



EAEVE Self Evaluation Report Stage 1 2012

Self Evaluation Report

Stage 1

September 2012

Table of Contents

0. Introduction	4
1. Objectives	10
1.1. Factual Information	10
1.2. Comments	14
1.3. Suggestions	15
2. Organisation	17
2.1. Factual Information	17
2.2. Comments	27
2.3. Suggestions	28
3. Finances	29
3.1. Factual Information	29
3.2. Information on extra income	31
3.3. Overview income (revenue) and expenditure	33
3.4. Comments	35
3.5. Suggestions	36
4. Curriculum	37
4.1. Factual information	37
4.2. Comments	76
4.3. Suggestions	82
5. Teaching and Learning	83
5.1. Factual information	83
5.2. Comments	97
5.3. Suggestions	97
6. Facilities and Equipment	98
6.1. Factual information	98
6.2. Comments	121
6.3. Suggestions	122
7. Animals and Teaching	123
7.1. Factual information	123
7.2. Comments	140
7.3. Suggestions	140
8. Library and Learning Resources	141
8.1. Factual information	141
8.2. Comments	142
8.3. Suggestions	143
9. Student admission and Enrolment	144
9.1. Undergraduate courses	144
9.2. Comments	148
9.3. Suggestions	149

10. Academic and Support Staff	150
10.1. Factual information	150
10.2. Comments	156
10.3. Suggestions	157
11. Continuing Education	158
11.1. Factual information	158
11.2. Comments	161
11.3. Suggestions	161
12. Postgraduate Education	162
12.1. Factual information	162
12.2. Comments	167
12.3. Suggestions	167
13. Research	169
13.1. Factual information	169
13.2. Comments	176
13.3. Suggestions	176

0. Introduction

The University of Veterinary Medicine, Vienna (Vetmeduni Vienna) is an autonomous university. As the only academic institution for veterinary medicine in Austria it places an emphasis on national socio-political interests and economic responsibility. Promoting the health and welfare of animals are at the heart of its endeavours.

In the areas of academics, research, and services, the Vetmeduni Vienna strives to be a thorough and competent partner for mediating the human-animal relationship.

However to thrive and successfully position itself within a dynamic context of university life, the University of Veterinary Medicine, Vienna needs an actively practised culture of values. The identity and activities of the University of Veterinary Medicine, Vienna are based on its three core values:

- **Competent:** Based on the expertise and experiences we act in a safe and independent manner
- **Dedicated:** We actively dedicate ourselves to accomplishing our tasks and meet challenges with passion. Mutual support ensures progress for all.
- **Responsible:** We take responsibility for our actions. Responsibility also means respect and the mutual acknowledgment of effort and achievement.

In Austria, veterinary higher education at the undergraduate as well as the postgraduate levels is offered only at the University of Veterinary Medicine, Vienna.

The Diploma Programme in Veterinary Medicine at the University of Veterinary Medicine, Vienna strives to be among the best veterinary programmes in the world by offering a state-of-the-art, research based, international education using modern educational principles and learning platforms.

The overall mission of the Diploma Programme in Veterinary Medicine is to educate highly qualified veterinarians who will serve society through their sustained efforts to improve animal and human health. These veterinarians should be well-versed in basic animal science, disease biology, food safety and veterinary public health as well possess in-depth knowledge of the diagnosis, treatment and prevention of animal diseases. The entire Diploma Programme in Veterinary Medicine lasts 6 years, thus surpassing the requirements of EU Directive 36/2005. In the final tier of the Diploma Programme, students choose a track of specialisation to deepen their knowledge and practical experience within a specialty field. Upon completion of the Diploma Programme, students are awarded the academic degree "*Magister/Magistra medicinae veterinariae*" (in German "*Diplom-Tierarzt/Diplom-Tierärztin*") and are eligible for Austrian and EU veterinary authorisation, since they have acquired the EAEVE Day-one skills needed to start their careers as veterinary practitioners.

