilities used for teaching and studying and to their flexible, versatile use. It will also ensure that these facilities are suitable for special needs groups. The information produced in the project on the accessibility of University premises will be put to good use.
- Students will have at their disposal adequate and appropriate reading and group work facilities, reliable equipment, and user support.
- The University will offer up-to-date facilities for teaching and studying experimental sciences.
- The University will offer teachers and students easy access to the University-wide wireless network. Students can also use the University's online learning environment and electronic resources in the learning centres on various campuses. The students' own computers will be able to be securely connected to the University network.
- The advice, information and support services of the learning centres will be further developed based on previous experiences on the campuses so as to meet student needs.
- The IT Department, together with faculties, will coordinate and give courses and examinations associated with the computer driving license, which certifies that students have acquired basic ICT skills. The faculties will implement and develop the use of the computer driving license as part of their subject teaching.
- The University will centralise the maintenance of teaching facilities and computer laboratories used by students. The IT Department will be responsible for the centralised maintenance of facilities and workstations either on its own or together with the units that manage the computer laboratories.

- The virtual learning environments used in online teaching will be chosen based on a calculation of costs and on usability and educational features. The University will allow long transition periods to prepare for the changes.
- The University will develop information systems that support teaching and tools based on these systems either together with the Oodi Consortium and the Finnish Virtual University or, if necessary, on its own.
- The IT Department and the Educational Centre for ICT will monitor the general development of mobile services and will study best practices. Where possible, applications suitable for university-level studies will be developed for appropriate purposes.
- User identification will be developed to allow the Open University, external associates and international students to use the University network.
- The University will develop its library and information services based on cooperation with other leading research universities in Europe. Straightforward, reliable and easy-to-use services will be produced by competent staff.
- The University will ensure that students and teachers have access to sufficient printed and electronic information resources and that libraries offer user guidance. Special attention will be paid to the availability of Swedish-language course literature. The University will also ensure that the students and teachers of the Open University have access to the services they need. The libraries will systematically acquire and digitise resources that will allow the online environment to be used more effectively.
- The high-quality information resources of the University's electronic library will be used more efficiently in teaching through the integration of electronic journals, dictionaries and reference books into virtual learning environments.

Strengthening cooperation

- The University will coordinate the provision of centralised support services for teaching on the campuses based on the faculties' target programmes and user needs.
- The experts in teaching and learning at the Centre for Research and Development of Higher Education, faculties and independent institutes and the Educational Centre for ICT will increase cooperation in the planning and provision of in-house training in university-level teaching and learning and of ICT training for teachers.
- Cooperation in the provision of support services for the use of ICT in teaching will be intensified between the providers of centralised support services and

faculties and other parties. The support service processes will be defined, and responsibilities and roles will be specified.

- Faculties and departments will work as teams to plan the production processes of online teaching. The faculties will implement online teaching more efficiently, and their educational technology advisors will support and participate in cooperation across faculty and university boundaries. The faculties and the Open University will increase cooperation in the planning and implementation of online teaching as regards courses also offered by the Open University.
- Cooperation between faculties, departments and the University's Career Services will be strengthened to allow alumni networks and docents employed outside the University to aid in highlighting the professional orientation of degree programmes.
- Cooperation between teachers and the Helsinki University Library will be increased. Teachers' work will be supported by ensuring that they have unrestricted access to the library resources and information needed in the planning, preparation and provision of teaching.
- Libraries will develop their storage, online and search services in a user-oriented manner based on customer feedback and cooperation with other parties at the University. High-quality, well-targeted information services will ensure that services and resources are used more efficiently.
- The University will see to the publishing and archiving of theses and dissertations in accordance with policies to be outlined by the academic community. Dissertations and their abstracts will be stored on the University's E-thesis website. University-wide policies on the storage and archiving of theses will be established on the basis of the principles applying to the University's electronic publications archive.

3. Implementation, responsibilities and monitoring

The deans of the faculties and the directors of independent institutes and departments in the Administration Office are responsible for the implementation of measures and the division of responsibilities outlined in the University's strategic plan and the Programme for the Development of Teaching and Studies. Responsibility for the implementation of the latter programme at the University level rests with the Rector and the Administration Office. The Academic Affairs Committee of the University and the faculty committees for the development of teaching support and monitor this development work in the faculties and departments.

- To implement the University's strategic plan and policy programmes, each faculty and independent institute will draw up a target programme and a plan for its implementation from 2007 to 2009.
- The target programmes are to contain detailed, field-specific information about the prioritisation of development areas and the allocation of resources in accordance with the needs of each faculty.

The three-year target programmes will be approved in the target negotiations between faculties and independent institutes and the Rector in autumn 2006. The parties will also agree on the establishment of projects, most of which will be agreed for the three-year period. In the interim years (autumn 2007 and autumn 2008), the University will make the necessary adjustments to the programmes and draw up annual budgets for them.

Responsibility for the provision of support services for the development of teaching rests with the Administration Office, faculties and independent institutes. The faculties can also produce these services together with other parties. The Administration Office and the faculties will conduct negotiations to determine which services will be provided centrally to all the faculties. The final service contracts will include information about the distribution of duties, the tasks of various service units and the resources available for providing the services.

The University will monitor the implementation of the Programme for the Development of Teaching and Studies in its annual reports. The resources allocated for teaching will be monitored in the light of the numerical data compiled for this programme.

- Each faculty has a committee for the development of teaching consisting of teacher and student representatives with expertise in teaching and learning. These committees will draw up the target programmes of the faculties and their implementation plans as regards academic affairs, and will monitor the implementation of the programmes.
- Faculties which have departments or divisions will decide whether to establish separate teams for the development of teaching in these units. If established, the tasks of these teams are also to be determined.
- Faculties will report to the Rector on the implementation of the Programme for the Development of Teaching and Studies once every three years in the target negotiations for the three-year planning period. The Academic Affairs Committee will monitor and assess the situation and will outline the development needs for the new strategic period based on the faculty reports.
- Each faculty and department will monitor the numerical data in the Programme for the Development of Teaching and Studies. These data will also be produced centrally for the ILMI portal of the University.

4. Resources

The performance of the University has improved considerably over the past decades. The number of completed degrees has grown: in the past 15 years (from 1990 to 2004), the number of completed Master's degrees increased from 1,730 to 2,330 degrees, while the number of completed doctorates increased from 230 to 395 degrees. The core resources available for instruction have not changed throughout this period.

In many fields, the number of students admitted to degree programmes must be reduced unless more resources are made available. The allocation of resources for teaching must also be monitored more closely. If necessary, the University will strive to increase these resources.

- The University will determine a teacher/student ratio and will monitor efforts to reach it. Because teaching practices and the nature of teaching vary considerably across faculties, this ratio will be determined separately for each field.

The implementation of the Programme for the Development of Teaching and Studies will be financed with centralised project funding, resources allocated to centralised support services, and the financial support provided to faculties and departments for their prioritised needs and resource allocations.

The faculties' teaching resources depend most crucially on the share of core funding allocated to the University from the Government budget. The Ministry of Education uses a framework it has developed to determine the amount of this core funding. The funding received by the University from the Government budget also includes several specific allowances allocated by the Ministry. The core funding of the University can be divided into centralised expenditure and University-level operations and into allocations made to faculties using the University's own framework. The key figures used in the frameworks of both the Ministry and the University are the target number and actual number of completed Master's and doctoral degrees from 2007 to 2009. The framework for the distribution of funds in faculties has not been established conclusively, but according to the Senate decision of 16 April 2003, the faculties must take into account their units' performance in the completion of the University's core tasks. The faculties currently use different methods for distributing core funding to their departments. The biggest expenses are salaries and facility costs.

Teaching staff, students and degrees

The tables below contain basic numerical data about teaching resources, student numbers and degrees at the University of Helsinki. The data for 2006 will not be available until the beginning of 2007. With regard to the period from 2007 to 2009, the tables contain information about the targets that have been set.

	2003-2005			2007-2009		
	Completed degrees			Targets**		
	2003	2004	2005	2007	2008	2009
Degrees						
- Bachelor's degrees	1,159	993	1,073	2,500	2,500	2,500
- Master's degrees	2,349	2,330	2,322	2,558	2,558	2,558
- Doctoral degrees	355	395	378	429	429	429

** Proposal by the University of Helsinki to the Ministry of Education in spring 2006

	2003-2005		
	2003	2004	2005
Teaching resources			
- Professors, person years	492	500	506
- Other permanent teaching posts, person years	982	969	988
- Part-time teachers and docents, person years	343	322	297
- Researchers, person years	1,369	1,438	1,498
Doctoral programmes, person years (Doctoral programme students receiving a salary from the University of Helsinki)	365	396	390
Degree students			
- New students*	4,220	4,357	4,289
- Undergraduate (Bachelor's and Master's) students**	31,304	31,444	31,866
- Postgraduate (Licentiate and doctoral) students**	5,778	5,488	5,482
- International degree students	1,266	1,257	1,387
Open University students			
- Persons	17,796	17,347	17,044
- Decisions granting the right to study	28,211	28,578	26,691

* New students in the faculty registered as attending or non-attending students

** Registered as attending or non-attending students



HELSINGIN YLIOPISTO
HELSINGFORS UNIVERSITET
UNIVERSITY OF HELSINKI

Seppo Saari & Minna Frimodig (Eds.)



Leadership and Management of Education

Evaluation of Education
at the University of Helsinki 2007–2008

15.1 Self-evaluation report of the Faculty of Veterinary Medicine

A Introduction

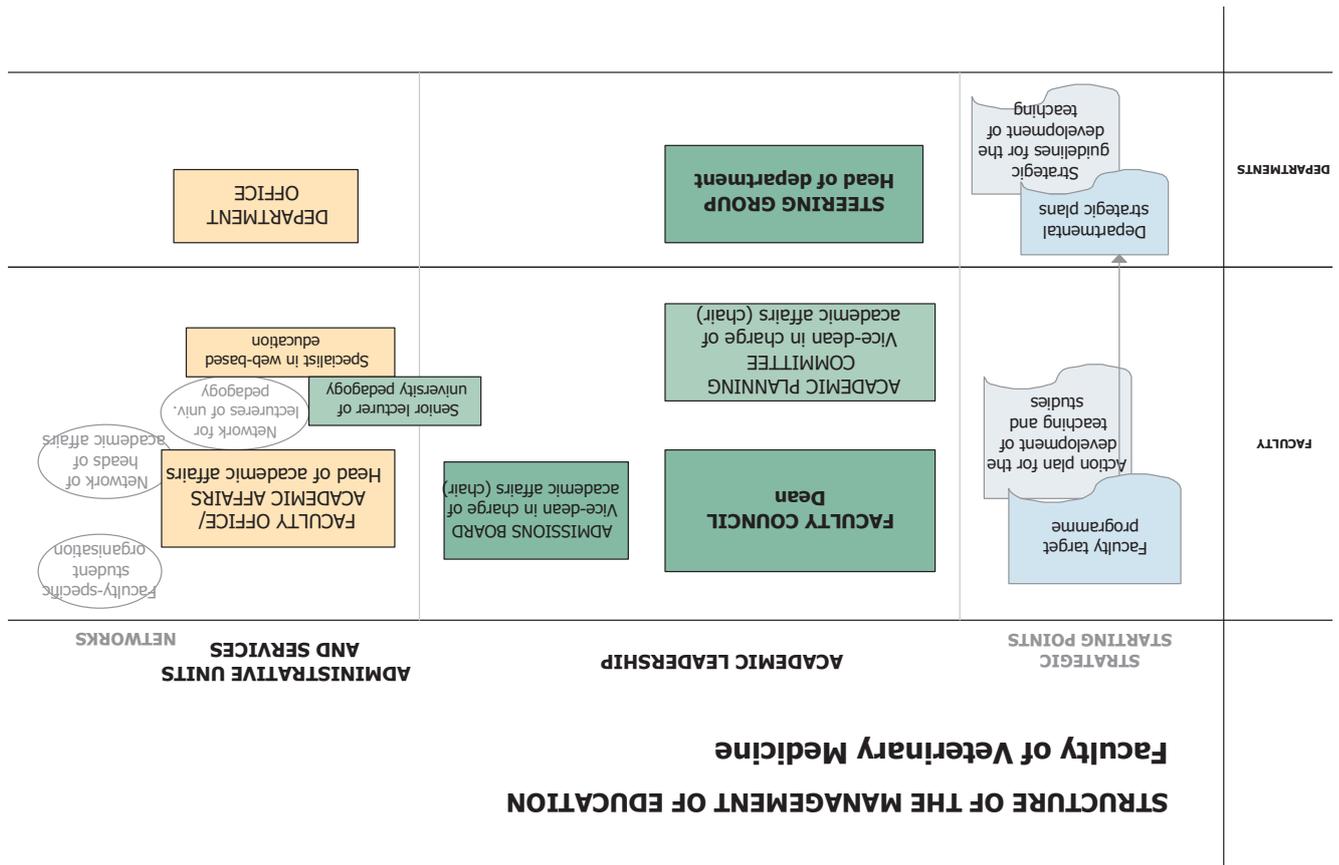
The Faculty of Veterinary Medicine at the University of Helsinki is responsible for education in veterinary medicine in Finland. The Faculty is the only Finnish unit that provides undergraduate education in veterinary medicine, offers research-oriented and vocational postgraduate and continuing education, and develops the practice of veterinary medicine and related services so as to ensure the health and well-being of both animals and humans. The Faculty also conducts high-quality research in veterinary medicine.

The Faculty's undergraduate degrees are the three-year Bachelor of Veterinary Medicine degree (180 credits) and the three-year Licentiate of Veterinary Medicine degree (180 credits). The Faculty has about 280 staff members and some 450 students, of whom 380 students are pursuing an undergraduate degree. Since 2008, the Faculty has admitted 70 new students per year (previously 55).

The Faculty has four departments: Basic Veterinary Sciences, Equine and Small Animal Medicine, Production Animal Medicine and Food and Environmental Hygiene. In addition, the Veterinary Teaching Hospital operates under the Faculty's auspices, treating some 17,500 patients (small animals, horses and production animals) every year. The Hospital functions as a teaching hospital for Faculty students, whose studies include training at the Hospital's clinics. All four Faculty departments and the Veterinary Teaching Hospital together provide the degree programme leading to the completion of the Licentiate of Veterinary Medicine degree. The contents and quality of teaching are governed not only by Finnish legislation, but also by an EU directive.

To conduct the present self-evaluation, the Faculty of Veterinary Medicine designated its Academic Planning Committee as the Faculty steering group for the self-evaluation and named the Faculty head of academic affairs as the evaluation contact person. The chair of the evaluation steering group was the Faculty vice-dean in charge of undergraduate education, and the group secretary was the head of academic affairs. The steering group also included the Faculty senior lecturer in university pedagogy, representatives of all the departments and the students, and a representative of the Viikki Science Library. The steering group carried out the part of the self-evaluation that related to the Academic Planning Committee.

The Faculty asked its departments to respond to the University's self-evaluation questions. The departments were also asked to consider the role of the Academic Planning Committee in the management of education. In addition, the Faculty held a workshop, which was planned cooperatively by an external consultant, Dr Maaret Wager, the Faculty's head of administration, its senior lecturer in university pedagogy, and its head of academic affairs. The participants of this



workshop included the members of the Faculty Council and the Academic Planning Committee, the heads of departments, the heads of disciplines, the coordinators of study units and representatives of the academic administration from the Faculty Office and the department offices. Those registered for the workshop were able to read in advance the departments' and the Faculty's responses to the self-evaluation questions in an online learning environment. The workshop participants represented a comprehensive range of teaching and administrative staff from all the departments, and also included two students and a representative of the Viikki Science Library. The total number of participants was about 30. After the workshop, the Faculty's evaluation contact person drew up a draft report on the basis of the workshop discussions. The Faculty's evaluation steering group then wrote the present self-evaluation report based on that draft.

B Description of the management of education in the Faculty and its departments

The Faculty

The management of undergraduate education is the responsibility of the Faculty dean and the vice-dean in charge of undergraduate education. They are also responsible for the implementation of measures and the distribution of workloads as specified in the University's Strategic Plan and its Programme for the Development of Teaching and Studies. The Faculty dean and vice-deans meet regularly, and the dean conducts annual discussions with the departments concerning the Faculty's operations management process. The Faculty writes a target programme for each three-year planning period to implement the University's Strategic Plan and the Programme for the Development of Teaching and Studies. The Faculty leadership and key officials ensure the implementation of the target programme in their areas of responsibility.

Strategic decisions on education are taken by the Faculty Council, which is led by the dean. The Faculty Council's duties are determined in the Finnish Universities Act and in the Administrative Regulations of the University of Helsinki.

The Faculty's Admissions Board develops the admission of students to the degree programme in veterinary medicine and prepares admissions criteria. The chair of

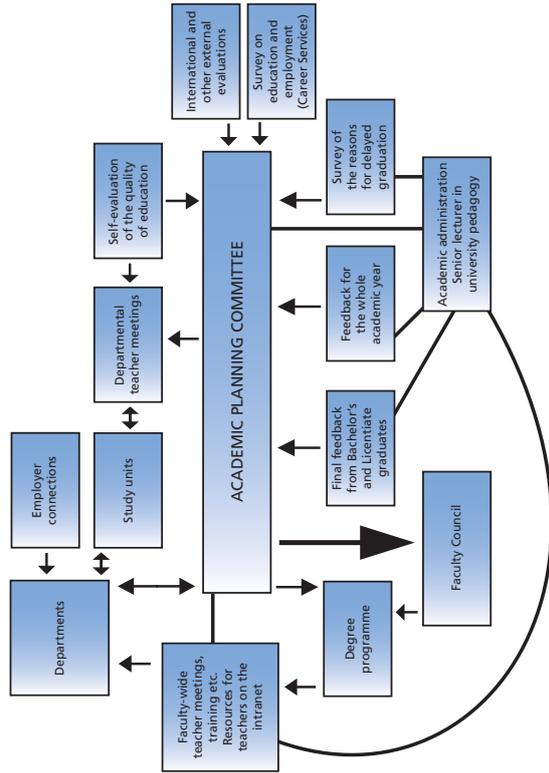


Figure 1. The role of the Academic Planning Committee in the development of teaching in the Faculty

this Board is the vice-dean in charge of undergraduate education, and its secretary is the head of academic affairs. The Board members include representatives of all the Faculty departments and the students, as well as the Faculty senior lecturer in university pedagogy.

The Faculty's Academic Planning Committee develops the degree programme in veterinary medicine and prepares the curriculum. This Committee is chaired by the vice-dean in charge of undergraduate education, and its secretary is the head of academic affairs. The Committee includes representatives of all the departments, the students and, as an expert member, a representative of the Viikki Science Library. The Faculty senior lecturer in university pedagogy is also a member. In curriculum design, the Committee is responsible for the degree as a whole, the degree structure and the degree objectives. The Academic Planning Committee also participates in the preparation of the Faculty's target programme and action plan, and monitors their execution with regard to academic affairs. In addition, the Committee discusses the feedback collected from students at the end of each academic year and the students' feedback on degrees. Figure 1 shows the Committee's role in the development of education in the Faculty.

Where possible, the Faculty has centralised the duties associated with academic administration to the Faculty Office. The student affairs officials of the Faculty

Office are responsible for the preparation, presentation and implementation of duties relating to the academic administration of undergraduate and postgraduate education. Such duties include student recruitment and admissions, the right to study in the Faculty, degree diplomas and other certificates, the coordination of curriculum design (course and examination schedules and degree requirements), the editing of course catalogues, application guides and other similar documents, and the administrative services relating to international teacher and student exchange programmes. The student affairs officials are also responsible for student guidance and advice, the provision of information to new students, the protection of students' legal rights, the registration of completed studies (general studies and the recognition of studies completed elsewhere), retakes of Faculty examinations and communications on academic affairs. The student affairs officials of the Faculty Office include an academic affairs secretary, an international affairs officer (part-time), a planning officer in charge of postgraduate education, a planning officer in charge of web-based education and the head of academic affairs.

The Faculty senior lecturer in university pedagogy works in close cooperation with the staff who deal with academic administration. This lecturer is responsible for the development of teaching and learning and for related research. The lecturer also cooperates with the staff working in academic administration in supervising students whose graduation has been delayed. Moreover, the lecturer supervises the writing of personal study plans, which were introduced in conjunction with a reform of degree structures at the University. The lecturer participates in all of the Faculty's major projects for the development of teaching and supervises the work of the planning officer, who was employed with project funds allocated for the development of teaching (the "W5W2" project).

The departments

The head of each department is responsible for the management of education at that department, while the head of each discipline is responsible for the management of education in that discipline. In addition, a coordinator is named for each study unit. The content of study units, teaching duties, the assessment of learning, detailed schedules and other matters relating to the provision and development of teaching are discussed in departmental teacher meetings. Student feedback on individual study units is also discussed in these meetings.