A focus of undergraduate education is reflected in the commitment to provide instruction, infrastructure and clinical opportunities for students to gain experience working with a wide variety of domestic animals, including both companion and farm animals. Furthermore students are taught specific competencies and given opportunities to acquire expertise in food safety, veterinary public health, laboratory animals, conservation medicine and in multifarious interactions between animals, human and the environment.

In order to ensure the success of the programme, a competence profile has been drawn up, which lists the academic competencies graduates must have obtained. Additionally, the University of Veterinary Medicine, Vienna, as a provider of outstanding academic education, has the responsibility of ensuring excellence in research, scientific and clinical services and in its international networking.

The most important goals for education at the University of Veterinary Medicine, Vienna, are to:

- develop world-class teaching and learning in line with recommendations from the EAEVE and the field of educational research;
- offer higher education and continued education (i.e., lifelong learning) to produce outstanding graduates, who are committed to their academic, scientific and ethical responsibilities;
- be a preferred research partner within the core academic fields of veterinary science and human-animal interaction;
- communicate veterinary research and convey its importance for health and for the prevention, control, diagnosis and treatment of diseases in animals and humans;
- create an attractive university environment for recruiting highly motivated students as well as the best scientific, clinical and technical staff;
- further develop the curricula in line with the Bologna Declaration and Austrian legislation while considering the requirements of the market.

Historical facts

The University of Veterinary Medicine, Vienna traces its origins to the veterinary school founded in 1765 in the 3rd district of Vienna by Empress Maria Theresia. Since 1996 the new campus of the University of Veterinary Medicine, Vienna has been located in the 21st district of Vienna.

Currently the areas of teaching, research and clinics at the University of Veterinary Medicine, Vienna are structured into five subject-specific departments and one research institute (the Messerli-Research-Institute).

Located on campus in the “Messerli-Haus”, the Messerli-Research-Institute was founded in 2010 with financial support from the Messerli Foundation (Sörenberg, Switzerland) under the auspices of the University of Veterinary Medicine, Vienna in cooperation with the Medical University of Vienna and the University of Vienna.

The implementation of the University Act (UG 2002) led to drastic changes in the legal status of Austrian universities, which were transformed into autonomous institutions with different decision-making bodies and are monitored by indicators of the Performance Agreement with the Federal Ministry for Science and Research. Financial support by the Federal Ministry is allocated on the basis of compliance with targets and milestones defined in the Performance Agreements.

These changed conditions, be they of a political or an economic nature, have resulted in new demands on the universities, as has been the case for the University of Veterinary Medicine, Vienna. To meet these new requirements and expectations, it was necessary to create a development plan as a compass to guide the University of Veterinary Medicine, Vienna. The present Development Plan 2020, published in 2012, is the result of an intensive participatory discussion process resulting in a strategic document outlining the

University's future path and major goals to be reached by 2020 in the domains of education, research and clinical services.

Main features of the history of the University in the period since the last EAEVE evaluation visit in 2006

■ Major organisational changes

■ Departmental structure

In 2008 the University of Veterinary Medicine, Vienna reorganised its departmental structure by reducing the number of departments to four. The Animal Hospital consists of the clinical organisational units of Department 3 and all of Department 4.

After the incorporation of the Konrad Lorenz Institute of Ethology a fifth department, named "Integrative Biology and Evolution", was founded in 2010. It consists of the Research Institute of Wildlife Ecology and of the Konrad Lorenz Institute of Ethology.

■ Species-specific clinics

Species-based clinics were instituted between 2008 and 2010 by disbanding the former discipline-based clinics and integrating them into the new organisational structure as units of the species-based clinics. To optimize the use of resources, processes and quality standards, expertise must be align with available competencies.