The departmental curriculum (the degree requirements and the teaching programme) is discussed each year in the departmental steering group. The departments are responsible for the provision of teaching and the registration of completed studies. The department secretaries register completed studies and aid in practical arrangements for teaching. All departments are represented on the Faculty's Academic Planning Committee and Admissions Board.

C Summary of the responses to the questions concerning the management of education and an analysis of its strengths and areas in need of development

■ How does the Faculty support the implementation of high-quality teaching and the departments? How is this support managed? What role does the Academic Planning Committee play in the management of education?

Because the operations management process of the University of Helsinki includes the faculties, each faculty must draw up a target programme for three years at a time. This programme must define the faculty's objectives, its strategic vision of its mission and prospects, and its operational targets. The target programme must also cover the faculty's focus areas as defined in the University's Programme for the Development of Teaching and Studies. The operations manual of the Faculty of Veterinary Medicine describes the annual cycle of financial and operational planning in the Faculty. The objectives for education are set at the Faculty level. The dean conducts annual discussions with the departments on the implementation of the target programme, including, for example, degree objectives. Education could be managed more efficiently if such objectives were brought to bear on the departments as well.

The Faculty dean and vice-dean in charge of undergraduate education play a key role in the management of education. The vice-dean in charge of undergraduate education is the chair of the Academic Planning Committee, which is also the vice-dean's most important means for managing education. The head of academic affairs is the secretary of this Committee and prepares matters for discussion in the Committee, as agreed with the vice-dean. The Faculty senior lecturer in university pedagogy, who works under the supervision of the dean, is responsible for the development of teaching in the Faculty. This lecturer and the head of academic affairs cooperate closely with each other and also exchange information efficiently with the dean and the vice-dean.

The Faculty considers it important that its departments participate in the University's performance evaluations. Each of the Faculty departments must complete the University's Teaching Evaluation Matrix once a year. The Faculty senior lecturer in

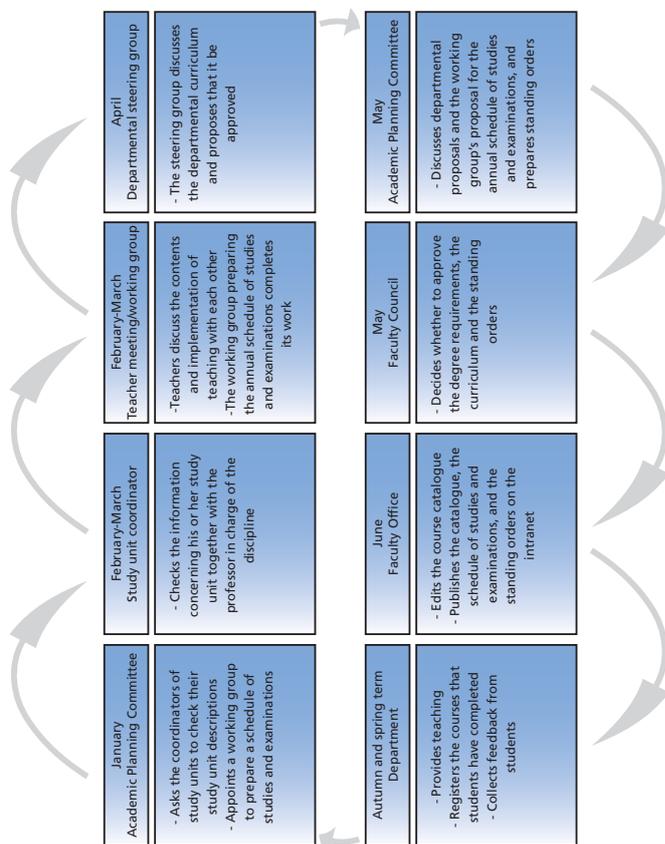


Figure 2. Curriculum design as an administrative process

university pedagogy and the departmental staff have cooperated in submitting an application to be designated as one of the University's centres of excellence in teaching twice in the case of the Department of Food and Environmental Hygiene and once in the case of the Department of Production Animal Medicine.

One of the strengths of academic administration in the Faculty Office and at the departments is cooperation. As part of quality assurance in the Faculty, the processes of academic administration have been described with the objectives of harmonising departmental practices and procedures and of ensuring an appropriate distribution of workloads. As a result of this work, the staff working in academic administration in the Faculty Office and at the departments have started to meet regularly. There is still, however, considerable variation in departmental practices which will be difficult to harmonise because of, for example, the different duties of the department secretaries who deal with academic affairs. Another separate challenge is related to the fact that the superior of the person who deals with academic administration at most departments is the head of department, not the Faculty head of academic affairs.

The role of the Academic Planning Committee has been strengthened in recent years. This Committee is responsible for the development of the degree programme in veterinary medicine and for preparatory work associated with curriculum design. In addition to preparing the curriculum and any changes and additions to it, the Academic Planning Committee prepares standing orders on degrees for the Faculty Council's decision. In curriculum design, the Committee is responsible for the degree as a whole, the degree structure and the degree objectives. Curriculum design consists of several stages, numerous associates and various activities that take place at different times. The management and coordination of this whole process are thus highly important (Figure 2, see page 413).

The Academic Planning Committee also prepares various instructions and recommendations relating to, for example, theses, dissertations and evaluation matrices. Thanks to cooperation between the Academic Planning Committee and the Viikki Science Library, theses and dissertations are now published in an open online environment (dViikki). The Faculty publishes its instructions to students and teachers on the intranet (under *Ajankohtaista opiskelijoille ja opettajille*, "Current information to students and teachers"). The Faculty teachers have also created their own mailing list to distribute current information.

The Faculty's feedback scheme for undergraduate students was created by a working group that the Academic Planning Committee had appointed. The Faculty senior lecturer in university pedagogy was the chair of this working group. The students are now asked for feedback on issues that range from individual study units to the degree as a whole. The University-wide survey on education and employment is also part of the Faculty feedback scheme. The Faculty has appointed the persons in charge of collecting and processing feedback. Other essential elements of the Faculty's feedback scheme include collective discussion on feedback at teacher meetings and meetings of the Academic Planning Committee, and the provision of feedback to students on the feedback that they have given. The Faculty planning officer specialised in web-based education plays an important role in developing the feedback scheme, for feedback is collected electronically.

It emerged in the self-evaluation that one of the Academic Planning Committee's strengths is its strong status in the management of the Faculty's operations. Another positive aspect relating to the Committee is the wide range of people and organisations represented on it (all the departments, the Faculty senior lecturer in university pedagogy, the students and the Viikki Science Library), the active participation of students and the Committee's open atmosphere, which encourages discussion and debate. Information is distributed successfully from the University and various networks (vice-deans, senior lecturers in university pedagogy, heads of academic affairs) to the Academic Planning Committee and vice versa. In contrast, the distribution of information from the Committee to the departments, individual teachers and the students must be improved. Decisions on major issues are taken by the Faculty Council, but smaller matters, such as the issuance and implementation

of instructions and recommendations, are not handled as efficiently as they should be, despite the existence of a mailing list and an intranet information list. The Academic Planning Committee has suggested that in order to improve the distribution of information, the Faculty should organise joint teacher meetings and should specify the Committee members' duties so that they would also include the provision of information about Committee decisions at departmental teacher meetings. In addition, the Faculty has established an administrative development group, which consists of the deans, the heads of departments, the deputy heads of departments and the representatives of administration. This group is one possible channel for communications, although the group already has to discuss many other issues at its meetings. Since the improvement of communications must be seen as part of quality assurance at the departments, each department should be able to decide the most effective means of communication for it.

One of the central areas in need of development to emerge in the evaluation workshop was the establishment of a Faculty-wide view on what should be taught and the scope of what is taught. The departments have already made efforts to agree on these matters (for example, by creating both study modules in clinical subjects and the "healthy animal" module), but coordination is still necessary, not only at the level of individual study units and departments, but also at the degree programme level. New information continues to be produced in various areas of veterinary medicine, and in order not to unreasonably increase the workload associated with the degree programme, the scope and contents of teaching must be revised regularly, and the scope of teaching in various disciplines must occasionally be examined in the degree programme. The Faculty's core principle is that the degree programme and the degree in veterinary medicine should continue to provide the same knowledge and skills as before for research-oriented and vocational postgraduate education and for work as a veterinary surgeon in various areas of veterinary medicine, as stipulated in EU regulations.

The workshop participants felt that the distribution of duties associated with the management of education is clearly defined at the Faculty level. The Faculty senior lecturer in university pedagogy, who holds a doctoral degree, is considered to be one of the Faculty's strengths, as are the Faculty's efficient support services for teaching (academic affairs secretaries).

At the departmental level, the strengthening of curriculum design is one development challenge. Education is the departments' core mission, and the heads of departments are also responsible for managing education. The participants of the evaluation workshop discussed whether the head of department has an excessive workload and whether the role of the deputy head could be strengthened by transferring duties related to the management of education to him or her. In addition, each department needs to appoint a teacher in charge of academic affairs to coordinate the departmental sections of the curriculum, which the steering group then discusses. One department currently employs a part-time

university lecturer who supervises both the students writing their personal study plans and the students whose graduation has been delayed, and also ensures that the department completes the curriculum design process in good time. Curriculum design would be more efficient if each department allocated some of the working hours of one of its teachers to student guidance and supervision. Such teachers would also participate in the operations of the Academic Planning Committee and would deal with communications and implementation.

A major challenge for curriculum design is the high turnover of teachers at all departments. The commitment of staff especially at the departmental level requires action. Although interdepartmental cooperation has been established, the harmonisation of departmental practices and instructions remains a development challenge.

■ *How do the departments agree on the contents, methods and development of teaching?*

All departments cited regular teacher meetings in their responses. Such meetings involve discussion on, for example, feedback on teaching, quality assurance, the assessment of learning, and teaching methods and their further development. In addition to regular teacher meetings, the departments' strengths include an atmosphere open to discussion and debate. Teachers are competent, motivated and highly professional. Teachers are also well aware of what needs to be taught and have good relations with various employers. The staff of each discipline knows what needs to be taught, also from an international perspective.

Another strength of the departments is the advanced way in which they collect feedback on courses and use it. Professors and experienced teachers also participate in discussion on course feedback at departmental teacher meetings.

As mentioned before, the departments and disciplines should cooperate more in curriculum design. The Faculty senior lecturer in university pedagogy assists individual departments and teachers in the planning and development of teaching. Moreover, when necessary, the Faculty's Academic Planning Committee establishes working groups consisting of the best experts in each issue. In conjunction with the degree reform at the University of Helsinki, the Faculty established a successful practice in which the senior lecturer in university pedagogy and the head of academic affairs invite all the teachers to a "roundtable discussion".

The high number and turnover of teachers working on fixed-term contracts is a challenge for the management of education. The frequent induction of new teachers requires that the departments carefully document their decisions. The departments could also support induction by compiling an operations manual.

■ **How do the departments prepare and decide on degree requirements?**

The strength of the Faculty departments is joint curriculum design. The departments' responses indicate that curriculum design takes place cooperatively at teacher meetings. For example, the Department of Food and Environmental Hygiene describes the curriculum design process in the form of an annual timetable: *"We discuss the students' feedback, the teachers' comments on teaching and the numerical data on teaching ("hard data"), and complete the Teaching Evaluation Matrix. Based on this information, we begin the process of curriculum design for the next year, and we also work on any areas in need of development."*

The challenge for the Faculty is that it has a single degree programme and a single curriculum which is implemented by all the departments. The most important development challenges for curriculum design are to increase interdepartmental dialogue and to find a common view. Another development challenge for the departments is the clarification of their basic mission.

■ **How do the departments ensure an appropriate distribution of workloads in teaching?**

The head of each department is responsible for an appropriate distribution of workloads in teaching at that department. The head of each discipline (professor) decides on the distribution of teaching duties in his or her discipline, or departmental teachers agree on this issue at their meetings.

The University of Helsinki applies the basic principle that "all teachers conduct research, and all researchers teach". The Faculty of Veterinary Medicine applies this principle with varying degrees of success. The head of each department is also responsible for committing and motivating the staff to follow the University's Strategic Plan in this respect. Ideally, researchers should supervise thesis and dissertation work, offer optional studies, give lectures and participate in laboratory work which is part of undergraduate education. Some departments' researchers, however, contribute poorly to teaching. In contrast, the technical staff assists in teaching and its organisation at all departments (for example, in laboratory work).

At the Department of Production Animal Medicine, an experienced teacher is in charge of practical demonstrations and exercises which are carried out together with either a veterinary surgeon in training or a young researcher, until that trainee can complete them independently. This helps to train new teachers, while providing an experienced teacher with new perspectives.

The development of the curriculum to comply with higher pedagogical standards (for example, a reform of clinical study modules) clarifies and facilitates curriculum

design and teaching, and thereby also reduces the teachers' workload. One remaining development challenge for the Faculty after the reform of its clinical study modules is the introduction of interdepartmental curriculum design.

The development of the structure of posts in the Faculty is an ongoing project, and teacher resources are still inadequate, as was noted in the evaluation workshop. The Faculty also employs many teachers on fixed-term contracts, and the turnover of such teachers is high, which causes heavy workloads for experienced teachers. Other development challenges thus relate to the recruitment and retention of experienced teachers. In addition, external experts and especially the Faculty's docents should be used more efficiently in teaching.

With regard to the Veterinary Teaching Hospital, it was noted that the veterinary surgeons employed at the Hospital participate in teaching only as part of clinical work. They do not usually give lectures, which increases the other teachers' workload and also means that the veterinary surgeons' expertise is underused.

■ **How do the departments promote the professional skills and expertise of the teaching staff?**

All the departments encourage their teachers to participate in both pedagogical training and training in their field of expertise, and most superiors also raise the issue of teaching in review discussions. Teaching qualifications are also taken into account in the recruitment of teachers and are discussed in job interviews. Although excellent teaching skills are currently reflected to some extent in salaries, the provision of rewards for teaching qualifications remains a development challenge for the Faculty.

Another challenge is to allow for sufficient time for research. The Department of Food and Environmental Hygiene and the Department of Production Animal Medicine note in their responses that they currently allocate time for research. The Department of Equine and Small Animal Medicine, in contrast, writes in its response that it cannot allocate sufficient time for research by clinical teachers because their job description includes not only research and teaching, but also clinical patient work. Using external experts and the Faculty docents more widely in teaching could be one solution to this problem.

D Summary of the strengths, weaknesses and areas in need of development of the management of education in the entire Faculty

Strengths

A single degree programme administered by a professional Academic Planning Committee

Professional and pedagogical competence

- Pedagogical development reflected in the curriculum

Excellent support services

- A senior lecturer in university pedagogy, who also holds a doctorate
 - Broad use of ICT
 - Improved cooperation in academic administration
- Effective teacher meetings and teacher expertise
- Professors and experienced teachers participate in all teaching and in student guidance and supervision
 - Joint curriculum design (teacher meetings)
 - Motivated teachers
 - Positive attitude towards pedagogical training
 - Close connections with employers

Feedback scheme

- Feedback is collected on study units, the academic year and the degrees
- Feedback is discussed collectively and used systematically in the development of teaching

Areas in need of development

Clarification of responsibilities and powers

- Charting the relations (scope) between disciplines
- Establishing a shared view of what graduates need in their work as veterinary surgeons,
 - what makes a good veterinary surgeon and what makes a high-quality veterinary surgeon from the perspective of society
- Methodical organisation of interdepartmental cooperation
- Faculty-level teacher meetings

- Strengthening strategic operations management at the departments
- Communications
- Improving the distribution of information from the Academic Planning Committee to the departments
 - Improving the dialogue between the disciplines and the departments
 - Developing and transferring good practices

Management of education at the departmental level

- Committing departments to operations management, setting objectives (and duties) for the departments, implementing the strategic plan at a practical level
- Adopting an annual schedule in operations management at all departments
- Departmental operating cultures (e.g., do all researchers teach?)
- Appointing a teacher in charge of academic affairs at each department
- Distributing the duties of the department head (discipline head), e.g., strengthening the role of the deputy head in the management of education at the departmental level

Recruitment and retention of experienced teacher

15.2 Feedback provided by the evaluation panel

Summary

The Faculty of Veterinary Medicine is a relatively small, highly specialised Faculty of the University. The leadership of the Faculty has a clear vision for the future, supported by staff and students. We were enormously impressed by the constructive, enthusiastic, passionate views that were expressed during our visit. As the only Faculty of its kind in Finland, the Faculty is the sole provider of veterinary training. This could lead to complacency. On the contrary, however, we found a forward looking, ambitious Faculty, keen to build on its considerable successes in both teaching and research.

Management and leadership in education

The Faculty runs a Bachelor's programme (three years) and a Licentiate of Veterinary Medicine programme (another three years). The Faculty has four departments (Basic Veterinary Science, Equine and Small Animal Medicine, Production Animal Medicine, and Food and Environmental Hygiene) and a veterinary teaching hospital. The Faculty has 280 staff members (74 teaching staff) and 583 students (395+188). Student admission has now been raised from 55 to 70 a year.

The Faculty used to be an independent school, outside the University. The integration into the University in 1995 is considered to have been successful despite a view that there have been cuts in the budget. The Faculty believes that there is sympathetic understanding at the University level for particular aspects of Veterinary Medicine, such as the applied nature of this science and the essential links with a veterinary clinic.

We were very impressed by the highly committed, dedicated staff and leadership of the Faculty, and with the students who were actively engaged in their studies and very positive in their comments.

The Faculty ensured broad participation among staff and students in the self-evaluation. The evaluation report gives a good description of how the management of education is designed at the Faculty. Figures 1 and 2 are illustrative and give a good overview of the role of the Academic Planning Committee and the administration of the curriculum planning process over the year. Our interviews indicated that the description presented corresponds with the perceptions of the interviewees.

The Academic Planning Committee appears to be a well-developed forum for discussions about curriculum and other educational matters. It gives a forum to raise and discuss all matters of common concern. Students and teachers had a very positive experience from participating in the work of this Committee. Matters that had been discussed in the Committee were decided on in the Faculty Council. The Faculty leadership would like the Committee to have a stronger role in the implementation of its decisions. However, members of the Committee felt that, in practice, most issues that had been decided on were enacted.

The departmental structure was said to work well in the organisation of teaching. However, we formed a view that more could be done to diminish the borders between the departments and provide overall coordination and leadership in teaching matters, especially given the common degree programmes spanning all four departments. There was, for instance, a felt need to have a thorough review of the curriculum as a whole, to ensure that it is updated and to balance the weight and place of different subject areas. The departmental structure tends to encourage the preservation of teaching material that may be less appropriate for the overall balance of the programme. Similarly, greater Faculty overview may help to encourage the introduction of new teaching methods and more active teaching by students.

The Faculty feels that it is on a very tight budget. It seems to have been understaffed with positions that have been "frozen". When the student admissions were raised from 55 to 70 students per annum, there was not a proportionate increase in resources for new teachers. We support this view, but also believe that a review of the curriculum and a greater Faculty overview might release some resources for redeployment. The departments have their own budgets, but it is clear that there is very little scope for strategic purposes.

The Faculty uses a feedback system for undergraduate students and takes the findings into account in curriculum planning. The students also report that they felt free to take up issues at the Academic Planning Committee, with teachers or with the Faculty's Senior Lecturer of University Pedagogy. The students' experience was that management and teachers responded well to their comments and complaints, and took action to remedy faults. For example, the students told us about their concerns regarding the second year of studies, which was seen to be overloaded, but this had been dealt with in a manner that the students were very satisfied with.

The Head of each department is responsible for the management of the education offered by that department. A coordinator is named for each study unit. The role of the Heads of Department seems to vary. The general picture that we formed is that the teachers are very independent in their choice of teaching content and teaching methods as long as they filled their allotted time. The teachers in each department reach an agreement on matters such as the distribution of teaching

and curriculum content at teachers' meetings, but we believe that this process could be strengthened and coordinated better at Faculty level.

Our impression is that the role of the departments is at present limited to arranging the meetings and, to a certain extent, to checking that the agreements are followed up, but, significantly, not to spearheading new initiatives. Coordination across departments was therefore expected either from the Faculty or the teachers themselves, rather than by collaboration between the department heads. From the teachers' point of view, some change was needed; either the role of the Faculty or the role of the Head of Department should be strengthened.

Meetings of teachers were arranged at the departmental level (2 - 4 times a year). Teachers thought it would be useful to arrange meetings for all teachers at the Faculty level to work better and improve links across departments. Even with representation in the Academic Development Committee and teachers' meetings, it appears that the information flow to departments, individual teachers and students is lacking in efficiency. The students were able to use the web to access updated information; we would like to see this system extended and used by teachers as well.