The farm animal clinics (Clinic for Ruminants, Clinic for Swine, Clinic for Avian, Reptile and Fish Medicine) are situated in two buildings. The Equine Clinic was established by combining the disciplines into one unit; it is housed in two adjacent buildings. The Clinic for Small Animals is composed of many disciplines and specialised subunits, which are situated in three different buildings. In 2012 the special service for physical therapy was moved into the building of gynaecology. A centralised outpatient Clinic for Small Animals is still needed.

■ Central support services

Additionally to the Laboratory Diagnostics Platform, former the Central Laboratory, and the diagnostic imaging unit the Platform for Radiation Treatment was successfully established in 2012. The platform offers oncology treatment and the services for the nuclear medicine diagnostics and treatment facility, ScintiVET.

Furthermore, the interdisciplinary facility for research, VetCore, was founded in 2006. VetCore provides high-level technical support for veterinary research in the fields of genomics, transcriptomics, proteomics, mouse imaging and cellular imaging.

■ Constitution of the Senate

Based on the amendment of UG 2002 the constitution of the Senate had to be changed in 2010. This led to a reduction of the number of University professors and student representatives among the members of the Senate.

■ New buildings and major items of equipment

The implementation of the species-specific clinics went along with a vast restructuring of the existing buildings.

The quarantine station (Kontumazstall) was adapted to run infectious research experiments in pigs and poultry.

Moreover a quarantine station for pigs and a necropsy facility for poultry were established in the pathology building.

On the campus the following new buildings were opened:

- 2007: Oncology
- 2010: ScintiVET
- 2011: Add-on building to the Clinic for Avian, Reptile and Fish Medicine
- 2012: Messerli-Haus
- 2012: Athletic facility (Sports ground)
- 2012: VetSIM

After a change of ownership of the teaching and research farm (TRF), a rebuilding concept was realized to enable both practice-oriented teaching and research projects.

- 2009: The renovation of the cattle farm in Kremesberg was completed.
- 2010: An additional research facility for cognitive biology was established at Haidlhof in cooperation with the University of Vienna.
- 2012: Construction of the new facility for pigs is scheduled to start in August at Medau.

■ Major items of equipment

- 2006: Equine Clinic –Digital Camera
- 2007: Equipment for VetCore
- 2008: Radionuclide laboratory – Beta-Imager 2000 Detection System
- 2009: Diagnostic imaging – CT;
Departments 1 and 2 – In vivo Imaging System FXProDesktop-Mikro-CT-System; Somatom Emotion 16; FACS;
- 2010: Vetcore – Sequencer Genome Analyzer
- 2011: Diagnostic imaging – MRT
Department 1 – FACS analyser and sorter; Equipment for specific pathogen-free mouse breeding according to FELASA-standards;
- 2012: Biophysics – 2-Photon-Laser-Microscopy;
Diagnostic imaging – Axiom Iconos R200; Ultrasound System iU22

■ Main changes to the academic programme

The current curriculum was implemented in 2002. Hence, only a few changes had to be made:

- 2010: OSCE was split in two parts.
- 2011: Instead of the written examination in Physics and Chemistry at the end of the first semester, assessments are performed during the lecture period.

Challenges encountered by the University

In the process of the Development Plan a SWOT-analysis was performed and revealed following challenges:

■ Strengths

- Dedicated and highly qualified staff;
- Highly motivated students selected from a large pool of qualified applicants;
- Research based education;
- Uniform and broad veterinary programme of study incorporating food hygiene, food safety and public health;
- A sufficient clinical case load, including a high percentage of primary and referral cases in companion animals as well as in farm animals;
- Enhanced clinical training during the tracks of specialisation in the final tier;
- A Residency Programme to strengthen and increase professional expertise;
- A unabating need for veterinary medicine and education in society;
- Expertise on Human-Animal Interactions due to the Messerli-Research-Institute in the fields of Animal Ethics, Cognitive Biology and Comparative Medicine.