The teachers had a high degree of autonomy, and they appeared highly engaged in their teaching. The panel also noted that the teachers were engaged in the learning as well as in the welfare of their students. The strong "ownership" of teaching which this created is probably also a reason for the very positive feedback from students. They know teachers have other things to do, but feel "they are there for me"! On the other hand, this ownership may be an obstacle in getting a comprehensive overview of the content of the programmes and create difficulties in revising content in particular parts of the programmes. The approach to "joint curriculum design" (Self-evaluation, page 417) needs to be further pursued. The Faculty leadership will need to develop a strategy to improve this situation.

According to the Dean, the teachers worked too much, especially bearing in mind their clinical loads. There is a high turnover of teachers. The high workload and better paid jobs outside were the main reasons given for this situation. The Faculty leadership did not seem to have tools available to address this problem, and there was a feeling of powerlessness. Unlike some other Faculties that we visited, there did not seem to be a problem with uneven workloads. As far as possible, the process was well managed. Teaching loads were distributed between colleagues in the same department, and this was regarded as a fair process.

The students in the Faculty each year form a very close-knit group of students, who work together and get to know each other well. This creates a feeling of communality and cooperation; on the other hand, we also noted a sense of isolation from the rest of the University and a reluctance to engage in wider aspects of the University experience. This might be considered further by the Faculty.

Students work long hours, partly due to an intensive teaching schedule, partly caused by heavy study and teaching loads, and partly by their clinical training commitments. They also seemed to be highly dedicated to their work and thought that it was important to learn as much as possible in view of their future profession. The Faculty seems to have managed to overcome the fact that students, due to part time jobs, study less than might normally be expected. In this Faculty, part time jobs do not seem to interfere with the students' studies. In part, this was because many students worked on research projects in the Faculty or on other professionally related activities. The tendency is to graduate (licentiate) in six years. The students do not worry as much as students elsewhere in the University about study loans since the work market is exceptionally good for veterinarians, giving a reasonable expectation that any loans can be repaid.

The students' experience is that their voice is heard and that they are well informed about plans and activities at different levels of the Faculty. The students have monthly meetings with the Dean where particular problems and broader policy issues are discussed. They participate in the Academic Planning Committee and find this a good forum for their views, and they feel free to discuss matters with the Senior Lecturer in University Pedagogy and - in particular - with their teachers.

Research-based teaching and learning has strong expression within the Faculty. The teachers are active researchers and their teaching is strongly informed by insights from their research in the field. In addition, there are opportunities for students to participate in the research of their teachers. An annual summer school offers approximately ten students (by application) the opportunity to participate in research groups at the Faculty and to do their own independent research within this group. Successful projects are written up as articles for publication. This work also counts as the students' Master's thesis. We strongly commend this practice.

From a student perspective, the objective of internationalisation in the Faculty of Veterinary Medicine is mostly related to foreign students coming to the Faculty (about 20 in 2007), rather than by the provision of personal opportunities to go abroad (about 10 in 2007). The students think that their programme, and especially the clinical parts, is better than foreign programmes that they know about; the highly collegial approach also means that students are reluctant to leave their classmates, even for relatively short periods. The students also noted that, as they mostly read English textbooks, have some English-speaking guest professors and have some contact with foreign students, internationalisation was in some ways taken care of. The teachers appear to support the students' views. For their own part, teachers found that their "internationalisation" was related to their research where international networks, contacts and visits of varying length are an absolute necessity. Whilst understanding these views, we also believe that the benefits of internationalisation might still be realised by a more flexible and imaginative approach to the opportunities for international study; for example, a partnership with another international Faculty could lead to group exchanges.

Despite the considerations already discussed related to the curriculum planning process and references to the need for constructive alignment, we believe that this process might well be brought forward with greater urgency. The panel's understanding is that some aspects of the curriculum process are taken care of within each department and that the further concretisation is undertaken by the teacher in question. However, there appears to be a clear need to revise the curriculum as a whole, and this cannot be undertaken by this rather ad hoc, random way of organising the discussion process.

Conclusions

Strengths

- The Faculty has a strong shared vision and clear strategies for future development. We were very impressed with the quality of Faculty leadership; the vision and strategies are in tune with staff and students, and therefore stand a good chance of being implemented.
- The Faculty enjoys excellent teacher-student relations. Teaching standards are high, with varied teaching approaches and learning experiences. Teachers were personally very caring and committed to the welfare of their students. There are frequent teacher-student interactions in various situations.

Good practice

- The Faculty actively promotes research-based teaching and learning. In addition to meeting the usual indicators for research-based teaching and learning, many students are involved in research projects, sometimes leading to a contribution to internationally published papers; also, one department organises an annual summer school which admits a number of students who then participate in the research of that department.

Recommendations

- We recommend that the Faculty initiate a full Faculty-wide review of the curriculum, including content and teaching arrangements.

The Faculty leadership must devise ways to review and revise the curriculum as a whole, addressing such problems as overload, updating and possible places to cut down on face-to-face teaching. The Faculty has a strong need of leadership to reflect upon the overall curriculum. Many new demands have been faced in developing the present curriculum, and so many changes in science and skill have been realised that an integral rethinking and, possibly, an overhaul of the already overloaded curriculum is strongly needed. This requires a reordering of the presence of disciplines and departments in the curriculum, which will also bring about changes in resource allocation, and is therefore an extremely complicated

matter. However, many people we met expressed the need for such an operation. This will require the Dean personally to take the lead, with due regard for a full consultation within the Faculty; it will also mean that the Dean will need to have the powers and instruments available to ensure that such rethinking and restructuring is effectively implemented, to the long-term benefit of staff and students.

- We recommend a full review of the functions of the departments within the Faculty.

The need to review the functions and roles of the departments came up in different ways in all the interviews we undertook. We would go further and urge that the review considers whether there are other models for internal organisation within the Faculty that may offer a better, more effective form of delivery than the current departmental structure. In a Faculty that is concerned with common degree programmes, it is not clear that the departmental structure is the most efficient form of organisation.

- We recommend that the Faculty review the arrangements available for student and staff exchange programmes.

We believe that it is important to make student exchanges more appealing to students. Experiences from other veterinary schools and cultures will enhance student learning and -over time - will strengthen the discipline itself. It is important to change some attitudes in this respect.

The Faculty has a very coherent class system of students who intensively study together and act to assist and stimulate each other in progressing and doing all the work necessary. This also leads to a highly motivated, closely knit group of students, carefully selected and self-reinforcing; however, there is a possible downside from group pressure, isolation from the University and reduced input from the curriculum of other academic disciplines. We would therefore suggest to the Faculty that it looks at ways to guide and supervise the students in order to prevent problems before they arise. The creation of some electives to be taken outside the Faculty might help solve this issue, or more incentives to study abroad and obtain a transfer of credits, or bringing in students from other Faculties doing an elective at the Faculty of Veterinary Medicine. Students in the Faculty are under considerable pressure, and we urge that staff are all trained to detect potential problems, both study-related and personal, at an early stage.

Abstract

The University of Helsinki is a research-intensive university with a leading position in Finland. In the University Strategy it is stated that "the University of Helsinki will establish its position among the leading multidisciplinary research intensive universities in Europe". As part of its quality assurance and strategic development, the University of Helsinki regularly conducts evaluations of its education and research. The previous evaluation of education, which was of considerable scope, was carried out between 2001 and 2002. The results of this evaluation included a recommendation for the evaluation of the management of education. The selected focus of the present evaluation is thus the management of education, investigated from the viewpoint of both leadership and management. Without doubt, this approach can be deemed to be novel also on the international level.

The management of education at the University of Helsinki is a topical issue connected to the reform of the University's management system, the organisation of research and teaching and the streamlining of relevant decision making. When the evaluation project was planned, it was not known how quickly the upcoming university reform in Finland would be launched. Now, this report is being published in the middle of the university reform. The report offers the University recommendations for strategic planning at an opportune moment and enables the University to benefit from outside expert views in the upcoming process of change.

Self-evaluations in the faculties and departments were implemented in the form of cooperative learning processes, which, in the manner of enhancement-led evaluation, promoted and tested the university community's understanding of the strengths and weaknesses of the management of education.

The external evaluation was conducted by an international panel consisting of 12 experts. The panel was chaired by Professor, Vice-Rector Eva Åkesson from Lund University. The Panel interviewed over 400 members of the academic community.

The strengths, good practices and development proposals presented in the evaluation report offer both a detailed analysis of the present state of affairs and recommendations for development.

The main four evaluation topics were as follows:

- 1. Setting strategic objectives and translating them into concrete measures**

The breadth of expertise in the University was seen both as a strength and a real opportunity for future development.

A longer time span for the University's Strategic Plan, at least a five- to six-year strategic horizon, was recommended.
- 2. The support provided by follow-up data (numeric and qualitative) for the management of education**

The Teaching Evaluation Matrix and the experiences of the teaching and learning questionnaire (ETLO) and of the checkpoint system were considered strengths.

The evaluation recommended that the University review the present arrangements for the collection and use of management information at all levels. Much data is collected, but its use is often imprecise; some information is collected but not used.
- 3. The distribution of responsibilities and labour in the management of education**

The University's strong tradition of democratic and participative governance was considered a strength. There is a strong awareness of the need to involve all staff in the development of policy. The Centre for Research and Development of Higher Education and the University-wide system of senior lecturers in university pedagogy received praise.

A detailed review of the University's decision-making structures at all levels was recommended.

The faculties should define and elaborate more explicitly what a learner-centred approach means in their disciplines.
- 4. Service management within the sphere of academic administration**

The very high level of professional commitment and expertise among the staff at all levels in the University was found to be impressive. The University has responded positively to the demands of the Bologna process.

The panel recommended a review of the quality control of the student checkpoint system.

Keywords: evaluation of education, university development, leadership and management

Regulations concerning examinations, grading of completed studies and the Board of Examination Appeals at the University of Helsinki

(<http://notes.helsinki.fi/halvi/hallinto/ohjto.nsf/504ca249c786e2085256284006da7ab/224d1f1645197a00c225673102bca63?OpenDocument>)

Recommendations and guidelines related to degree reform

(http://www.helsinki.fi/tuikinonnuudistus/taatokset_suositukset.htm)

Act on practising veterinary medicine (29/2000)

(<http://www.finlex.fi/fi/laki/alkup/2000/20000029>)

Amendment to the Act on practising veterinary medicine (301/2006)

(<http://www.finlex.fi/fi/laki/alkup/2006/20060301>)

Amendment to the Act on practising veterinary medicine (1094/2007)

(<http://www.finlex.fi/fi/laki/alkup/2007/20071094>)

Decree on the Specialist's Degree in Veterinary Medicine (275/2000)

(http://www.vetmed.helsinki.fi/opiskelu/erikoistutkiminen/asetus_suomi.pdf)

Amendment to the Decree on the Specialist's Degree in Veterinary Medicine (1st June 2006)

(<http://www.finlex.fi/fi/laki/alkup/2006/20060400>)

Regulation of the Ministry of Agriculture and Forestry on the qualifications of a food hygiene veterinarian

(<http://www.b.mmm.fi/eli/laki/lj.html>)

Decree on qualifications required from veterinary surgeons trained outside the European Trade Area for professional veterinary certification (235/2003)

(<http://www.finlex.fi/fi/laki/alkup/2003/20030235>)

Amendment to sections 3 and 7 of the Ministry of Agriculture and Forestry decree on qualifications required from veterinary surgeons trained outside the European Trade Area for professional veterinary certification (349/2006)

(<http://www.finlex.fi/fi/laki/alkup/2006/20060349>)

EU documents regulating university operations:

Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications

(<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32005L0036:FI:HTML>)

EAEVE (European Association of Establishments for Veterinary Education) FVE (Federation of Veterinarians of Europe)

(<http://www.eavev.org/>)

Evaluation of Veterinary Training in Europe: Manual of Standard Operating Procedures

(<http://vl.emu.ee/orb.aw/class=file/action=preview/id=365631/02FVE.pdf>)

Standing regulations on the educational activities of the Faculty of Veterinary Medicine

Standing regulation on Bachelor's and Licentiate's Degrees in Veterinary Medicine

(<http://www.vetmed.helsinki.fi/hallinto/maarakv/set/eli-maarakv.htm>)

Standing regulation on the Specialist's Degree in Veterinary Medicine

(<http://www.vetmed.helsinki.fi/hallinto/maarakv/set/eli-maarakv.htm>)

Standing regulations on the Specialist's Degree in Veterinary Medicine by degree programme

(<http://www.vetmed.helsinki.fi/opiskelu/erikoistutkiminen/dokymkoulukoht.htm>)

Standing regulation on the Degree of Doctor of Veterinary Medicine

(<http://www.vetmed.helsinki.fi/hallinto/maarakv/set/eli-maarakv.htm>)

Standing regulation on examinations in the Faculty of Veterinary Medicine

(<http://www.vetmed.helsinki.fi/hallinto/maarakv/set/kuulustelu.htm>)

The Programme for the Development of Teaching and Studies 2007-2009 sets the strategic guidelines and the focus areas for developing degree education. The focus areas for the strategy period 2007-2009 are quality of learning, student guidance and

an international learning environment. Other areas to be developed are the planning of teaching, management and quality, student recruitment, bilingualism, the development of teaching given in Swedish and support and services for developing teaching. Link:

(http://www.helsinki.fi/opetus/materiaali/Opetuksen%20ja%20opintojen%20kehitt_ohjelma%202007-2009.pdf)

The performance programme of the Faculty of Veterinary Medicine 2007-2009 consists of the performance goals of the Faculty and the main actions agreed upon to attain these goals. The main goals of the Faculty concerning the development of teaching and vocational postgraduate studies in the strategy period 2007-2009 are:

1. maintaining the internationally acclaimed high quality of undergraduate education and developing it further in line with the Bologna process,
2. defining the learning goals of both Bachelor's and Licentiate degrees and integrating more advanced substance in the Specialists' Degree,
3. developing optional studies in undergraduate education into orientation options, and
4. developing the number of admissions in parallel with teaching resources in order to satisfy the demand for veterinarians in Finland.

Link:

([https://notes.helsinki.fi/halvi/strategiainensuunnitelu.nsf/07416be4d2870854c2257210004284ae/667fbf6324384af6c22572580030bd92/\\$FILE/eltik-tavsob-14112006.pdf](https://notes.helsinki.fi/halvi/strategiainensuunnitelu.nsf/07416be4d2870854c2257210004284ae/667fbf6324384af6c22572580030bd92/$FILE/eltik-tavsob-14112006.pdf))

Course Catalogue 2008-2009

(http://www.vetmed.helsinki.fi/opiskelu/perustutkinto/opinto-opas_2008-2009.pdf)

2. EDUCATIONAL RESOURCES

The Veterinary Teaching Hospital is a unit of the Faculty where students learn clinical veterinary science and practical skills. It also functions as a postgraduate study unit for specialising veterinarians. Link:

(<http://www.vetmed.helsinki.fi/ves/default.htm>)

2.1. STAFF

The Faculty has a staff of about 300 people. In addition to professors and other teaching staff, courses are taught by docents, researchers, veterinarians mainly involved in clinical practice in the teaching hospital and other staff such as laboratory staff and animal attendants.

The lecturer is responsible for the quality of the teaching situation and for the evaluation of learning results. Lecturers are encouraged to take part in training offered in university pedagogy, information and communication technology and international teacher exchange programmes. There are several foreign lecturers in the Faculty, and some courses are taught in English. Teaching in Swedish will be increased (there is one Swedish-language chair funded by an endowment in the Faculty).

When recruiting staff for teaching positions, the Faculty implements the University of Helsinki Human Resources Policy, according to which in addition to scientific qualifications, attention needs to be paid to teaching experience and pedagogical qualifications, and that decisions of the University Senate concerning the evaluation of academic qualifications and the use of academic portfolios must be followed.

In order to be appointed as Professor, Docent, Clinical Lecturer or University Lecturer, applicants must give a public demonstration of their teaching skills. In the evaluation of the teaching demonstration, attention is paid to the ability of the applicant to structure the topic conveyed to the audience, to argue her/his line of thought and points of view, to utilise the latest research in the field and to teach in an encouraging and thought-provoking manner. The evaluation also focuses on the presentation skills of the applicant, her/his ability to use teaching aids and her/his ability to interact with the audience. The Faculty Council evaluates Professors and Docents and the Steering Committee of the Department evaluates Clinical Lecturers and University Lecturers with the help of the teaching demonstration evaluation matrix.

Link:

University of Helsinki Human Resources Policy 2007-2009

([https://notes.helsinki.fi/halinto/hallinto/Konsistiskp.nsi/821ea8991f743f71c2256da3002a1fa1/7eeet_a3292957acd9c25720a004090221\\$FILE/henkpoolohi_B5_verkkoon.pdf](https://notes.helsinki.fi/halinto/hallinto/Konsistiskp.nsi/821ea8991f743f71c2256da3002a1fa1/7eeet_a3292957acd9c25720a004090221$FILE/henkpoolohi_B5_verkkoon.pdf))

Decree on the qualifications and tasks of University staff (309/1993)

(<http://www.finlex.fi/fi/laki/alkup/1993/19930309>)

Standing regulation on the evaluation of academic qualifications

(<http://www.velmed.helsinki.fi/hallinto/maaravkset/avviointi.htm>)

Academic portfolios in the evaluation of gaining academic qualifications

(<http://www.velmed.helsinki.fi/hallinto/maaravkset/portfolio-avviointi.htm>)

Academic portfolios in recruitment by the Faculty of Veterinary Medicine

(<http://www.velmed.helsinki.fi/hallinto/maaravkset/portfolio-viirataxtvto.htm>)

Faculty guidance on applying for Docentships

(<http://www.velmed.helsinki.fi/hallinto/dosentti.html>)

2.2. STUDENTS

Talented and motivated students are a prime resource of the Faculty. There are about 580 students in the Faculty, among whom 395 are undergraduate students (Bachelor's and Licentiate's degrees). Numerical goals for the amount of completed undergraduate and postgraduate degrees are mentioned in the performance programme of the Faculty.

Students are responsible for learning results and study progress themselves.

2.2.1. Students' possibilities in influencing decision-making in the Faculty

Students can act through their representatives in different organs and committees, by giving feedback and through their subject association.

The subject association of the Faculty, EKY, will express its views on the development of teaching when needed. Link:

(<http://www.eky-ty.fi/>)

2.2.2. International student exchange and educational cooperation

Student exchange refers to studies or internships abroad which can be included in the degree under completion. The most important programmes the Faculty is involved in are:

Socrates/Erasmus

(<http://www.velmed.helsinki.fi/opiskelu/vaihto/opiskelijavaihto.htm#socrates>)

Nordplus

Freemover funding
(<http://www.velmed.helsinki.fi/opiskelu/vaihto/opiskelijavaihto.htm#nordplus>)
(<http://www.velmed.helsinki.fi/opiskelu/vaihto/opiskelijavaihto.htm#freemover>)

NOVA, the Nordic Forestry, Veterinary and Agricultural University Network, organises training especially for postgraduate students, although cooperation takes place in undergraduate studies as well. NOVA link:
(<http://www.nova-university.org/>)

Numerical goals for student exchange are mentioned in the Faculty performance programme. Good opportunities to take part in veterinary practice increase the willingness of foreign exchange students to come and study at the Faculty.

The Planning Officer for International Affairs coordinates student exchange programmes.

Link:

Performance programme of the Faculty of Veterinary Medicine 2007-2009

([https://notes.helsinki.fi/halvi/strategiensaunmitelu.nsi/07416b64d2870854e2257210004284ae667fb6324384af6c22572580030b992\\$FILE/elokk-tavsoy-141206.pdf](https://notes.helsinki.fi/halvi/strategiensaunmitelu.nsi/07416b64d2870854e2257210004284ae667fb6324384af6c22572580030b992$FILE/elokk-tavsoy-141206.pdf))

International student exchange in the Faculty of Veterinary Medicine

(<http://www.velmed.helsinki.fi/opiskelu/vaihto/opiskelijavaihto.htm>)

2.3. PARTNERSHIPS AND INTEREST GROUPS

Major cooperation partners of the Faculty include, e.g.,

The Finnish Food Safety Authority Evira (<http://www.evira.fi/portali/evira/>)

The Ministry of Agriculture and Forestry (<http://www.mmm.fi/index/etusivu.html>)

The Finnish Veterinary Association (<http://www.sell.fi/>)

Fennovet Ltd (<http://www.fennovet.fi/>)

Palmenia Centre for Continuing Education (<http://www.helsinki.fi/palmenia/>)

Agrifood Research Finland MITT (<http://www.mitt.fi/>)

National Agency for Medicines (<http://www.laakelaitos.fi/>)

Game and Fisheries research RKTL (<http://www.rktl.fi/>)

2.4. FACILITIES AND EQUIPMENT

The Faculty is located in modern facilities on the Viikki campus. The facilities of clinical production animal medicine are located mainly in Saari in Mäntsälä (outside Helsinki). The facilities are presented in more detail in the Faculty performance programme.

The Technical Department of the University of Helsinki manages the use, letting out and maintenance of teaching facilities. More information on services concerning the facilities can be found on the Premises and Technical Affairs site on the Alma intranet pages. Link:
(<https://alma.helsinki.fi/tab/42802>)

The study facilities of the Faculty have been described in the map of the learning centre. Link:
(<https://alma.helsinki.fi/doclink/92624>)

3. DEGREES AND DEGREE-ORIENTED EDUCATION

The Faculty is responsible for the quality of the degrees, teaching, study administration and support services it offers. Departments are responsible for the quality of the teaching and the study credits they offer.

3.1. UNDERGRADUATE DEGREES

3.1.1. Bachelor's and Licentiate's degrees

The degree structure of undergraduate studies in the Faculty of Veterinary Medicine changed to a two-tier system in line with the Bologna process at the beginning of the academic year 2005-2006. Students, who began their studies before 1 August 2005, may transfer into the new degree system until 31 July 2010. After this, studying and the completion of degrees according to the previous degree system will no longer be possible.

Link: Degree system reform and instructions for the transition phase:

(http://www.vetmed.helsinki.fi/opiskelu/tutkimonvuodistus/tukuudistus_ohjeet.pdf)

Basic studies in Veterinary Medicine consist of a Bachelor's degree in Veterinary Medicine (ELK, 180 ECTS) and of a three-year Licentiate's degree in Veterinary Medicine (ELL, 180 ECTS).

The aim of the Bachelor's degree is to familiarise the students with the foundations of the degree studies, with following scientific development in the field and with the prerequisites for scientific thinking and methods, for further training up to the Licentiate level and continuing education and for attaining adequate communication and linguistic skills.

The Bachelor's degree consists of basic and intermediate studies, optional and elective studies, practical training and a dissertation. The Licentiate's degree consists of basic, intermediate and advanced studies, optional studies, practical training and a dissertation. In recent years, the curriculum has come to consist of different blocks of studies. The Bachelor's degree also includes multidisciplinary features. Studies in information and communication technology (incl. information acquisition and management) and courses in Finnish and Swedish have been integrated into basic and intermediate studies.

The aim of the Licentiate's degree in Veterinary Medicine is to provide the student with wide-ranging basic knowledge of the scientific disciplines upon which veterinary practice is founded, the skills needed to make independent, critical and scientifically and ethically motivated decisions, the skills needed in broad-based communication and cooperation, the ability to manage a professional and independent veterinary practice, and the ability to follow the development of the field and to continue one's education and maintain the skills needed for scientific and professional postgraduate education.

The Licentiate's degree in Veterinary Medicine equips the student with the scientific and practical skills to become a certified veterinarian under Finnish law and to practice as an official veterinarian defined by EU regulations in different fields of veterinary medicine.

Link: Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications
(<http://eur-lex.europa.eu/LexUriServ.do?uri=CELEX:32005L0036:F:HTML>)

3.1.2. Information for prospective students and selection of students

Information for prospective students is disseminated, e.g., by organising information sessions for students in their last year of upper secondary school, by taking part in education fairs and with the leaflet "Studying Veterinary Medicine" (*Opsikele eläinlääketiedettä/Studera veterinärmedicin*). Link:
(<http://www.vetmed.helsinki.fi/opiskelu/valinta/esite.pdf>)
(http://www.vetmed.helsinki.fi/opiskelu/valinta/esite_ru.pdf)

The admission process, selection criteria and other information on selecting new students can be found in the prospectus of the Faculty.

Prospectus 2009 (In Finnish)

(<http://www.vetmed.helsinki.fi/opiskelu/valinta/valintaenusteet.htm>)

Prospectus 2009 (In Swedish)

(<http://www.vetmed.helsinki.fi/opiskelu/valinta/urvalet.html>)

A new electronic application system was introduced in spring 2007 by the University of Helsinki, and since spring 2009, the Faculty of Veterinary Medicine has been in the national online application system (YSHU).
(<http://www.ytiopistonkatku.fi>)

In line with the strategy of the University of Helsinki, the Faculty strives to choose the best and the most motivated applicants. The Faculty cooperates in admission matters with other faculties of medicine in Finland. Cooperation in admission matters is coordinated by the National University Admissions Committee of Medicine. The Development Committee of University Entrance Examinations in Medicine is in charge of the constant evaluation and development of the national entrance examination. The National Committee for Entrance Examinations in Medicine is responsible for the practical preparation of the entrance examination. The Faculty is represented in all of these Committees.

The admissions process of the Faculty has been described on Alma, the intranet of the University. Link:
(<https://portal-09.it.helsinki.fi/doclink/104008>)

3.1.3. Guiding, planning and supporting studies

3.1.3.1. Orientation and tutoring

New students can acquire skills needed in academic studies in the Study Orientation Course organised in the autumn. New students are divided into tutor groups, which are led by more advanced students trained in tutoring. A trained tutor is designated also to international exchange students. The aim of the tutor groups is to familiarise new students with the University, with the Faculty as a study environment and to help with issues related to the beginning of studies.

3.1.3.2. Personal study plan (PSP)

In the Faculty of Veterinary Medicine the personal study plan (PSP) is in the form of a portfolio. The aim of compiling a portfolio is that the student comprehends her/his studies in veterinary medicine in their entirety and forms an understanding of the broad-based nature of the profession of a veterinarian from the beginning. The student learns to reflect on her or his learning processes and the factors that influence it, and is able to evaluate and document her/his skills.

Students following an individual study plan (incl. students transferring to the new degree system and students lagging behind in their studies) draft a personal study plan (limited PSP).

3.1.3.3. *Etappi* study progress checkpoint system

Etappi is the study monitoring and support system in the University of Helsinki. Study progress is monitored at five different checkpoints by looking at the accumulation of ECTS study credits, and progress is supported with the help of the study plan and guidance. The checkpoints in *Etappi* for monitoring progress have been set according to the specific features of the degree programme. More information on *Etappi* checkpoints and how progress is monitored is available in the course catalogue of the Faculty. Link:

(<https://alma.helsinki.fi/doclink/25632>)

Etappi checkpoints in the Faculty of Veterinary Medicine:

(<https://alma.helsinki.fi/doclink/50132>)

Course catalogue of the Faculty of Veterinary Medicine

(http://www.vetmed.helsinki.fi/opiskelu/perustutkimto/opinto-opas_2008-2009.pdf)

3.1.3.4. Student guidance

Study guidance is available from heads of subjects, lecturers in charge of courses, the Faculty office and from people responsible for study affairs in different departments and from the Senior Lecturer in University Pedagogy of the Faculty.

Details on persons responsible for study guidance and their contact information is available on the website of the faculty, in the course catalogue and on the Alma intranet on the study pages of the Faculty.

Undergraduate students of the University of Helsinki can consult study psychologists, who offer guidance in study skills, motivation, time management, life management and writing dissertations.

Link:

(<http://www.vetmed.helsinki.fi/opiskelu/perustutkimto/opintoneuvonta.htm>)

(http://www.vetmed.helsinki.fi/opiskelu/perustutkimto/opinto-opas_2008-2009.pdf)

(<https://alma.helsinki.fi/doclink/31976>)

(<https://alma.helsinki.fi/doclink/98826>)

3.1.3.5. Recognition of earlier studies

The principles relating to the recognition of earlier studies and the persons responsible for study recognition have been listed in the course catalogue and in standing regulations concerning Bachelor's and Licentiate's degrees in Veterinary Medicine. Link:

Form: Recognition of studies completed in other universities
(<http://www.vetmed.helsinki.fi/hallinto/maaravks/etvll-maaravs.htm>)
(<https://alma.helsinki.fi/doclink/29774>)

3.1.4. Teaching

Teaching in the Faculty is founded upon scientific research.

Research findings in the field of academic teaching and learning are taken into account when planning courses in the Faculty. Diverse and appropriate teaching methods that support an active role for students are applied. This aims at in-depth learning, which forms the basis for the acquisition of knowledge. Teaching in the Faculty is subject to reporting on a national and an international level, and it benefits also from research done in the Faculty in university pedagogy.

3.1.4.1. Curriculum design

The curriculum is made up of degree requirements and a teaching programme. Degree requirements stipulate which courses need to be completed in order to graduate as a Bachelor or Licentiate in Veterinary Medicine. Degree requirements are reviewed annually in the Faculty. The constant accumulation of knowledge in all areas of veterinary medicine means that the core content of each subject is analysed on a continuous basis. This is done annually when course descriptions are reviewed in each department according to the instructions given by the Education Planning Committee. The content and the goals of the courses are formed into a broad-based degree that responds to both academic and professional requirements. The curriculum is developed on an on-going basis with the help of, e.g., workshop activities.

The different phases of reviewing the curriculum every year and the people responsible for it are presented in Figure 1. Smooth cooperation between departments, the Faculty office and the Education Planning Committee is essential in reviewing the curriculum.

Curriculum review includes several sub-processes (e.g., creating a course). Processes taking place in the departments are described in more detail in their operation manuals.

Drawing up timetables for courses and examinations is an integral part of curriculum planning.

A team appointed by the Education Planning Committee drafts the annual course and examination timetable. A responsible teacher is appointed for each academic year.

The Viikki Science Library is in charge of acquiring course literature. The persons responsible for study affairs in the Faculty office keep the library informed of changes in course literature.

A process manual for drafting timetables and booking classrooms is in the Alma intranet of the Faculty:

(<https://alma.helsinki.fi/download/2000000051939/Lukujarjestvs.doc>)

The curriculum is published annually in the Course Catalogue. Since 2007-2008 the Course Catalogue is available in the WebOodi system.
(<https://portal-09.it.helsinki.fi/doclink/29498>)
(<https://oodi-www.it.helsinki.fi/hy/frame.jsp?Kieli=1>)

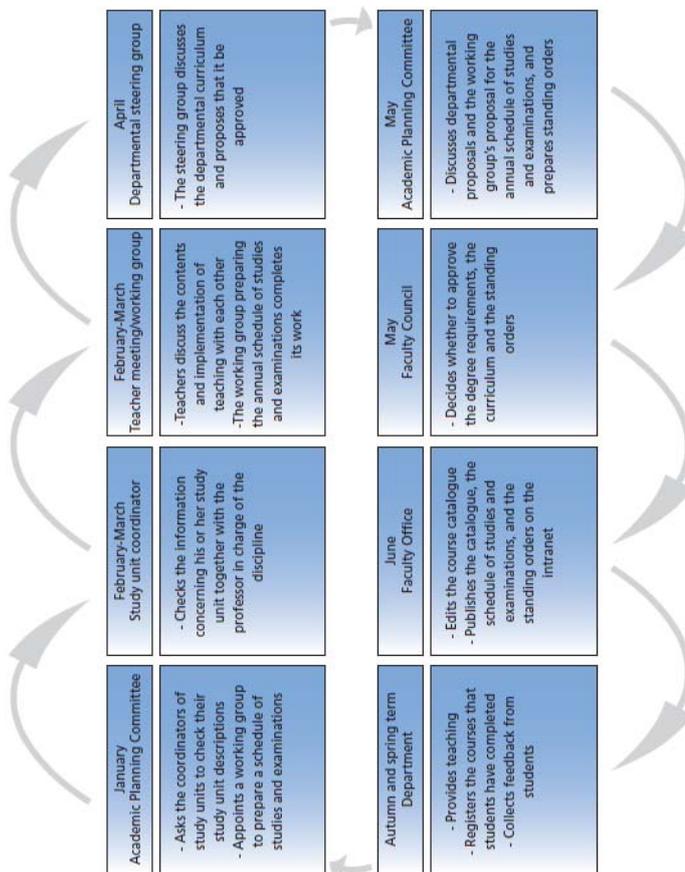


Figure 1. Curriculum design as an administrative process

3.1.4.2. Feedback, self-evaluation

In each department of the Faculty, self-evaluation of teaching is carried out once a year with the help of the quality evaluation matrix of the University of Helsinki.
Link:
Teaching quality evaluation matrix (8th Jan 2007)
(http://www.helsinki.fi/arviointi/koulutuksen_laadunvarmistus/PDF/Arviointimatriisi_080107.pdf)

Teaching quality evaluation matrix in units' self-evaluation
(http://www.helsinki.fi/arviointi/koulutuksen_laadunvarmistus/PDF/itsearviointiohje_07.pdf)

Profitability evaluation of university teaching quality
(http://www.helsinki.fi/arviointi/koulutuksen_laadunvarmistus/PDF/Tuloksellisuohje_07.pdf)



Feedback is collected widely from students throughout undergraduate studies. The feedback system of the new degree structure is presented in Appendix 1.
(<https://alma.helsinki.fi/doclink/127923>)

Figure 2 presents a diagram of the education feedback system.

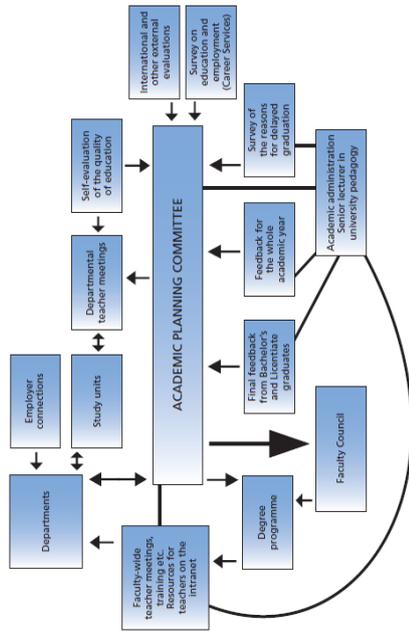


Figure 2. Role of the Education Planning Committee in the development of teaching in the Faculty

The Faculty or one of its Departments will endeavour to participate in the performance valuation of teaching in the University of Helsinki and in the competition appointment as a Centre of Excellence in University Education by the Finnish Higher Education Evaluation Council. The Faculty strives to nominate candidates for the Eino Kaila Teaching Prize and the Educational Technology Prize. Link:
National Education Quality Units
(http://www.helsinki.fi/laatu/arviointi/valtakunn_laatuyskiskot.html)

Education prizes:
(<http://www.helsinki.fi/laatu/arviointi/palkinnot.html>)

3.1.5. Studying, evaluation of completed courses

3.1.5.1. Course and examination enrolment

Enrolment to courses and examinations is done electronically through the WebOodi system. Link:

WebOodi (<https://oodi-www.it.helsinki.fi/hy/frame.jsp?Kieli=1>)

Enrolment instructions
(<https://alma.helsinki.fi/doclink/48427>)

Course and examination timetables
(<https://alma.helsinki.fi/doclink/29499>)

Instructions for retakes
(<https://alma.helsinki.fi/doclink/132155>)

3.1.5.2. Evaluation of completed courses

Completed courses and Bachelor's dissertation are evaluated on a scale of 0-5. In skills-based courses and in traineeships the scale is pass-fail. The Licentiate's dissertation is evaluated on an eight-point scale (*improbatur-laudatur*). The composition of the final grade for a study module is explained in more detail in the relevant study module descriptions. Link:

Course Catalogue
(http://www.vetmed.helsinki.fi/opiskelu/perustutkinto/opinto-opas_2008-2009.pdf)

Forms: Evaluation of Bachelor's and Licentiate's dissertations,

Evaluation of the Licentiate's dissertation
(<https://alma.helsinki.fi/doclink/29774>)

3.1.5.3. Bachelor's dissertations

The Bachelor's dissertation is a literature review which is written on a topic given by teachers or on a topic agreed upon by a student with a teacher or a researcher. The dissertation is based on 4-6 articles chosen by the student and on one textbook. It is presented orally in a seminar at an occasion agreed upon with the teacher or researcher supervising the dissertation. A maturity test will be written about the Bachelor's dissertation. The supervisor will give the exact topic to the student. Link:

Rules concerning the supervision of a Bachelor's dissertation

(<https://alma.helsinki.fi/doclink/132020>)

Evaluation form of the Bachelor's dissertation

(<https://alma.helsinki.fi/doclink/29774>)

3.1.5.4. Licentiate's dissertation

In a Licentiate's dissertation a student concentrates on a set of problems that has scientific or professional relevance to a veterinarian's work. The dissertation process includes a research proposal, a possible experimental component, dissertation writing, attending seminars and a written maturity test.

Attempts will be made to connect Licentiate's dissertation to the work of research groups in departments and to deposit them in D-Viikki. Link:

(<http://www.tiedekirjasto.helsinki.fi/viikki/etusivu.htm>)

Link:

Lisensiaatin tutkielman kirjoitusohjeet

(<https://alma.helsinki.fi/doclink/105937>)

Writing Instructions for the Licentiate dissertation

(<https://alma.helsinki.fi/doclink/92675>)

Forms: Research plan form, Summary form, Seminar attendance,

Evaluation of Licentiate's dissertation

(<https://alma.helsinki.fi/doclink/29774>)

A process description of a Licentiate's dissertation is on the Alma intranet pages

(<https://alma.helsinki.fi/doclink/104008>)

3.1.5.5. Temporary licence to practice as a veterinarian

Inspection veterinarian qualifications

A student in veterinary medicine can be accepted as a substitute inspection veterinarian for a fixed period, if he or she has completed the relevant courses (see the Course Catalogue and Alma). Link to decision of the Ministry for Agriculture and Forestry

(<http://www.mmm.fi/eli/laki/ta/a23.html>)

Rights for temporary practice

Students who have completed the relevant Licentiate-level courses stipulated by the Ministry for Agriculture have the right to practice as temporary veterinarians. Students can practice as substitutes for certified veterinarians or for veterinarians who offer temporary veterinary services according to Section 8 of the Act on Veterinary Practice. Students cannot act as independent practitioners. Rights for temporary practice are valid for a maximum of three years. The required courses are mentioned in the Course Catalogue and in Alma. Links:

Process description (Word) on rights for temporary practice on the Alma intranet pages:

(<https://alma.helsinki.fi/doclink/104008>)

Act on practising veterinary medicine (29/2000)

(<https://www.finlex.fi/fi/laki/alkup/2000/200000029>)

Amendment to the Act on practising veterinary medicine (301/2006)

(<https://www.finlex.fi/fi/laki/alkup/2006/200600301>)

Completion of undergraduate degrees

Upon the completion of the courses required for the degree, students must submit an application for a diploma see Alma: Basic studies (*Perusopinnot*) > Forms (*Lomakkeet*). Events where certificates are handed out (*publiikki*) are organised about once a month. Graduation ceremonies are organised twice a year. Diplomas are handed out by the Dean of the Faculty. Diplomas are handed out together with transcripts of records (in Finnish/Swedish and English) and a Diploma Supplement. A Diploma Supplement is meant for international use.

The Finnish Food Safety Authority (Evira) certifies veterinarians in the graduation ceremonies. Certification means that the holder of a Licentiate's Degree receives the right to practice as a veterinarian.

Links:

Diploma application form for Bachelor's degrees

Diploma application form for Licentiate's degrees

(<https://alma.helsinki.fi/doclink/29774>)

Certification of veterinarians

(http://www.evira.fi/portali/fi/elaimet_ja_terveys/eli_inl_k_rintoimi/elaimeaankarkisi_lail_istaminen)

3.2. PROFESSIONAL POSTGRADUATE DEGREES (SPECIALISATION)

Certified veterinarians can be admitted to complete a Specialist's Degree in Veterinary Medicine. Prospective students can apply for the programme when they have worked for a year in tasks related to their field of specialisation. The Specialist's Degree in Veterinary Medicine can be completed as a professional postgraduate qualification.

A certified veterinarian can specialise in small animal diseases, equine diseases, health care and treatment of production animals, infectious animal diseases, environmental health care and food production hygiene.

Link: More information on professional postgraduate qualifications

(<http://www.vetmed.helsinki.fi/opsiskelu/en/koostuminen/index.htm>)

Information on admissions, the date for the annual examination of Specialists in Veterinary Medicine and the examination requirements are available online.

Specialisation studies are coordinated by the Specialisation Committee and headed by the Vice Dean responsible for postgraduate and continuing education.

The aim of the Specialist's degree is to familiarise veterinarians with scientific knowledge in their field, to provide them with the skills needed in practicing as a specialist veterinarian and for maintaining and developing their expertise. The degree programme will also give veterinarians the expertise needed for practising in veterinary treatment and other duties requiring specialist knowledge.

The Faculty also offers European *diploma* specialist training in some areas of specialisation.

Link: European Board of Veterinary Specialisation, www.ebvs.be

Progress in postgraduate studies is monitored annually with the *Etappi* system in the Faculty. This means that postgraduate students who were admitted for postgraduate study seven years ago and who have not finished their studies will be contacted.