■ Weaknesses

- The curriculum has a complex structure; students failing an exam may encounter a “waiting-period” of up to two semesters;
- The vertical and horizontal integration of disciplines and their teaching of these needs improvement;
- Recruitment and retention of faculty for specific veterinary disciplines are difficult;
- Organisational changes are enacted, but now and then not “actively” implemented;
- The structure of the buildings does not support establishing interdisciplinary organisational units;
- Cultivating dialogue among staff members is necessary to facilitate internal communication as a strategic instrument for increasing transparency as well as to promote dialogue and motivation;
- Alumni management is non-structured.

■ Recommendations

- Increased emphasis on the recruitment of students whose main interest is farm animals and food safety;
- Active commitment to interdisciplinary teaching on the part of the faculty, remodelling the curriculum;
- Career planning with respect to increasing the potential for excellence in the domains of education, research and clinical services;

0. Introduction | 1. Objectives | 2. Organisation | 3. Finances | 4. Curriculum | 5. Teaching and Learning | 6. Facilities and Equipment | 7. Animals and Teaching | 8. Library and Learning Resources | 9. Student admission and Enrolment | 10. Academic and Support Staff | 11. Continuing Education | 12. Postgraduate Education | 13. Research

- Enhancing the national and international reputation of the University clinics as centres of excellence;
- Development of recruitment and retention strategies (faculty);
- Strengthening cooperation with the Austrian Veterinary Chamber with regard to continuing education;
- Bolstering the recruitment of international students by strengthening exchange programmes.

1. Objectives

1.1. Factual Information

Major goals and objectives of the University

The University of Veterinary Medicine, Vienna strives to be among the best universities/faculties for veterinary medicine in Europe. In keeping with its core values – competent, dedicated and responsible – the University aims to meet its obligation to provide outstanding research based education, international competitive research and scientific services and to contribute to innovation beneficial to society. The University of Veterinary Medicine, Vienna attaches great importance to supporting its highly motivated staff in delivering outstanding performance, to communicating knowledge to society and to collaborating with government departments, the private sector and the public. Daily interaction between staff, students, researchers, animal owners and cooperation partners is founded on a basis of respect, trust, a sense of responsibility, willingness to change and an optimal use of resources.

The University of Veterinary Medicine, Vienna prepares its strategic objectives triennially with the Federal Ministry for Science and Research based on the goals described in the Development Plan.

The University of Veterinary Medicine, Vienna sees its responsibility in

- offering higher education and continuing education to produce outstanding graduates that are committed to their academic and scientific responsibilities,
- providing excellent research based on scientific specialisation and the development of innovations from which animal patients benefit directly,
- continuously improving scientific services and veterinary care for animals,
- preventing the spread of animal diseases; and
- working to increase the quality and safety of animal-based products.

The present Development Plan comprises and describes all of the key focuses and goals of the University of Veterinary Medicine, Vienna, which were elaborated jointly between the entire University and the highest collegiate bodies and are in effect until 2020. It serves as a compass for the University and, together with the guiding principles, defines the strategic basis for the University. The measures, which are necessary for profile enhancement and University development and which are designed to successfully position the University of Veterinary Medicine, Vienna in the context of international competition, are defined in the Performance Agreements with the Federal Ministry for Science and Research. The Development Plan focuses on the core areas of education, continuing education and research, as well as the University clinics and diagnostic facilities. Further topics of interest are internationality and mobility, quality management, gender equality policy and equal opportunity, as well as personnel and organisational development.

The University of Veterinary Medicine, Vienna teaches – higher education & continuing education: The University of Veterinary Medicine, Vienna offers high-quality, research based international academic and continuing education programmes with a significant practical component. The University seeks to hone the skills of its graduates by continuously developing its offering of academic programmes.