3.3. SCIENTIFIC POSTGRADUATE DEGREES

After the Licentiate's degree in veterinary medicine it is possible to complete the degree of Doctor of Veterinary Medicine. It is also possible to earn the degree of Doctor of Philosophy in the Faculty. The degree of Doctor of Veterinary Medicine is made up of general studies (10 ECTS), studies in one's field of research (30 ECTS) and of a doctoral dissertation that must be defended publicly. The degree of Doctor of Philosophy is made up of general studies (10 ECTS), studies in one's field of research (50 ECTS) and of a publicly defended doctoral dissertation. A doctoral degree can be completed in four years of full-time study.

Prospective doctoral candidates must draft a research proposal and a study plan together with the supervising professor and supervisors or supervisors. Applications to the Faculty for the right to pursue postgraduate studies are submitted in writing to the Research and Postgraduate Study Committee. The Faculty Council decides on the intake of postgraduate students, accepts research and study plans and appoints directors of studies and supervisor(s).

If the study plan involves animal testing, the research plan needs to be complemented with a plan for animal testing or an existing licence for animal testing.

The Research and Scientific Postgraduate Study Committee coordinates scientific postgraduate studies together with the Vice Dean responsible for these functions.



The purpose of scientific postgraduate study is for the doctoral candidate to obtain a thorough knowledge of her/his field of research and its societal impact, to obtain the skills needed to apply scientific research methods and to generate new knowledge in an independent and critical manner. In addition, doctoral candidates will become familiar with the historical development, fundamental issues and research methods of their field. They must also acquire sufficient understanding of general scientific theory and the disciplines related to their research field in order to be able to follow future developments.

The Faculty participates in the Finnish Graduate School in Applied Bioscience – Bioengineering, Food & Nutrition, Environment (ABS). The Faculty has also an agreement with the Viikki Graduate School in Biosciences (VGSB). A Graduate School in Animal Welfare began in 2006. In addition to this, the Faculty has its own doctoral programme in veterinary medicine. More information on doctoral programmes: (www.vetmed.helsinki.fi/tutkijatoulutus)

Postgraduate admissions, the process for obtaining permission to publish the dissertation and the process of applying to doctoral programmes, are dealt with in 4.4-4.6.

Progress in postgraduate studies is monitored annually with the *Etappi* system in the Faculty. This means that postgraduate students who were admitted to do postgraduate study seven years ago and who have not finished their studies will be contacted.

Link: Scientific postgraduate degrees

(http://www.vetmed.helsinki.fi/opsiskelu/tutkintuinnot/teelliset_ia/kotukinnot.htm)

3.4. CERTIFICATION TRAINING

A certified veterinarian is a person who has completed a degree in veterinary medicine and has been granted the right to practise as a veterinarian in Finland. The Faculty offers certification training for those who have completed a degree in veterinary medicine in a non-ETA country. The training includes traineeships in clinical practice and food production hygiene and examinations in clinical subjects, food production and environmental hygiene and Finnish legislation. Persons admitted to certification training must possess an adequate level of Finnish or Swedish.

The Finnish Food Safety Authority Evira decides on the amount of traineeships needed from the candidate on the basis of a statement given by the Faculty. Links:

More information on certification training

(<http://www.vetmed.helsinki.fi/opsiskelu/laillistuminen/index.htm>)

Evira instructions on becoming a certified veterinarian

(http://www.evira.fi/portti/fi/laimet_la_terveys/el_inl_k_rintomitel_inl_k_rei_dan_laillistamineuz/)

Decree on qualifications required from veterinary surgeons trained outside the European Trade Area for professional veterinary certification (235/2003)

(<http://www.finlex.fi/laki/alkup/2003/20030235>)



4. CONTINUING EDUCATION

The Faculty holds that continuing education is vitally important for the aim of lifelong learning for veterinarians. The Faculty takes part in organising continuing education, e.g., by offering courses that graduated veterinarians can take part in and by offering the expertise of its staff to be utilised by other institutions. Other institutions that offer continuing education are, e.g., the Palmenia Centre for Continuing Education, the Finnish Food Safety Authority Evira, the Ministry for Agriculture and Health and the Finnish Veterinary Association.

These institutions are represented on the Continuing Education Advisory Board coordinated by the Faculty.

In the Department of Production Animal Medicine a veterinarian can improve his or her professional skills and expertise with the continuing education diploma of production veterinarian. The continuing education diploma comprises 30 ECTS or about 20 credit units. Link:
(<http://www.vetmed.helsinki.fi/saan/diplomi/>)

The Department of Food and Environmental Hygiene offers a 40-ECTS Diploma in Environmental Health Management. Together with the relevant traineeships, passing the veterinary inspector examination entitles veterinarians to practice as veterinary inspectors in line with decision 5/93 of the Department of Food and Health of the Ministry of Agriculture. The Food Safety Hygienist examination and the training attached to it are professional postgraduate education, which is part of specialist training in environmental health and food safety hygiene.

Information on continuing education for veterinarians is available in the following course calendars:

Fennovet Ltd (<http://fennovet.fi/index.php?b=4>)

Evira (http://www.evira.fi/attachments/apahutumat/koulutuskalenteri_2008_internet_220608.pdf)

Palmenia (<http://www.palmenia.helsinki.fi/koulutus/index.asp>)

5. EDUCATION SUPPORT SERVICES

Web-based teaching support offers guidance in using virtual environments, helps in choosing the right platform for online teaching and produces online material. The Educational Centre for ICT is a unit for the development of ICT in pedagogical innovations. The Centre offers support services for teaching staff and functions as a strategic coordination unit in the virtual university environment of the University of Helsinki.

Links:

Web-based teaching support

(<http://www.vetmed.helsinki.fi/opskelu/verkko-opetus.htm>)

Educational Centre for ICT in the University of Helsinki

(<http://ok.helsinki.fi/>)

The Senior Lecturer in University Pedagogy of the Faculty is supposed to develop teaching and learning activities in the Faculty and to carry out relevant research and surveys. The Centre for Research and Development of Higher Education (YTY) promotes research and training in university pedagogy in the University of Helsinki. Links:

(<https://alma.helsinki.fi/doclink/25353>)



(<http://www.helsinki.fi/kt/viv/index.htm>)

W5W 2 project (Complete your Degree in Five Years, 2nd project)
(<http://www.w5w.fi/>)

Laboratories, equipment and experts. Link to a website offering information on laboratories in the Faculty:
(<http://www.vetmed.helsinki.fi/laatu/laboratoriot.html>)

Communication: Faculty Press Officer:
(<https://alma.helsinki.fi/doclink/84200>)

Undergraduate students of the University of Helsinki can consult **study psychologists**, who offer guidance in study skills, motivation, time management, life management and writing dissertations.
(<https://alma.helsinki.fi/doclink/98826>)

The **Student Services** unit provides information and services to students regarding study affairs and the different forms of support, services and benefits available to students. Students may obtain information on admissions, the financial support available for students, grants, study environments etc. The services offered include student registration, handing out course catalogues and other study-related material, student register services and decisions on student financial aid.
(<http://www.helsinki.fi/kehittamisosasto/opiskelijapalvelut/opiskelijaneuvonta.htm>)

The **IT Services** website of the Viikki campus unit of the IT Department contains the contact details of IT support officers, important links and instructions. IT-related queries can also be posted on the site. Link:
(<http://www.vetmed.helsinki.fi/atka/ka.htm>)

Viikki Science Library Services for the Faculty of Veterinary Medicine: In addition to loans, the library offers guidance and training in information retrieval and information and interlibrary loans. Workstations, reading rooms and rooms for group work are available. More information on the library and the study-related services it offers is available under the following links:

Viikki Science Library website

(<http://www.tiedekirjasto.helsinki.fi/>)

Viikki Science Library Services for the Faculty of Veterinary Medicine

(<http://blogs.helsinki.fi/tiedekirjasto/ainiaa/kaite/ed/>)

Presentation of the Viikki Science Library

(<http://www.tiedekirjasto.helsinki.fi/esitely/esitely.htm>)

Information retrieval training at the Viikki Science Library

(<http://www.tiedekirjasto.helsinki.fi/koulutus/index.htm>)

Acquisitions: the Viikki Science Library makes annual acquisitions including course books stipulated by the departments and other literature.

(<http://www.tiedekirjasto.helsinki.fi/hankinta/kirjat.htm>)

E-publishing support: *DViikki* publication archive. *DViikki* is an open publication archive of the disciplines of the Viikki campus of the University of Helsinki maintained by the Viikki Science Library. The library also offers support in electronic publishing.

(<http://www.tiedekirjasto.helsinki.fi/dviikki/etusivu.htm>)

Support for the use of e-materials in teaching and their terms of use:

(<http://www.helsinki.fi/kirjastot/verkkoaineistot/okeudet.htm>)

Helsinki University Print student services are the closest units offering printing and photocopying services to students and lecturers.

(<http://www.vilopistopaino.fi/>)

6. EDUCATION EVALUATION AND DEVELOPMENT UNDERGRADUATE EDUCATION

The outcomes of both national and international external evaluations are utilised in developing the education offered at the University. The deans and the Faculty Council will respond to the results of evaluations. Evaluation reports will be discussed in the Education Planning Committee, which will decide on the actions to be taken and give guidelines to the persons concerned. The actions will be incorporated, as far as possible, in annual curriculum design.

On the basis of external evaluations carried out in 2001-2002 (International Evaluation of the Quality of Education at the University of Helsinki, the Veterinary Medicine Education Task Force of the Ministry of Education), the role of the Education Planning Committee has been enhanced in curriculum design, guidance and support services for students have been improved, the workload of the degree programme has been alleviated, and learning and evaluation quality assurance has been improved.

The active role played by the Vice Dean responsible for undergraduate studies, the Head of Academic and Student Affairs and the Senior Lecturer in University Pedagogy is important in deciding which issues will be presented to the Education Planning Committee. Through their field of responsibility, all of these people will receive feedback and material that can be used to improve teaching.

Self-evaluation and the information generated by the feedback system are an integral part of education evaluation, and this information will be discussed communally. All departments in the Faculty will carry out a self-evaluation of teaching once a year with the help of the Teaching Evaluation Matrix of the University of Helsinki. The education feedback system of the Faculty and ideas for developing it further have been described in Annex 1. The feedback system is discussed also in section 3.1.4.2. Link to the Teaching Evaluation Matrix of the University of Helsinki
(http://www.helsinki.fi/arviointi/koulutuksen_laadunvaimistus/PDF/Arviointimattisi_080107.pdf)

Important indicators in the evaluation and development of undergraduate training are, e.g.,

- attainment of the learning goals of the degree programme
- implementation of the performance programme
 - attainment of degree goals, student progress
 - attainment of international student exchange goals
- the quality of feedback received in national and international evaluations
- the scope and content of feedback
- responses to feedback and the changing needs of society -> changes in the degree programme (impact of feedback)
- lecturers' participation in training offered in university pedagogy and the use of educational technology
- the amount of publications in university pedagogy

The Education Planning Committee is responsible for the internal evaluation of both the feedback system and quality of teaching.

EAEVE/FVE accredits the undergraduate education offered in the Faculty every ten years. In addition to the accreditation itself, the feedback received in conjunction with it is vitally important for developing undergraduate education. Accreditation will be carried out again in 2009. The quality assurance system of the University of Helsinki was audited in autumn 2007 by the Finnish Higher Education Evaluation Council (KKA), and the University carried out an international evaluation of the education it offers in 2007-2008 (with the theme of leadership and management of teaching.

Links:

EAEVE (http://eaeve.webbase.ch/index.php?option=com_frontpage&Itemid=1)

University of Helsinki Quality Assurance Audit (KKA)

(http://www.kka.fi/index.php?C=400&product_id=71&s=103)

International Evaluation of Education 2007-2008

(<https://alma.helsinki.fi/doclink/100861>)

(https://wiki.helsinki.fi/display/koulutuskenarviointi/Koulutuksen_arviointi+2007-2008)

6.2 POSTGRADUATE AND CONTINUING EDUCATION

Departmental self-evaluation of the quality of teaching encompasses the evaluation of scientific and, where applicable, professional postgraduate education.

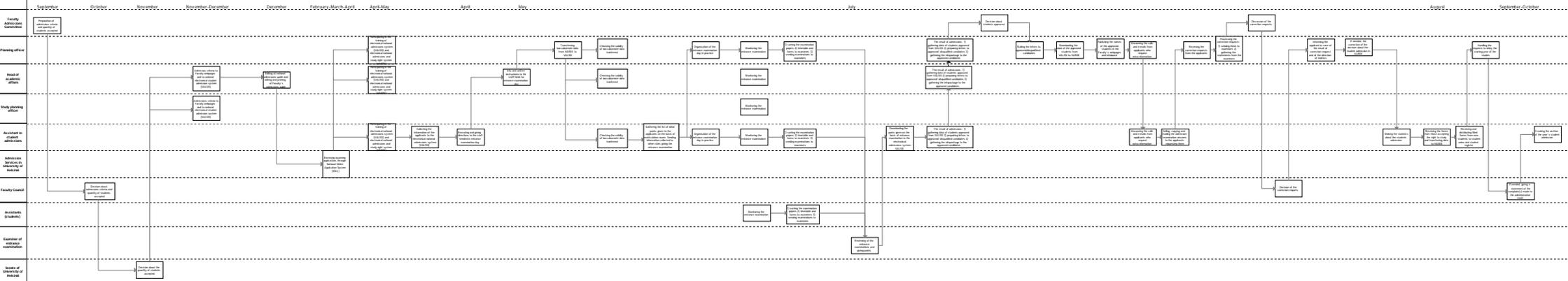
Students picked out by the *Eiappi* checkpoint system will be asked for feedback on their studies, and this feedback will be discussed with the responsible Vice Dean.

7. MODIFICATION REGISTER OF THE EDUCATION OPERATIONS MANUAL

Date	Modification	Version	Author
31.8.2007	First version of the Operations Manual	1.1	P. A.-P.
14.8.2007			M.R.
15.8.2007	Discussed by the Education Planning Committee		M.R., S.R.
5.6.2008	Discussed by the Education Planning Committee (annex 1 updated)		S.R.
16.9.2008	Discussed by the Education Planning Committee (requests for comments)		S.R.
21.10.2008	Discussed by the Education Planning Committee (modifications)		S.R.

APPENDIX 8: Flow chart of student admission

NB: Zoom the view larger to see details of the flow chart.



B1-PUBLICATIONS Department of Basic Veterinary Sciences

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DEPARTMENT OF FOOD AND ENVIRONMENTAL HYGIENE

Original articles in peer-reviewed journals

Classification B1

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APPENDIX 9: List of publications 2006-2009

	IF
1 Martinen, Pliia H., Raulo, Saara M., Suominen, Mikko M., Tulamo, Riitta-Mari Changes in MMP-2 and -9 activity and MMP-8 reactivity after amphotericin B induced synovitis and treatment with bufexamac Journal of veterinary medicine. Series A. - 53 (2006) : 6. s. 311-318.	0,756
2 Pascoe, Peter J., Raekallio, Marja, Kuusela, Erja, McKusick, Brett, Granholm, Mikael Changes in the minimum alveolar concentration of isoflurane and some cardiopulmonary measurements during three continuous infusion rates of dexmedetomidine in dogs Veterinary anaesthesia and analgesia. - 33 (2006) : 2. s. 97-103.	1,397
3 Leppänen, Minna, McKusick, B. C., Granholm, M. M., Westerholm, Fia, Tulamo, Riitta-Mari, Short, C. E. Clinical efficacy and safety of dexmedetomidine and buprenorphine, butorphanol or diazepam for canine hip radiography Journal of small animal practice. - 47 (2006) : 11. s. 663-669.	0,581
4 Ekholm, Marja, Hietanen, Jarkko, Tulamo, Riitta-Mari, Muhoonen, Jarkko, Lindqvist, Christian, Kellomäki, Minna, Suuronen, Riitta The copolymer of epsilon-caprolactone-lactide and tricalcium phosphate does not enhance bone growth in mandibular defect of sheep Journal of materials science, Materials in medicine. - 17 (2005) : 2. s. 139-145.	1,248
5 Simonen-Jokinen, Terhi, Maisi, Päivi, Tervahartiala, Taina, McGorum, Bruce, Pirie, Scott, Sorsa, Timo Direct activation of gelatinase B (MMP-9) by hay dust suspension and different components of organic dust Veterinary immunology and immunopathology. - 109 (2006) : 3-4. s. 289-295.	1,626
6 Westermarck, Elias, Wiberg, Maria Effects of diet on clinical signs of exocrine pancreatic insufficiency in dogs Journal of the American Veterinary Medical Association. - 228 (2006) : 2. s. 225-229.	1,266
7 Manninen, Merja, Sormunen-Cristian, Riitta, Jauhainen, Lauri, Sankari, Satu, Soveri, Timo Effects of feeding frequency on the performance and welfare of mature Hereford cows and their progeny Livestock science. - 100 (2006) : 2-3. s. 203-215.	1,325
8 Rajamäki, Minna, Järvinen, Anna-Kaisa, Sorsa, Timo, Tervahartiala, Taina, Maisi, Päivi Elevated levels of fragmented laminin-5 gamma2-chain in bronchoalveolar lavage fluid from dogs with pulmonary eosinophilia The veterinary journal. - 171 (2006) : s.562-565.	1,712
9 Svirjå, Pernilla, Cizinauskas, Sigitas, Sankari, Satu, Mäkelä, Olli, Tulamo, Riitta-Mari, De Lahunta, A. Equine motor neuron disease (EMND) in a horse without vitamin E deficiency: a sequela of iron excess? : Case report Equine veterinary education. - 18 (2006) : 3. s. 122-129.	0,511
10 Raekallio, Marja, Hielm-Björkman, Anna, Kejonen, Johanna, Salonen, Hanna, Sankari, Satu Evaluation of adverse effects of long-term orally administered carprofen in dogs Journal of the American Veterinary Medical Association. - 228 (2006) : 6. s. 876-880.	1,266
11 Raulo, Saara M., Sorsa, Timo, Maisi, Päivi In vitro inhibition of matrix metalloproteinase activity in tracheal epithelial lining fluid from horses with recurrent airway obstruction American journal of veterinary research. - 67 (2006) : 7. s. 1252-1257.	1,222
12 Tsitko, Irina, Rakhila, Riitta, Priha, Outi, Ali-Vehmas, Terhi, Terefework, Zewdu, Soini, Hanna, Salkinoja-Salonen, Mirja Isolation and automated ribotyping of Mycobacterium lentiflavum from drinking water distribution system and clinical specimens FEMS microbiology letters. - 256 (2006) : s. 236-243.	1,84
13 Pihlajamäki, Harri, Böstman, Ole, Tynninen, Olli, Laitinen, Outi Long-term tissue response to bioabsorbable poly-L-lactide and metallic screws : an experimental study Bone. - 39 (2006) : 4. s. 932-937.	3,939
14 Viitmaa, Ranno, Cizinauskas, Sigitas, Bergamasco, L.-A., Kuusela, Erja, Pascoe, P., Teppo, A.-M., Jokinen, Tarja, Kivisaari, Leena, Snellman, Marjatta Magnetic resonance imaging findings in Finnish Spitz dogs with focal epilepsy Journal of veterinary internal medicine. - 20 (2006) : 2. s. 305-310.	1,649

15	Peltonen, Liisa M., Sankari, Satu, Kivimäki, Anneli, Autio, Pekka Novel function of the skin in calcium metabolism in female and male chickens (Gallus domesticus) Comparative biochemistry and physiology, Part B. - 144 (2006) : 4, s. 432-441.	1,404
16	Malbe, Marge, Atila, Maritta, Atroshi, Falk Possible involvement of selenium in Staphylococcus aureus inhibition in cow's whey Journal of animal physiology and animal nutrition. - 90 (2006) : 3-4, s. 159-164.	0,809
17	Rantala, Merja, Haanperä-Heikkinen, M., Lindgren, M., Seppälä, Heikki, Huovinen, P., Jalava, J. Streptococcus pneumoniae isolates resistant to tetrithromycin Antimicrobial agents and chemotherapy. - 50 (2006) : 5, s. 1855-1858.	4,379
18	Orro, T., Nieminen, M., Tamminen, T., Sukura, Antti, Sankari, Satu, Soveri, Timo Temporal changes in concentrations of serum amyloid-A and haptoglobin and their associations with weight gain in neonatal reindeer calves Comparative immunology, microbiology and infectious diseases. - 29 (2006) : 2-3, s. 79-88.	1,562
19	Pihlajamäki, Harri, Salminen, Sari, Laitinen, Outi, Tynynen, Olli, Böstman, Oje Tissue response to polyglycolide, polydioxanone, poly(lactide), and metallic pins in cancellous bone : an experimental study on rabbits Journal of orthopaedic research. - 24 (2006), s. 1597-1606.	2,916
20	Reeben, M., Kaho, N.M., Raekallio, Marja, Hyypä, S., Pöso, A.R. MCT1 and CD147 gene polymorphisms in Standardbred horses Equine Exercise physiology 7 Equine vet J, Suppl. - 36 (2006), s. 322-325	1,317
21	Mentula, Sijla, Virtanen, Terri, Kanervo-Nordström, Aija, Harmoinen, Jaana, Westermarck, Elias, Rautio, Merja, Huovinen, Pentti, Könönen, Eija Relatedness of Escherichia coli strains with different susceptibility patterns isolated from beagle dogs during ampicillin treatment International Journal of Antimicrobial Agents - 27 (2006), s. 46-50	2,428
22	Manninen T.J, Rinkinen Minna, Beasley SS, Saris PE. Alteration of the canine small-intestinal lactic acid bacterium microbiota by feeding of potential probiotics. Appl Environ Microbiol. 2006 Oct;72(10): s. 6539-43.	3,818
23	Mäkinen, A., Hasegawa T., Syrjä, Pernilla, Katilä, Terttu Infertile mares with XO and XY sex chromosome deviations : case report Equine veterinary education. - 18 (2006) : 2, s. 60-62.	0,511 1,717

Peer reviewed publications of the Department of Equine and Small Animal Medicine in 2007

APPENDIX 9: List of publications 2006-2009

		IF
1	Nikunen, S., Härtel, Heidi, Orro, Toomas, Neuvonen, Erkki, Tanskanen, Raiili, Kivälä, S.-L., Sankari, Satu, Aho, P., Pyörälä, Satu, Saloniemi, Hannu, Soveri, Timo Association of bovine respiratory disease with clinical status and acute phase proteins in calves Comparative immunology, microbiology and infectious diseases. 30 (2007) : 3, s. 143-151.	2,000
2	Väisänen, Missa, Tuomikoski, Suvi K., Väinö, Outi Behavioral alterations and severity of pain in cats recovering at home following elective ovariohysterectomy or castration Journal of the American Veterinary Medical Association. 231 (2007) : 2, s. 236-242.	1,701
3	Jokinen, Tarja S., Metsähonkala, L., Bergamasco, L., Viitmaa, Ranno, Syrjä, P., Lohi, H., Snellman, Marjatta, Jeserevics, J., Cizinauskas, Sigitas Benign familial juvenile epilepsy in lagotto romagnolo dogs Journal of veterinary internal medicine. 21 (2007) : 3, s. 464-471.	1,683
4	Liska, William D., Marcellin-Little, Denis J., Eskelinen, Esa V., Sidebotham, Christopher G., Harrysson, Ola L. A., Hielm-Björkman, Anna Custom total knee replacement in a dog with femoral condylar bone loss Veterinary surgery. 36 (2007) : 4, s. 293-301.	1,211
5	Arosalo, Beia M., Raekallio, Marja, Rajamäki, Minna, Holopainen, Elina, Kastevaara, Tuulia, Salonen, Hanna, Sankari, Satu Detecting early kidney damage in horses with colic by measuring matrix metalloproteinase-9 and -2, other enzymes, urinary glucose and total proteins Acta veterinaria Scandinavica. 49 (2007) : 4, 6 s..	0,408
6	Raekallio, Marja, Honkavaara, Juhana, Säkkinen, Mia, Peltoniemi, Marikki Effects of urine alkalization and activated charcoal on the pharmacokinetics of orally administered carprofen in dogs American journal of veterinary research. 68 (2007) : 4, p. 423-427.	1,222
7	Hielm-Björkman, Anna, Reunanen, V., Meri, P., Tulamo, Riitta-Mari Panax ginseng in combination with brewers' yeast (Gerive®) as a stimulant for geriatric dogs : a controlled-randomized blinded study Journal of veterinary pharmacology and therapeutics. 30 (2007) : 4, s. 295-304.	1,406
8	Kommonen, Bertel, Hyvätti, Eira, Dawson, William W. Propofol modulates inner retina function in beagles Veterinary ophthalmology. 10 (2007) : 2, s. 76-80.	0,773
9	Klenner, S., Bergmann, C., Strube, K., Ternes, W., Spillmann, Thomas SPE for endo- and exo-hexol analysis with HPLC in canine serum and rat urine Chromatographia. 65 (2007) : 11-12, s. 733-736.	1,171
10	Jokinen, Tarja, Rusbridge, C., Steffen, F., Viitmaa, Ranno, Syrjä, Pernilla, De Lahunta, A., Snellman, Marjatta, Cizinauskas, Sigitas Cerebellar cortical atrophy in Lagotto Romagnolo dogs. Journal of Small Animal Practice. 48 (2007), s. 470-473.	0,717
11	Manninen, M., Sankari, Satu, Jauhainen, L., Kivinen, T., Soveri, Timo Insulated, unisolated and outdoor housing for replacement beef heifers on restricted grass silage-based diet in a cold environment Livestock science. 107 (2007) : 2-3, s. 113-125.	1,131
12	Keränen, Pauli, Itäliä, A., Koort, Joanna, Kohonen, I., Dalstra, M., Kommonen, Bertel, Aro, H. T. Bioactive glass granules as extender of autogenous bone grafting in cementless intercalary implant of the canine femur Scandinavian journal of surgery. 96 (2007) : 3, s. 243-251.	0,571
13	Nicholson HL, Osmotherly PG, Smith BA, McGowan CM. Determinants of passive hip range of motion in adult Greyhounds. Aust Vet J. 2007 Jun;85(6):217-21.	1,168
14	Crook T, McGowan C, Pead M. Effect of passive stretching on the range of motion of osteoarthritic joints in 10 labrador retrievers. Vet Rec. 2007 Apr 21;160(16):545-7	1,589
15	Babbage CS, Coppleiers MW, McGowan CM. Strain and excursion of the sciatic nerve in the dog: biomechanical considerations in the development of a clinical test for increased neural mechanosensitivity. Vet J. 2007 Sep;174(2):330-6.	1,589

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16 Lytjäläinen O, Klemets P, Ruutu P, Kaijalainen T, Rantala M, Ollgren J, Nuorti JP. Defining the population-based burden of nosocomial pneumococcal bacteremia. *Arch Intern Med.* 2007 Aug 13;167(15):1635-40.

17 Rantala M, Nyberg S, Lindgren M, Huovinen P, Jalava J, Skyttä R, Teirilä L, Vainio A, Virolainen-Julkunen A, Kaijalainen T. Letter to the Editor: Molecular epidemiology of tetracycline-resistant pneumococci in Finland. *Antimicrob Agents Chemother.* 2007 May;51(5):1885-7

18 Niinimäki, Jaakko.; Ruohonen, J.; Silfverfuth, M.; Lappalainen, Anu.; Käähä, Eeva.; Tervonen, O. Quantitative magnetic resonance imaging of experimentally injured porcine intervertebral disc. *Acta radiologica.* - 48 (2007) : 6. s. 643-649

19 Autio, Karoliina.; Rassnick, Kenneth M.; Bedford-Guaus, S. J. Chemotherapy during pregnancy : a review of the literature *Veterinary and comparative oncology.* - 5 (2007) : 2. s. 61-75

20 A J Windred, P G Osmothery and C M McGowan Pre-race warm-up practices in Greyhound racing: a pilot study *Equine and Comparative Exercise Physiology. Volume 4, Issue 3-4, November 2007.* pp 119-122

21 Cerón JJ, Braun JP, Gaál T, Godeau JM, Knottentbeitl CM, Larkin HA, Lubas G, Moritz A, Papasouliotis K, Sankari SM. Teaching veterinary clinical pathology to undergraduate students: an integrated European project. *Vet Clin Pathol.* 2007 Dec;36(4):336-40.

22 Asplin KE, Silience MN, Pollitt CC, McGowan CM. Induction of laminitis by prolonged hyperinsulinaemia in clinically normal ponies. *Veterinary Journal.* 174 (3), November 2007. 530-535

23 Jeserevics Janis, Viitmaa Ranno, Cizinauskas Sigita, Jokinen Tarja, Snellman Marjatta, Sainio Kimmo, Bellino Claudio, Bergamasco Lucy-Anna Electroencephalography findings in healthy and epileptic Finnish Spitz dogs: visual and background quantitative analysis *Journal of Veterinary Internal Medicine - 2007;21:1299-1306*

24 Ristama J, Väisänen J, Heinsuo S, Harjunpää H, Aira S, Kokko K, Mäntylä M, Kainlahti J, Heino P, Keillomäki M, Vainio O, Vanhala J, Leikkala J, Hytinen J. Wireless and inductively powered implant for measuring electrocardiogram. *Med Biol Eng Comput.* 2007 Dec;45(12):1163-74.

25 Rassnick, Kenneth M., McEntee, Margaret C., Erb, Hollis N., Burke, Blaise P., Balkman, Cheryl E., Flory, Andrea B., Kiselow, Michael A., Autio, Karoliina, Gieger, Tracy L. Comparison of 3 protocols for treatment after induction of remission in dogs with lymphoma *Journal of veterinary internal medicine.* - Hagerstown, MD : Lippincott ISSN 0891-6640. 21 (2007) : 6. s. 1364-1373

26 Autio, Karoliina, Rassnick, Kenneth M., Goldstein, Richard E.; Erb, Hollis N. Microalbuminuria is not associated with cisplatin-induced azotemia in dogs *Journal of veterinary internal medicine.* - Hagerstown, MD : Lippincott ISSN 0891-6640. 21 (2007) : 6. s. 1198-1202

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1 McGowan, Catherine Clinical pathology in the racing horse : the role of clinical pathology in assessing fitness and performance in the racehorse The veterinary clinics of North America. <i>Equine practice.</i> 24 (2008), s. 405-421	0,402
2 Flory, A. B.; Rassnick, K. M.; Al-Sarraf, R.; Bailey, D. B.; Balkman, C. E.; Kiselow, M. A.; Autio, Karoliina Combination of CCNU and DTIC chemotherapy for treatment of resistant lymphoma in dogs <i>Journal of veterinary internal medicine.</i> 22 (2008) : 1. s. 164-171	1,683
3 Thomson, Katarina.; Rantala, Merja.; Hautala, Maria.; Pyörälä, Satu.; Kaartinen, Liisa Cross-sectional prospective survey to study indication-based usage of antimicrobials in animals: results of use in cattle <i>BMC Veterinary research.</i> 4 (2008) : 15. 6 s.	1,330
4 Honkavaara, Juhana.; Raekallio, Marja.; Kuusela, Erja.; Hyvärinen, Esko A.; Vainio, Outi The effects of L-659,066, a peripheral α 2-adrenoceptor antagonist, on dexmedetomidine-induced sedation and bradycardia in dogs <i>Veterinary anaesthesia and analgesia.</i> 35 (2008) : 5. s. 409-413	1,044
5 Manninen, M.; Sankari, Satu.; Jauhainen, L.; Kivinen, T.; Anttila, P.; Soveri, Timo Effects of outdoor winter housing and feeding level on performance and blood metabolites of suckler cows fed whole-crop barley silage <i>Livestock science.</i> 115 (2008) : 2-3. s. 179-194	1,131
6 Raekallio, Marja.; Mustonen, Katja M.; Heinonen, Mari.; Peltoniemi, Olli.; Säkkinen, Mia S.; Peltoniemi, Marikki.; Honkavaara, Juhana.; Vainio, Outi Evaluation of bioequivalence after oral, intramuscular, and intravenous administration of racemic ketoprofen in pigs <i>American journal of veterinary research.</i> 69 (2008) : 1. s. 108-113	1,241
7 Andrews, F. M.; Buchanan, B. R.; Elliott, S. B.; Al Jassim, R. A. M.; McGowan, Catherine M.; Saxton, A. M. In vitro effects of hydrochloric and lactic acids on bioelectric properties of equine gastric squamous mucosa <i>Equine veterinary journal.</i> 40 (2008) : 4. s. 301-305	1,607
8 Koho, Nimma M.; Raekallio, Marja.; Kuusela, Erja.; Vuolle, Jaana.; Pösö, A. Reeta Lactate transport in canine red blood cells <i>American journal of veterinary research.</i> 69 (2008) : 8. s. 1091-1096	1,221
9 Waris, Eero.; Ashammakhi, Nureddin.; Lehtimäki, Mauri.; Tulamo, Riitta-Mari.; Törmälä, Pertti.; Kellomäki, Minna.; Kontinen, Yrjö T. Long-term bone tissue reaction to polyethylene oxide/polybutylene terephthalate copolymer (Polyactive®) in metacarpophalangeal joint reconstruction <i>Biomaterials.</i> 29 (2008) : 16. s. 2509-2515	6,262
10 Flory, Andrea B.; Rassnick, Kenneth M.; Balkman, Cheryl E.; Kiselow, Michael A.; Autio, Karoliina.; Beaulieu, Bernard B.; Lewis, Lionel D. Oral bioavailability of etoposide after administration of a single dose to tumor-bearing dogs <i>American journal of veterinary research.</i> 69 (2008) : 10. s. 1316-1322	1,221
11 Rossi, Sami.; Tirri, Teemu.; Paldan, Hannu.; Kuntsi-Vaantovaara, Helena.; Tulamo, Riitta.; Närhi, Timo Peri-implant tissue response to TiO2 surface modified implants <i>Clinical oral implants research.</i> 19 (2008) : 4. s. 348-355	2,497
12 Hahn, C. N.; Matissek, K.; Syrjä, P.; Jokinen, Tarja.; Macthure, N.; Tulamo, Riitta-Mari Polyneuropathy of Finnish horses characterised by inflammatory demyelination and intracisternal Schwann cell inclusions <i>Equine veterinary journal.</i> 40 (2008) : 3. s. 231-236	1,730
13 Niinistö, Kati.; Raekallio, Marja.; Sankari, Satu Storage of equine red blood cells as a concentrate <i>The veterinary journal.</i> 176 (2008) : 2. s. 227-231	1,589
14 Goff, L. M.; Jeffcott, L. B.; Jasiewicz, J.; McGowan, Catherine M. Structural and biomechanical aspects of equine sacroiliac joint function and their relationship to clinical disease <i>The veterinary journal.</i> 176 (2008) : 3. s. 281-293	1,589

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15 Wanis, Eero ; Ashammakhi, Nureddin ; Lehtimäki, Mauri ; Tulamo, Riitta-Mari ; Keilomäki, Mimma ; Törmälä, Pertti ; Kontinen, Yrjö T. The use of biodegradable scaffold as an alternative to silicone implant arthroplasty for small joint reconstruction : an experimental study in minipigs Biomaterials. 29 (2008) : 6. s. 683-691	6,262
16 Oliviero, Claudio ; Pastell, Matti ; Heinonen, Mari ; Heikkonen, Jukka ; Valros, Anna ; Ahokas, Jukka ; Väinö, Outi ; Peltoniemi, Olli Using movement sensors to detect the onset of farrowing Biosystems engineering. 100 (2008) : 2. s. 281-285	1,030
17 Crook TC, Cruickshank SE, McGowan CM, Stubbs N, Wakeling JM, Wilson AM, Payne RC. Comparative anatomy and muscle architecture of selected hind limb muscles in the Quarter Horse and Arab. J Anat. 2008 Feb;212(2):144-52.	2,547
18 Saari, Seppo. ; Airas, Niina. ; Näreaho, Anu. ; Vihma, Veikko. ; Autio, Karoliina. ; Sankari, Satu. ; Sukura, Antti. A nonhealing ulcerative skin lesion associated with Trichinella nativa infection in a cat. Journal of veterinary diagnostic investigation. - 20 (2008) : 6. s. 839-843	0,984
19 Suchodolski, Jan S. ; Morris, Erin K. ; Allenspach, Karin ; Jergens, Albert E. ; Harmoinen, Jaana ; Westermarck, Elias ; Steiner, Jörg M. Prevalence and identification of fungal DNA in the small intestine of healthy dogs and dogs with chronic enteropathies Veterinary microbiology. 132 (2008) : 3/4. s. 379-388	2,010
20 Headley, S. ; Kummala, Elna, and Sukura, Antti. Balanitidium coli-infection in a Finnish horse. Veterinary parasitology. 2008. 158. 129-132	2,016
21 Väisänen, Misse. ; Tuomikoski-Aiin, S. K. ; Brodbelt, D. C. ; Väimö, Outi. Opinions of Finnish small animal owners about surgery and pain management in small animals. Journal of small animal practice. - 49 (2008) : 12. s. 626-632	0,908
22 Väänänen, Petteri ; Koistinen, Arto. ; Nurmi, Janne. ; Lappalainen, Reijo. Biomechanical in vitro evaluation of the effect of cyclic loading on the postoperative fixation stability and degradation of a biodegradable ankle plate. Journal of orthopaedic research. - 26 (2008) : 11. s. 1485-1488	2,437
23 Maslauskas, K stutis. ; Tulamo, Riitta-Mari. ; McGowan, Thomas. ; Ku inskas, Audrius. A descriptive study of the dentition of Lithuanian heavy-drought horses. Veterinarija ir zootechnika. - 43 (2008) : 65. s. 62-67	1,776
24 Rassnick, K. M. ; Bailey, D. B. ; Flory, A. B. ; Balkman, C. E. ; Kiselow, M. A. ; Intile, J. L. ; Autio, Karoliina. Efficacy of vinblastine for treatment of canine mast cell tumors. Journal of veterinary internal medicine. - 22 (2008) : 6. s. 1390-1396	1,592
25 Väänänen, Petteri ; Nurmi, Janne T. ; Nuutinen, Juha-Pekka. ; Jakonen, Sanna. ; Happonen, Harri. ; Jank, Stegfrid. Fixation properties of a biodegradable "free-form" osteosynthesis plate. Oral surgery, oral medicine, oral pathology, oral radiology and endodontology. - 106 (2008) : 4. s. 477-482	1,913

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Hyönen P, Hakkarainen J, Kivellä I, Pyyrälä S. Human and bovine lactoferrin in the milk of mtLf-transgenic dairy cows during lactation. Short communication. Biotechnol. J. 2006. 1. 410-412.	0,242
Nilsson A, Ahman B, Murphy M, Soveri T. Rumens function in reindeer (Rangifer tarandus tarandus) after sub-maintenance feed intake and subsequent feeding. Rangifer. 2006. 26. 73-83.	2,472
Peltoniemi O, Virolainen JV. 2006. Seasonality of reproduction in gilts and sows. Reprod. suppl. 62: 205-218.	3,136
Pastell M, Takko H, Hautala M, Poikolainen V, Praks J, Veermäe I, Kujala M, Ahokas J. Asses-sing cows' welfare: weighing the cow in a milking robot. Bios. Eng. 2006; 93. 81-87.	0,848
Taponen S, Simojoki H, Haveri M, Larsen H.D, Pyyrälä S. Clinical characteristics and persistence of bovine mastitis caused by different species of coagulase-negative staphylococci identified with API or AFLP. Vet. Microb. 2006. 115. 199-207.	2,175
Katila T, Kareskoski M. Components of stallion seminal plasma and their influence on spermatozoa. 6 Pferdeheilkunde 2006, 22, 193-200.	0,242
Allia-Johansson A, Eriksson L, Soveri T, Laakso M-L. The daily rhythms of melatonin and free fatty acids in goats under varying photoperiods and constant darkness. Chronobiol. Int. 2006; 23. 565-581	2,472
Heikkilä M, Wichman A, Gunnarsson S, Valros A. Development of perching behaviour in chicks reared in 8 enriched environment. Applied animal behaviour science. 2006.1-2. s. 145-156.	1,441
Hänninen L, Lovendahl P, De Passillé A.M, Rushen J. The effect of floor type or relocation on calves' pulsatile 9 growth hormone and cortisol secretion Acta agriculturae Scandinavica. 56 (2006) : 2. s. 99-108.	0,490
Ackay E, Reilas T, Andersson M, Katila T. Effect of seminal plasma fractions on stallion sperm survival after 10 cooled storage. J Vet Med A Physiol Pathol Clin Med 53 481-485. 2006.	0,756
De Ambrogi M., Ballester J., Saravia F., Caballero I., Johannisson A., Wallgren M., Andersson M., Rodriguez-Martinez H. Effect of storage in short- and long-term commercial semen extenders on the motility, plasma 11 membrane and chromatin integrity of boar spermatozoa. Int J Androl. 29 543-552. 2006.	2,308
Männinen M, Sormunen-Cristian R, Jauhainen L, Sankari S, Soveri T. Effects of feeding frequency on the 12 performance and welfare of mature Hereford cows and their progeny. Livest. Sci. 2006. 100. 203-215.	1,325
Laakkonen J, Nyssönen T, Hiltunen M, Kauhala K, Nikander S, Soveri T. Effects of Protostrongylus sp. and 13 Pneumocystis sp. on the pulmonary tissue and the condition of mountain and brown hares from Finland. J. Wildl. Dis. 2006. 42. 780-787.	0,928
Oravainen J, Heinonen M, Seppä-Lassila L, Orro T, Tast A, Virolainen J.V, Peltoniemi O.A.T. Factors effecting 14 fertility in loosely housed sows and gilts: vulvar discharge syndrome, environment and acute phase proteins. Reprod Dom Anim. 41. 1-6. 2006.	1,835
Hepola H, Hänninen L, Pursiainen P, Tuure V.-M, Syrjälä-Qvist L, Pyykkönen M, Saloniemi H. Feed intake and 15 oral behaviour of dairy calves housed individually or in groups in warm or cold buildings. Livestock science. (2006) : 1-3. s. 94-104.	1,300
Kuisma P, Andersson M, Koskinen E, Katila T. Fertility of frozen-thawed stallion semen cannot be predicted by 16 the currently used laboratory methods. Acta Vet Scand 17. 48:14. 2006.	0,408
Mustonen E.A, Jokela T, Saastamoinen I, Taponen J, Taponen S, Saloniemi H, Wähälä K. High serum S-equol 17 content in red clover fed ewes: classical endocrine disruptor in optically active form. Environ. Chem. Lett. 2006 17: 3: 154-159.	0,408
Mäkinen A, Hasegawa T, Syrjä P, Katila T. Infertile mares with XO and XY sex chromosome deviations. Case 18 report. Equine vet Educ 2006. 18. 60-62.	0,511
Sironen A, Thomsen B, Andersson M, Ahola A, Viikki J. An intronic insertion in KPL2 results in aberrant splicing 19 and causes the immotile short-tail sperm defect in the pig. PNAS. 103 (13). 5006-5011. 2006	10,452
Heinonen M, Oravainen J, Orro T, Seppä-Lassila L, Ala-Kurikka E, Virolainen J, Tast A, Peltoniemi O.A.T. 20 Lameness and fertility of sows and gilts in randomly selected loose-housed herds in Finland. Veterinary Record. 2006. 159. 383-387.	1,017
Kareskoski AM, Reilas T, Andersson M, Katila T. Motility and plasma membrane integrity of spermatozoa in 21 fractionated stallion ejaculates after storage. Reproduction in domestic animals. 41 (2006) : 1. s. 33-38.	1,835
Oravainen J, Hakala M, Rautainen E, Veijalainen P, Heinonen M, Tast A, Virolainen J.V, Peltoniemi O.A.T. 22 Parvovirus antibodies in vaccinated gilts in field conditions - results with HI and ELISA tests. Reprod Dom Anim 2006. 41. 91-93.	1,835
Alm K, Peltoniemi O., Koskinen E., Andersson M. Porcine Field Fertility with Two Different Insemination Doses 23 and the Effect of Sperm Morphology. Reprod Dom Anim. 41. 210-213. 2006	1,835
Andersson M, Taponen J, Kommeri M, Dahibom M. Pregnancy rates in lactating Holstein-Friesian cows after 24 artificial insemination with sexed sperm. Reprod Dom Anim. 2006. 41: 95-97.	1,835
Raussi S, Boissy A, Andanson S, Kahlilht J, Pradel P, Veissier I. Repeated regrouping of pair-housed heifers 25 around puberty affects their behavioural and HPA axis reactivities. Animal research. 55 (2006). s. 131-144.	0,788
Orro T, Nieminen M, Tamminen T, Sukura A, Sankari S, Soveri T. Temporal changes in concentrations of serum amyloid-A and haptoglobin and their associations with weight gain in neonatal reindeer calves. Comp. 26 Immun. Microbiol. Infect. Dis. 2006. 29. 79-88.	1,562