The next generation of curricula will prioritise student-centred learning, vertical integration of academic content and the early training of clinical-practical skills (skills lab). Prospective students will be able to gain a realistic view of the diverse offerings of programmes of study, the typical graduate profile and possible career options by way of active and target-group-specific communication measures. Efforts to contact alumni will be stepped up in order to encourage them to provide feedback about education at the University. The University of Veterinary Medicine, Vienna has a restricted admissions system in place to ensure quality-based selection of students. The University values teaching. Developing the didactic expertise of teachers through specific training will enable the implementation of an innovative and interactive range of educational programmes. Project-based inter-university cooperation helps drive new insights in educational research, the results of which are used to improve didactic education for teachers.

Postgraduate continuing education programmes in veterinary medicine are geared towards professionals in the form of internships and residencies, as well as new academic training courses and programmes for students who re-enter education, *inter alia*, according to the requirements of lifelong learning. In addition to offering these specialised continuing education programmes, the University of Veterinary Medicine, Vienna also reaches out to the public and meets its social responsibility with information and events for specific target groups.

The University of Veterinary Medicine, Vienna researches – research, knowledge and technology transfer: The University of Veterinary Medicine, Vienna combines excellent research in veterinary medicine with basic scientific research, as well as applied and clinical research.

The research activities focus on the five main areas of research in line with the five Research Profile Areas. Internal research financing lays the foundation for being awarded competitive funding and primarily supports young academics. Basic research is to be interlinked with clinical research in order to better position the University nationally and internationally. Profile development goes hand in hand with the systematic support of young academics – talent scouting, strengthening of PhD and Postdoc Programmes including personnel and career development and qualification positions. The increasingly strategic international positioning of its experts, amassing of publication credits and citations in internationally renowned journals and an emphasis on open-access publications promote the international visibility of the University of Veterinary Medicine, Vienna.

To investigate research-relevant, inter- and intra-disciplinary issues in a targeted manner, the University of Veterinary Medicine, Vienna strives to intensify inter-university cooperation. These synergies between universities are reflected on the one hand in the appointment management system (double appointments) and in a commitment to the shared use of research infrastructure (core facilities), on the other. The University of Veterinary Medicine, Vienna plans to step up the utilisation of its central technology platform “VetCore” and of the University outposts (e.g. teaching and research farm). Research at the University of Veterinary Medicine, Vienna stimulates research-led innovation in veterinary medical diagnostics and treatment. Furthermore, research results and their (economic) exploitation contribute to solving the sociopolitical and healthcare policy challenges of the 21st century. Scientific communication via the utilisation of

dialogue formats and social media supports and strengthens knowledge and technology transfer to the general public.

The University of Veterinary Medicine, Vienna offers services: the university clinics and diagnostic services with their comprehensive offering of highly specialised services and consulting assume a key role in teaching and research. The sociopolitical mandate of the University clinics lies primarily in the clinical and continuing education of veterinarians and in ensuring responsible care of their animal patients. The clinics actively contribute to animal health, animal welfare and veterinary public health and offer services and advice based on recent research findings for all issues concerning animals and livestock. The University of Veterinary Medicine, Vienna strives to strengthen its unique position in Austria and to promote its international ranking by delineating its clinical profile, integrating its scientific services with its main areas of research, as well as by concentrating species-specific expertise into its species-specific clinics.

The specialised out-patient clinics and the clinical and diagnostic facilities are designed as client- and service-oriented centres of excellence. Their service offering is shaped by their high degree of innovation and specialisation. Among the prominent features of the University clinics are the Centre of Excellence for Small Animals and Horses and the Centre of Excellence for Farm Animals. In this context, the Teaching and Research farm, which is to be expanded into an educational facility for farm animal health and food safety, and which will serve as a model for agricultural holdings, must be highlighted. Expertise, necessary for clinical practice, requires specialists that are recruited internationally and honed internally by systematic support of young academics. A central element of a top-level education in veterinary medicine is a representative pool of animal patients.