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APPENDIX 8

List of publications 2006-2009

	IF
27 Hyvönen P, Suojala L, Orro T, Haaranen J, Simola O, Røntved C, Pyörälä S. Transgenic cows that produce recombinant human lactoferrin in milk are not protected from experimental <i>Escherichia coli</i> intramammary infection. <i>Inf. Immun.</i> 2006; 74, 6206-6212.	3,933
28 Mikkola M, Sironen A, Kopp C, Taponen J, Sukura A, Vilki J, Katila T, Andersson M. Transplantation of normal boar testicular cells resulted in complete focal spermatogenesis in a boar affected by the immotile short-tail mutation. <i>Reprod Dom Anim.</i> 2006; 41, 124-128.	1,835
29 Munslerhjeltn C, Valros A, Heinonen M, Hälli O, Peltoniemi O. Welfare index and reproductive performance in sows. <i>Reprod Dom Anim.</i> 2006; 41, 494-500.	1,835
30 Hovinen M, Aisla A-M, Pyörälä S. Accuracy and reliability of mastitis detection with electrical conductivity and milk colour measurement in automatic milking. <i>Acta agriculturae Scandinavica.</i> 2006; 56, 121-127.	0,326

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HELSINGIN YLIOPISTO
HELSINGFORS UNIVERSITET
UNIVERSITY OF HELSINKI

APPENDIX 10: Annual review 2008 of the Faculty of Veterinary Medicine

ANNUAL REVIEW
Faculty of Veterinary Medicine

08



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Meripaino Oy 2009

Change is the only constant

The above phrase accurately describes the daily operations of the Faculty of Veterinary Medicine at the University of Helsinki in 2008. The Faculty organisation was restructured prior to the planning period 2007–2009. In spring 2008, the Faculty began planning its next structural reform and continued to do so more rapidly throughout the autumn term. After the summer holidays, the Faculty contributed to the joint University of Helsinki statement on the reform of the Finnish Universities Act, and in late autumn the Faculty began planning its structural reform based on guidelines issued by the University Senate.

The period of change was also reflected in 2008 in the recruitment of a large number of new staff to the Faculty at the same time as many long-time Faculty employees retired. Five new professors were appointed during the year, which corresponds to approximately one-fourth of the Faculty's small professorial body. Apart from celebrating both new and retiring staff members, the Faculty also had many other occasions to celebrate in 2008. The highest profile celebration was the first ceremony for the conferment of doctoral degrees in the Faculty since its integration with the University of Helsinki.

The year was highly productive in the area of research. Faculty researchers achieved success both in terms of publications and in acquiring research funding. A record number of doctoral degrees were completed. The Faculty's international activities were also intense. The Faculty was pleased to note that, as expected, clients had no difficulty finding the new facilities of the University's Veterinary Teaching Hospital on the Viikki Campus, as indicated by the constant increase in patient numbers.

The Faculty is a popular choice among applicants: in 2008 a record high of 653 prospective students submitted their applications to the Faculty. The Faculty's popularity can be attributed to the successful employment of its doctoral graduates and veterinarians. The Faculty has also received the message that Finland needs more veterinarians. To meet this challenge, the Faculty has increased its student intake to unprecedented numbers.



Special thanks for a successful 2008 are owed to all Faculty students and staff members. During this year, more than 400 undergraduate students, approximately 90 doctoral students and more than 120 students in specialist training pursued studies at the Faculty. The staff completed a total of some 300 person-years. Thank you all for a job well done.

Dean Antti Sukura

The year 2008 in undergraduate education: Positive assessments and further development

In 2008 the Faculty's educational administration and teachers were kept busy by the international assessment of the management of education at the University of Helsinki. This assessment showed that the Faculty's strengths include high-quality leadership and management, good teacher/student relationships and a strong research foundation of instruction. Qualified, dedicated teachers provide instruction to motivated, active students. Some areas in need of development also emerged, most of which the Faculty itself had already recognised. The Faculty needs to analyse its curriculum as a whole. The role of the departments should also be considered: the current departmental structure is not necessarily ideal for the management of education, as the Faculty offers only one degree programme. International student and teacher exchanges should also be increased. The Faculty has already begun to plan and implement the necessary development measures.

The smaller than expected number of graduates in 2007 led to intensified monitoring of the reasons for delayed graduation. Previous reviews carried out in the Faculty have provided us with a fairly accurate overview of such reasons. Significant reasons include not only personal circumstances, but also the completion of Licentiate theses and outside employment. Licentiate thesis completion has since been supported with training for both supervisors and students as well as with written instructions.

One of last year's challenges was related to the decision to increase the intake of new students from 55 to 70. A total of 71 new students began their studies in autumn 2008, more than ever before in Finland. The significantly increased student numbers led to many new arrangements, particularly in small group work and practical assignments. The arrangements were successful during the autumn term. The overall effects of the larger student intake on instruction cannot, however, be assessed until at least five years from now, when the majority of the class of 2008 are expected to graduate as veterinarians.

Timo Soveri
Vice Dean in charge of undergraduate education



The Faculty has three vice deans. Vice Dean Timo Soveri, who is responsible for undergraduate education, wrote this year's review. The Faculty's other vice deans are Marja-Liisa Hänninen (research and researcher training) and Outi Vainio (professional postgraduate and continuing education).

The Faculty in 2008

– daily work and festivities

The highlight of the year was a solemn ceremony for the conferment of doctoral degrees

The Faculty was in a festive mood when it celebrated the conferment of doctoral degrees from 22 to 24 May. Degrees were conferred on 68 doctors and 10 honorary doctors. One jubilee doctor, Lars Reinius, who defended his dissertation at a public examination in 1953, also participated. Professor Hannu Saloniemi served as conferrer of degrees, Timo Soveri as master of ceremonies and Marja Raekallio as head usher. This was the Faculty's first ceremony for the conferment of doctoral degrees since the Faculty was integrated with the University of Helsinki. The College of Veterinary Medicine held its previous conferment ceremonies in 1965 and 1995.



Photo: Wilma Hurskainen



Record number of doctorates

In 2008 the Faculty produced a total of 16 doctoral degrees, of which 12 were Doctor of Veterinary Medicine degrees and four, Doctor of Philosophy degrees. Most of the doctoral dissertations were completed in the spring term, possibly because of the added attraction of the ceremony for the conferment of doctoral degrees. The Faculty doctors are well employed, as shown by a recent study of doctoral graduates from the Finnish Graduate School on Applied Bioscience (ABS). Moreover, 53 students completed a Licentiate of Veterinary Medicine degree, and a total of 9 students completed a Finnish specialist degree in veterinary medicine.

Stronger and more diverse research

The Faculty's external research funding increased and diversified in 2008. The departments' own research policies are also about to be completed. The Finnish Centre of Excellence in Microbial Food Safety began operating under the leadership of Professor Airi Palva with funding from the Academy of Finland.

New professorial appointments also strengthened Faculty research. The following professors started in their posts in 2008: Antti Iivanainen, Professor of Anatomy; Outi Laitinen-Vapaavuori, Professor of Small Animal Surgery; Hannes Lohi, Professor of Molecular Genetics; Raimo Pohjanvirta, Professor of Toxicology; and Anna Valros, Professor of Animal Welfare (with Swedish as the language of instruction).

Increased student intake and focus on development

As a result of the increase in the Faculty's student intake in 2008, class Cursus 65 consists of 71 new students. This led to some changes in the planning and organising of instruction.

The Faculty focused on the further development of studies: each department was assigned a teacher in charge of student supervision, which is important for improving supervision. The completion of Licentiate theses was promoted by issuing writing instructions and arranging "text clinics" to support the writing process.





High-quality management of education

The Faculty received positive feedback in the international assessment of the management of education at the University of Helsinki. According to the assessment panel, the high quality of the management of education at the Faculty is demonstrated in the Faculty's strong vision and clear view concerning further development. The panel also pointed out how impressed it was by the Faculty's committed, dedicated staff and active students. The Faculty received further praise for its research-based teaching and learning: for example, undergraduate students also participate in research projects.

Structural changes as a result of the new Universities Act

The Faculty and its departments began to prepare for changes associated with the reform of the Finnish Universities Act. According to the guidelines of the University Senate, the departmental structure of the faculties must be revised so that the departments become larger budgetary units. As a consequence, the Faculty is moving from its current departmental structure to a single-unit model. The Veterinary Teaching Hospital will also continue as a discrete unit in the Faculty. ■

Faculty statistics 2005–2008

	2005	2006	2007	2008
Applicants	538	473	550	635
Admitted students	52	56	58	72
Undergraduate students	381	376	395	408
Doctoral students	68	79	79	88
Specialist degree students	88	111	109	121
Licentiate degrees	48	52	41	53
Doctoral degrees	11	11	6	16
Veterinary specialist degrees	3	9	8	9
Publications (B1)	108	123	101	124
Person-years	268	273	285	293
University of Helsinki budget funding (million euros)	11	11.7	12	12.6
External funding (million euros)	5.1	5.9	6.7	8.9

Department of Food and Environmental Hygiene

Photo: Heimo Tasanen



The Department of Food and Environmental Hygiene continued its active research efforts. Three departmental research groups operate in the new Centre of Excellence in Microbial Food Safety Research. Food control also became an important research topic in 2008: both a Finnish seminar and an international conference were organised on the topic. Moreover, Outi Lepistö, LicVM, completed her dissertation in food control in 2008, and other dissertations are currently being written. The Department also arranged three large-scale international scientific events in 2008.

A meeting of top researchers in food control

The Department arranged the first ever international conference on food control research in October 2008. Researchers and experts from 13 countries attended the conference. The conference reached its objective of promoting interest in an important research topic: the efficiency of food control can also be assessed on scientific grounds.

The purpose of food control research is to assess the efficiency and effectiveness of inspection processes as well as the impact of preventive measures from farmyards to consumers' homes. The research provides useful tools for assessing the success of food control investments both in terms of financial profitability and health. The conference programme covered numerous themes ranging from assessment of the impact of food control to costs and the allocation of resources. Speakers also discussed research methodology in the field. The organisers received praise for integrating several important topics into a single conference.



International conference and methodology course in botulism

The Department organised two important international events in the molecular epidemiology of the *Clostridium botulinum* food poisoning bacterium: a conference in June and a methodology course in December. The themes of these EU-funded events included an immunoglobulin product developed for the treatment of infant botulism as well as genome sequencing projects relating to the *C. botulinum* bacterium and the development of new genetic research methods. Some 120 young scholars and senior researchers participated in the conference and the methodology course.

Awards and recognition

Johanna Björkroth, Professor of Food Hygiene, was elected to continue as Vice Rector in charge of research affairs and researcher training at the University of Helsinki during the administrative term that began on 1 August 2008. Björkroth was also invited to serve as Visiting Professor at the German Ludwig Maximilian University.

The dissertation of Annamari Heikinheimo, LicVM, was approved with distinction. Her groundbreaking study examined the *Clostridium perfringens* type A bacterium that causes food poisoning and can also be carried by healthy persons handling food products.

The Licentiate thesis of Sofia Väärikkälä, BVM,



Photo: Wilma Hurskainen

highlighting the cold tolerance of the *Clostridium botulinum* bacterium, also received recognition as well as a grant from the Finnish Society of Food Science and Technology. The poster of Maria Rönqvist, BVM, received an award during the annual Finnish veterinary trade fair. The topic of her poster was the recognition of influenza viruses in water samples.

At the end of 2008, a textbook entitled *Elintarvikehygieniä, ympäristöhygieniä, elintarvike- ja ympäristötoksikologia* (Food hygiene, environmental hygiene, food and environmental toxicology) received commendation in a competition which the University of Helsinki Undergraduate Library organised for academic textbooks. The textbook was co-authored by the departmental staff and published in 2007. ■



Department of Equine and Small Animal Medicine

The Department enjoyed a pleasant 2008 with success particularly towards the end of the year. The challenges that arose after the Department relocated to new facilities were cooperatively met and overcome. Therefore, the Department is now better able to promote both teaching and research in a positive spirit of cooperation.

Improved research conditions

The Department has systematically developed research training and the acquisition of research funding and is currently working on a new research strategy. The clinical research projects launched in 2007 continued in 2008, and new projects were undertaken. Clinical research is conducted on anti-inflammatory painkillers, sedatives and the experience of pain in dogs. In the area of small animal medicine, new research projects were undertaken in gastroenterology, cardiology, airway diseases and oncology.

Special attention was paid to the recruitment of competent staff and the improvement of research infrastructure, such as the joint research laboratory. The modern equipment acquired for the laboratory has enabled wide-ranging analytics. In addition, the laboratory's extensive competence benefits both the Department and the Veterinary Teaching Hospital, which boosts cooperation and creates synergy.

Development of assessment and feedback practices in instruction

Teaching continued in modules focusing on a major theme. Feedback suggests that more lessons should be allocated for clinical instruction: students feel that the modules are very concise and proceed quickly, and that the students need more time to acquire the new information.

Teaching received positive feedback when class Cursus 58 named Outi Laitinen-Vapaavuori, Professor of Small Animal Surgery, as Pedagogue of the Year.

The assessment of students' clinical practice, or clinical instruction, was changed to be more in line with international practices. Students are assessed in various ways: attention is paid to professional behaviour and problem-solving skills, for instance. The Department is continuously developing practices associated with the provision and receipt of feedback.

International interest in the Department

As in previous years, the Department welcomed a large number of exchange students in 2008. Some of this interest can be attributed to the inclusion of extensive clinical practice in studies in Finland, as this is less common in many other countries. The Department has also hosted doctoral students from various countries, such as Brazil and Estonia. In the area of small animal medicine, international research projects were launched together with European and American universities. Departmental staff also gave presentations at international conferences.

The Department enjoys a good reputation in international application processes: the Department received several applications from abroad for its vacant clinical teacher posts in 2008. The Department also advertised its vacancies internationally in an effort to

Photo: Wilma Huruskainen





seek persons holding not only a doctorate, but also a European specialist degree.

Many students in specialist training

Specialist training in veterinary medicine has increased constantly. Problematic for the Department is having sufficient supervisory resources, for dozens of people pursued national specialist training in small animal and equine diseases in 2008.

In addition, many departmental veterinarians supplement their knowledge and skills with narrow but profound European specialist training. In 2008, three-year specialist training programmes (residencies) were offered in, for example, small animal surgery, ophthalmology, diagnostic imaging, equine medicine, veterinary pharmacology and toxicology as well as in dentistry.



Department of Production Animal Medicine

Operational development at the Department and the Production Animal Hospital

The year 2008 was the Department's second operational year, when the Department managed to establish a well-functioning quality assurance system. The Department also improved cooperation and practices with the Production Animal Hospital of the Veterinary Teaching Hospital. The Production Animal Hospital was allocated a fourth permanent hospital veterinarian's post, which provided major relief for clinical practice and emergency duty services. The hospital recorded even more patient visits than in 2007. Health care visits also increased as a result of the establishment of a monitoring system for bovine health care. Some success was achieved in efforts to improve the profits of commercial operations, although this remains a challenge for the Production Animal Hospital because of its teaching commitments.

Active international research

The Department also launched its research seminars. In 2008 the Department awarded six new doctorates, a record number of postgraduate degrees. More dissertations can be expected in the future, for research work continued actively. In August 2008, a course in mastitis research was organised in the Saari Unit as part of the Faculty's activities in a Nordic cooperative network for forestry, veterinary and agricultural universities and faculties (NOVA). In charge of this course was Satu Pyörälä, and the participants consisted of 18 Nordic and Estonian doctoral students. The course was a resounding success: the participants gave excellent feedback on both the course content and arrangements.

The year 2008 was also marked by several important international conferences in which the Department actively participated. Departmental researchers currently hold a considerable number of elected po-

Photo: Reijo Jokivuori



sitions in international organisations, and many have been invited as guest lecturers. Postgraduate students also presented posters at several conferences.

Hannu Saloniemi retired

Hannu Saloniemi, Professor of Animal Hygiene, retired at the end of 2008. Saloniemi’s 45-year career at the Faculty and in the Department was commemorated with the commission of a portrait by artist Eeva Rihu. The portrait was unveiled in December 2008 at a solemn ceremony during which Rector Thomas Wilhelmsson accepted the portrait into the University collections. Earlier in the spring, Hannu Saloniemi was invited as an honorary member of the Finnish Animal Health Service. ■



Photo: Reijo Jokivuori

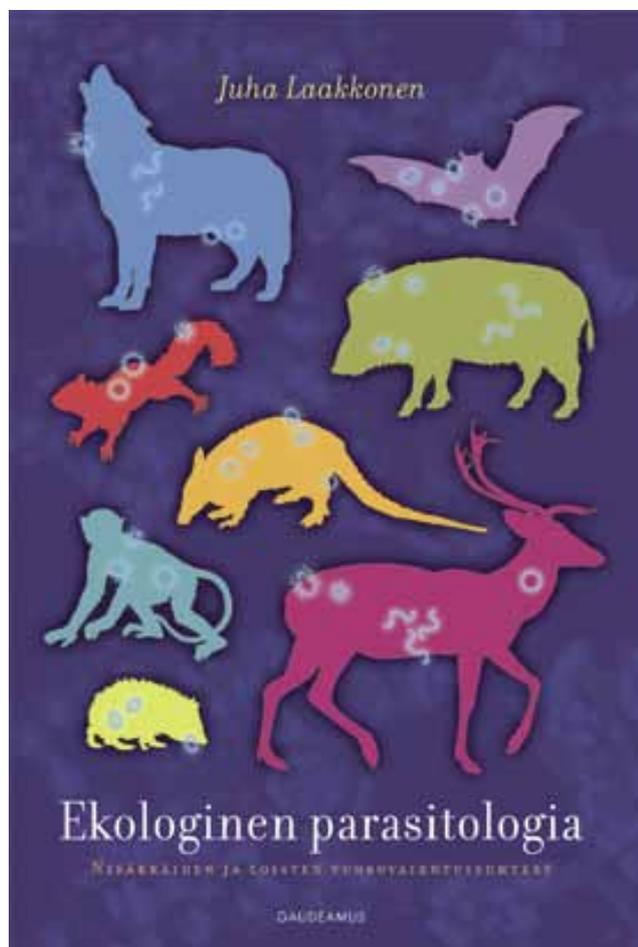


Department of Basic Veterinary Sciences

The year 2008 was an historic year in research at the Department of Basic Veterinary Sciences. Scholarly activities were more intense than ever before: the Department approved six doctoral dissertations and issued almost 70 publications, some of which appeared in important scientific journals. Hannes Lohi, Professor of Molecular Genetics, contributed to a study published in *Science* in which an important gene related to development biology was identified using research on hairlessness in dogs.

The six-year operations of the Centre of Excellence in Microbial Food Safety Research, funded by the Academy of Finland, were launched. The research and other operations of this centre of excellence were presented in a seminar aimed at the general public and drew much attention.

In addition, University Lecturer Marjo Salminen began a new research project on the development of the inner ear and the brain.



New study arrangements

The increase in the Faculty's student intake first affected the Department of Basic Veterinary Sciences, which is responsible for the 'Healthy animal' module. Major changes were carried out in teaching arrangements in, for instance, the discipline of anatomy. A welcome addition in the area of textbooks was Juha Laakkonen's book *Ekologinen parasitologia* (Ecological parasitology), which is the first Finnish-language handbook in the field.

Acknowledgement and major research funding

FiDiPro Professor Willem de Vos was awarded the most important Dutch scholarly prize, the 1.5 million euro Spinoza Prize, for his groundbreaking research. Professor de Vos specialises in bacterial genetics, in particular the study of lactic acid bacteria. In addition, the Head of the Department, Professor Airi Palva, was granted the City of Helsinki Science Prize in spring 2008.

The Department received major research funding from the Academy of Finland for research integrating veterinary and human medicine. Jyrki Kukkonen, Professor of Cellular and Molecular Biology, was granted a four-year research allocation for a project on inter-

cellular communication. Academy funding was also granted to Professor Hannes Lohi for a project studying the dog models of hereditary human diseases. Professor Lohi also received EU funding for research in canine genetics.

Active international connections

The international activities that increased as a result of the Department's FiDiPro professorship remained intense. Departmental researchers and professors gave presentations outside Finland, and the Department also welcomed many top-level researchers as guests. Ian Gardner, Professor of Epidemiology at the University of California, for example, visited the Division of Microbiology and Epidemiology and provided consultation for many Faculty research projects.

Nordic cooperation was also active. Previously established research projects continued and new ones were established. A project on bovine mastitis, for example, is about to be launched under the leadership of Professor Antti Iivanainen. Nordic research courses and conferences were organised cooperatively in microbiology, infection pathology and parasitology. Departmental staff contributed considerably to the planning



and arrangement of these events. During 2008, Nordic and Baltic epidemiologists actively planned postgraduate education in the field, and cooperation was intensified in the discipline of physiology with the Swedish University of Agricultural Sciences.

First specialist degree in pathology

In 2008 a three-year international professional postgraduate programme was launched in veterinary pathology. This programme is targeted to the completion of the European College of Veterinary Pathologists Diploma (Dipl. ECVP). The programme is led by PERNILLA SYRJÄ, Clinical Instructor, who was the first Finn to receive the diploma.

Photo: Wilma Hurskainen



Veterinary Teaching Hospital

Well-established activities: patient numbers on the rise

The Veterinary Teaching Hospital has become well-established as a separate unit independent of the clinical departments. The departmental staff, undergraduate students, specialising veterinarians and Faculty researchers continued their clinical work at the hospital in 2008, as before.

The year 2008 saw slight growth in patient numbers: the Small Animal Hospital treated 16,000 patients, whereas the Equine Hospital treated 2,200 patients. The Production Animal Hospital conducted some 1,900 farm visits. In addition, the outpatient department of the Production Animal Hospital treated approximately 1,500 small animals, and the hospital department some 300 patients, mostly dairy cows.



Improved financial performance with some variation between units

As expected, the Veterinary Teaching Hospital improved its financial performance in 2008. The hospital's budget funding, estimated at 3 million euros, increased by only a little more than one per cent. The turnover for chargeable services grew by 37% to about 5 million euros. The hospital's calculated results showed that the hospital was still unprofitable, although its results improved by an astonishing 56% from 2007.

In 2008 and 2009, the Faculty of Veterinary Medicine and the University of Helsinki supported the further development of the Veterinary Teaching Hospital, providing it with the opportunity to achieve financial stability in the long term. The University of Helsinki Funds also granted separate financial support. The Small Ani-

mal Hospital is wholly responsible for profits within the Veterinary Teaching Hospital. Both the Equine Hospital and the Production Animal Hospital are challenging commercial units currently in a difficult financial position.

Investments and stronger cooperation

Thanks to the successful growth of clinical patient work, investments could be made in necessary teaching and research equipment. The largest acquisition was the Small Animal Hospital's MRI equipment, which



will be used mostly in the area of neurology. Cooperation with various partners provided a major financial contribution to the hospital operations in 2008. For example, a large donation was received on World Animal Day for the development of the hospital's pain and rehabilitation clinic. Cooperation in the area of training for veterinary nurses continued with the Amiedu adult education centre.

The hospital is to remain unchanged in the Universities Act reform

The Veterinary Teaching Hospital began preparations for the reform of the Finnish Universities Act in 2008. The hospital is looking forward to the reform with confidence: its main task will remain the creation of opportunities for clinical instruction and research. The new research projects undertaken in 2008 as well as the increase both in the number of cooperative research projects and in the undergraduate student intake show that the hospital's operations are important for the whole Faculty.

Research Centre for Animal Welfare

In 2008 the Research Centre for Animal Welfare expanded its research projects according to its strategic plan. The projects on animal pain and sleep examined calves' sleep and pain medication after dehorning, the pain medication options of chronically lame dogs as well as dogs' feelings. Many projects also tested a new technology that measures animal behaviour automatically and wirelessly without disturbing the animal.

The Research Centre for Animal Welfare welcomed five new members. The centre now has a total of 19 members, of whom 9 are senior researchers.



International research projects and active operations

The Research Centre for Animal Welfare addressed current social needs with a study conducted by a Swedish postdoctoral researcher on the transport conditions of turkeys. A new Nordic project on tailbiting in pigs is also being coordinated from Finland.

The centre's researchers proceeded to operate actively in the international arena. Professor Anna Valros continued to serve as secretary of the International Society for Applied Ethology (ISAE). In addition to Nordic cooperation, many doctoral students have supervisors from other countries, such as France.

Seminars on pain and calves

The Research Centre for Animal Welfare organised two large meetings for the general public. An animal welfare forum was held in Helsinki on the topic "What do we know about animal pain?" Nearly 200 people attended this seminar and discussed pain in various animal species, intensive care and attitudes related to pain. A public event of almost comparable size in Jokioinen celebrated ten years of Finnish research on calf welfare. During this decade, three "calf doctors" have graduated: one biologist, one agronomist and one veterinarian.

Five doctorates from the Research School for Animal Welfare

The Research Centre for Animal Welfare plays a key role in the Research School for Animal Welfare, funded by the Ministry of Education. This research school includes 37 researchers from several universities and research institutes throughout Finland. In 2008 five doctoral students from the research school completed their dissertations on such topics as calf feeding, the rearing of horses in uninsulated sheds and the increase in the number of blue foxes. Professor Hannu Saloniemi leads the research school.

More resources for animal welfare studies

In 2008 two posts were established in animal welfare research: a professorship with Swedish as the language of instruction and a clinical instructor's post. The new posts brought Faculty research and teaching up-to-speed in this area of veterinary medicine. The Ministry of Agriculture and Forestry provided funding for 2008 and 2009 to establish a Finnish animal welfare centre under the Faculty's auspices. The purpose of this centre is to promote the interactive distribution of information about animal welfare between public administration, researchers and practitioners in the field. ■

Supervising learning, supporting instruction



Dr Mia Ruohoniemi has worked as a lecturer specialised in university-level teaching and learning at the Faculty of Veterinary Medicine for about six years. She is familiar with both the concerns that students have and the challenges that teachers face. The further development of studies is based on pedagogical research and solid expertise: before her current post, Mia worked in various positions ranging from a course assistantship to a professorship at the Department of Clinical Veterinary Sciences.

From admissions to delayed graduation

Mia Ruohoniemi's job description can be described in a nutshell as that of a study developer. On the one hand, she is involved in curriculum design to ensure consideration of the curriculum as a whole. On the other, she is also constantly active at the grassroots level, guiding both students and teachers.

Mia says that her work focuses on the undergraduate stage as a whole, from student admissions to delayed graduation, in the case of some students.

Much of her work is completed cooperatively in groups. A particularly important group is the Faculty's educational planning committee which develops the curriculum across disciplinary boundaries. Campus cooperation also functions successfully. For example, training in university-level teaching and learning is offered annually to the teachers, and current issues are discussed in the teachers' Viklo Café.

Low threshold to supervision

Mia Ruohoniemi sees the personal supervision of students as one of the most important aspects of her work. She wants to be easily approachable to students. If necessary, she cooperates with a student counsellor, who began working on the campus in the autumn term. Mia is pleased to note that students do not



approach her only when they have problems: they may also need her assistance in tailoring their study plans when they participate in international exchange programmes, for instance.

“Although our students are motivated and talented, a six-year study programme is demanding. We must be able to sort out any problems right at the start,” Mia says.

Clarity through reforms

Mia has been involved in several major study reforms. One of the most significant was the transfer to a two-tier degree structure from which the first Bachelor of Veterinary Medicine degree holders graduated in spring 2008. Mia is pleased that the degree programme was clarified: the first three years of studies now constitute a coherent whole, which is also reflected in student feedback.

The degree reform led to the introduction of personal study plans at the University. The Faculty adopted personal study plans in a manner appropriate for its studies. A personal study plan is written as a portfolio and includes the student’s assessments of his or her skills throughout his or her Bachelor’s studies.

“Students are guided from the start to reflect on their learning. When writing their portfolio, the students compare their knowledge and skills with the goals that have been set for learning,” Mia explains.

Another important reform was the integration of studies into large modules rather than separate courses. Teaching relating to production animals, for example, now forms a separate module. Quality assurance and the creation of a feedback system for instruction have also contributed to overall development work.

Pedagogical research as the foundation

University-level instruction must be based on research. It is thus natural that the planning and development of studies are based on the knowledge gleaned from the latest pedagogical research. Mia’s own research focuses on factors affecting veterinary students’ learning.

“Strengthening the pedagogical perspective has been concretely reflected at the Faculty through innovative ways of implementing courses. Good examples include oral group examinations and the use of ‘poster walks’ to review groupwork,” Mia says. ■

The association of veterinary students in 2008

The association of veterinary students (Eläinlääketieteen Kandidaattiyhdistys, or EKY) promotes the interests of its members and arranges diverse extracurricular activities.

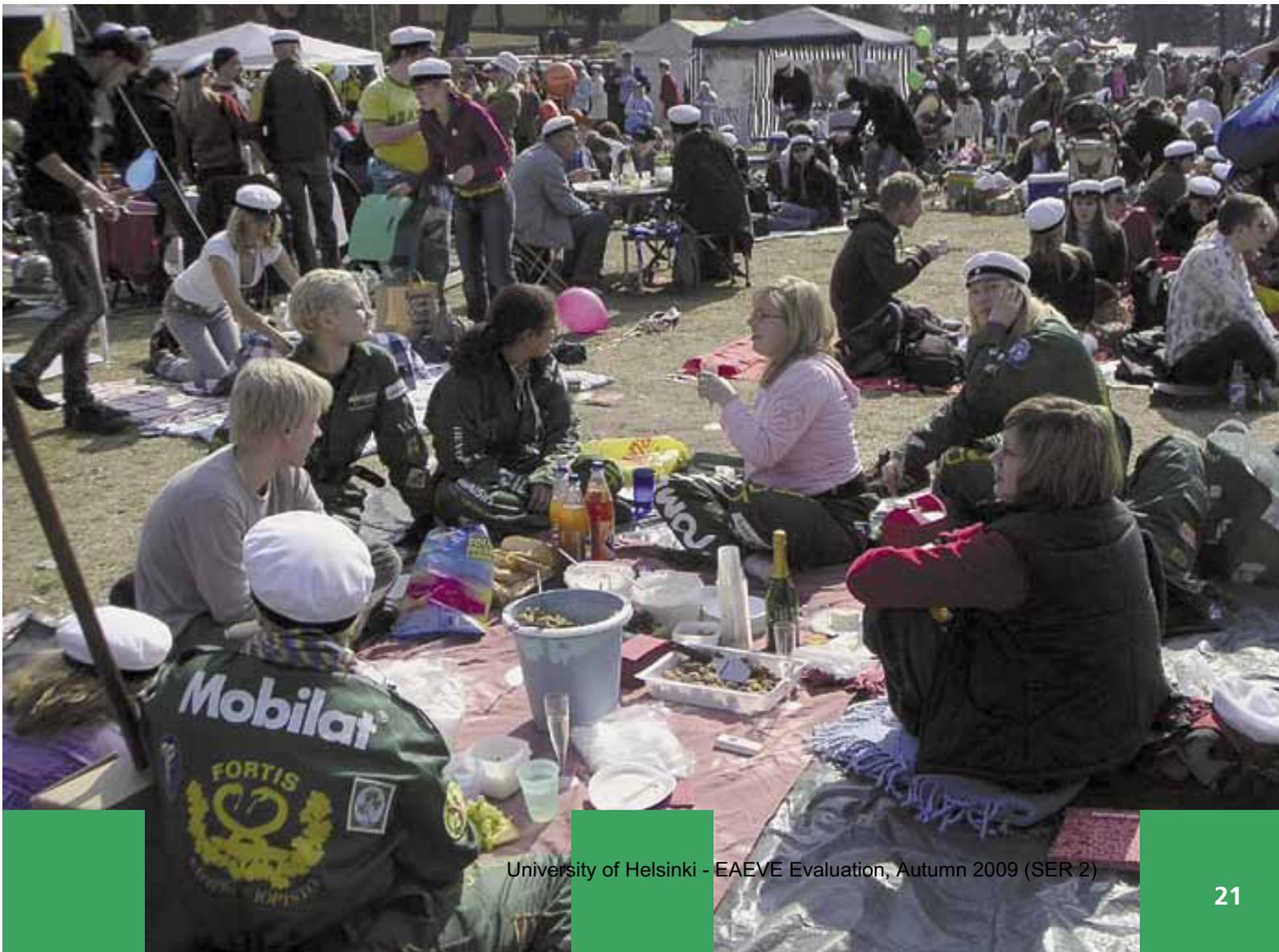
A year of celebrations

The association's year included various celebrations and evening get-togethers. The year began in traditional fashion in January with the presentation of the association's new board and discussion on the status of practice rights. The official programme was followed by an evening gathering that continued into the early morning. Shrovetide was celebrated with sledging at Ullanlinnamäki in Helsinki. The association's 62nd annual celebration took place in March with some 160 association members and invited guests in attendance. The beautiful Gardenia tropical

garden in Viikki was the venue for the second consecutive year.

The May Day celebration began two nights before with a playful game of Finnish baseball at Suomenlinna against the association of agriculture students. The day culminated in a pre-May Day party. The celebrations continued the next day with a traditional ceremony involving the binding of a horse statue's legs in Kaisaniemi. The students then followed the "capping" ceremony at the Havis Amanda statue in central Helsinki. On May Day, the students convened at Ullanlinnamäki for a herring breakfast organised by the association.

The autumn term's celebrations included the traditional freshers' evening welcoming the first year students to the Faculty. The first year students also organised a traditional party at the Cable Factory for



some 300 party-goers. The year's festivities culminated in the Lucia and Lucifer celebration in December.

Activities ranging from field trips to sports competitions

The topics of the student association's monthly evening meetings ranged from a presentation of the work of an equine veterinarian to a lecture on milk fever in cows. In May, the students visited a fur farm in Vaasa.

Weekly floorball sessions kept the students active, and traditional floorball and pool championships took place during the week of the association's annual celebration. An athletics competition for Nordic veterinary students took place in autumn 2008 in Uppsala, Sweden. Nearly 30 student association members participated. The association's equine club, Eqvet, and dog club, K9, also organised their own activities, such as a shoeing course and agility training.



Photo: Fredrik Holmsten



Photo: Jenni Lehto

Contributions and statements

The student association strove to protect student interests by maintaining contact with the Faculty when necessary. As in previous years, the association's board met monthly with the Faculty Dean to discuss current issues. The association prepared for the upcoming reform of the Finnish Universities Act, which will lead to changes at the Faculty. Cooperation with the Finnish Veterinary Association began in 2007 and continued into 2008 in an effort to locate joint facilities that can serve as a venue for festivities. Such facilities will likely be found in the next few years.

All in all, the association had a highly successful 2008 and is looking forward to new challenges ahead!

Miika Kilpeläinen

Doctoral degrees in 2008

Aino Alila-Johansson, MSc

Daily and seasonal rhythms of melatonin, cortisol, leptin, free fatty acids and glycerol in goats

Basic veterinary sciences

Opponent: Professor Juhani Leppäluoto (University of Oulu)

Maarit Haveri, LicVM

Staphylococcus aureus in bovine intramammary infection: molecular, clinical and epidemiological characteristics

Production animal medicine

Opponent: Tore Tollersrud, DVM, PhD (National Veterinary Institute, Norway)

Annamari Heikinheimo, LicVM

Diagnostics and molecular epidemiology of cpe-positive Clostridium perfringens type A

Food and environmental hygiene

Opponent: Professor Eija Könönen (University of Turku)

Anna Hielm-Björkman, LicVM

Assessment of chronic pain and evaluation of three complementary therapies (gold implants, green lipped mussel and a homeopathic combination preparation) for canine osteoarthritis, using randomized, controlled, double-blind study designs

Clinical veterinary medicine

Opponent: Professor Duncan Lascelles (North Carolina State University, United States)

Outi Hälli, LicVM

Effect of environment and management on reproductive efficiency of sows with special emphasis on control of seasonal infertility

Production animal medicine

Opponent: Associate Professor Nicoline Soede (Wageningen University, Netherlands)

Riikka Keto-Timonen, LicVM

Amplified fragment length polymorphism analysis in strain typing and identification of Listeria and Clostridium species

Food and environmental hygiene

Opponent: Martti Vaara, Docent (University of Helsinki)

Outi Lepistö, LicVM

Hyvän hallinnan periaatteiden ympäristöterveydenhuollon pakkokeinomenettelyssä

Food and environmental hygiene

Opponent: Professor Juha Kinnunen (University of Kuopio)

Nanna Lindqvist, LicVM

Molecular characterization of endemic salmonella infections in cattle

Basic veterinary sciences

Opponent: Professor Marja-Liisa Hänninen (University of Helsinki)

Artem Metlin, DVM

Genetic characteristics of field and attenuated rabies viruses and molecular epidemiology of rabies in Finland and Russia

Basic veterinary sciences

Opponent: Dr Noël Tordo (Institut Pasteur, France)

Jonna Oravainen, LicVM

Field studies on infectious reproductive diseases and lameness in sows

Clinical veterinary medicine

Opponent: Professor Ian Gardner (University of California, United States)

Toomas Orro, Veterinarian

Acute phase proteins in dairy calves and reindeer: changes after birth and in respiratory infections

Clinical veterinary medicine

Opponent: Liisa Kaartinen, Docent (Finnish Food Safety Authority)

Marjo Poutanen, MSc

Microbial proteomics

Basic veterinary sciences

Opponent: Adjunct Professor Ulf Hellman (Ludwig Institute for Cancer Research, Sweden)

Ulla Rikula, LicVM

Canine distemper in Finland: vaccination and epidemiology

Clinical veterinary medicine

Opponent: Professor Olli Vapalahti (University of Helsinki)

Katri Sepponen, MSc

Monocarboxylate transporters and heat shock proteins in domestic pigs in relation to stress and meat quality

Basic veterinary sciences

Opponent: Olli Peltoniemi, Docent (University of Helsinki)

Aki Suokko, MSc

The stress responses of probiotic lactobacilli and a Bifidobacterium with special emphasis on Clp family proteins

Basic veterinary sciences

Opponent: Professor Atte von Wright (University of Kuopio)

Suvi Taponen, LicVM

Coagulase-negative staphylococci as a cause of bovine mastitis

Clinical veterinary medicine

Opponent: Professor Herman W. Barkema (University of Calgary, Canada)

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