Internationality, mobility, cooperation and networks: The University of Veterinary Medicine, Vienna seeks to increase its visibility internationally, along with promoting the mobility of its students and staff and assessing whether its areas of interest are in line with the international research agenda. As part of its commitment to developing an international campus, the University aims to be a top-notch knowledge provider at least on par with international standards of education, as well as to meet internationalisation requirements at all levels in order to position itself successfully among its international competition.

Quality management and quality assurance: The University of Veterinary Medicine, Vienna adheres to international standards for all of its activities. Internal reviews of quality assurance measures are conducted at regular intervals, which together with external evaluations, certification and accreditation by recognised, independent, international institutions ensure the quality of teaching, research and scientific services.

Equality policy and equal opportunities: The University of Veterinary Medicine, Vienna is aware that every employee contributes to the success of the University. Differences and skills are valued and leveraged, and people with special needs receive individual support. The principles of diversity, gender, balance and equal opportunity are reflected in the organisational culture. The University employs increasingly varied instruments for diversity management to recognise potential and to support and challenge employees according to their skills and talents. The compatibility of studies, career and family life is continuously improved with measures such as the “dual career” initiative and “university and family” audit.

Personnel and organisational development: A university's performance is determined by a key resource, namely, its staff. This requires, on the one hand, strategic personnel

planning and, on the other hand, conditions that allow the talents and abilities of employees to be recognized in order to optimally foster their development in an individualised manner. Assignment of Chairs is based on international teaching standards and mid-term research goals.

Major goals and objectives for the Diploma Programme in Veterinary Medicine

The Diploma Programme in Veterinary Medicine plays an important role in the health and well-being of animals and humans by means of its function as a vehicle for educating the veterinarians of tomorrow, through its research activities and collaboration with its partners, and by providing the highest professional standards and services to the public.

The veterinary curriculum at the University of Veterinary Medicine, Vienna is a future-orientated, research based diploma programme built upon modern educational principles and learning platforms. The requirements of the EU Directive and the Bologna Process, as well as the University's own mission, were taken into account in preparing the list of objectives.

With the acquisition of Day-one skills, graduates of the Diploma Programme in Veterinary Medicine have a solid chance of successfully starting a career in a fiercely competitive job market. Day-one skills combined with lifelong learning and vocational education and training give graduates the opportunity to launch excellent careers in a veterinary field of expertise.

The following is a brief summary of the official list of objectives for the undergraduate curriculum available in the study guide. Graduates of the programme will have:

- comprehensive basic knowledge of the disciplines that form the basis of the work of a veterinarian, including food safety and veterinary public health;
- the ability to make scientifically and ethically justified decisions independently and critically;
- the ability to communicate and cooperate in a variety of ways;
- the ability to perform the professional duties of a veterinarian and practise veterinary medicine independently with respect to economics and entrepreneurship;
- the ability to identify and solve scientific problems
- the ability to follow developments in the field and to continue learning;
- the ability to pursue further academic and professional training;
- the awareness of a veterinarian's responsibility towards patients, clients and society.

The University of Veterinary Medicine, Vienna constructively and carefully utilises feedback from students and teachers, as well as from online alumni evaluations and acts on the recommendations received.

Currently, the faculty is working on a new version of the curriculum for the Diploma Programme in Veterinary Medicine: an ambitious project with the goal of forming a bridge between a comprehensive basic education and relevant areas of specialisation, between academic theories and practical application. The revised curriculum aims to link vertical and horizontal integration of teaching content more strongly and to focus on student-centred learning.

1.2. Comments

The aims of the Diploma Programme are to ensure that veterinary graduates enter veterinary practice equipped with the appropriate knowledge and skills to meet contemporary professional and societal demands. Today's society is characterised by an almost overwhelming expansion of available knowledge and information. Nowadays, it is impossible for graduates to possess all the knowledge they will need for the rest of their careers. There is too much information and there are too many possible skills. Along with the exponential growth of the body of veterinary medical information arose the problem of how to handle the information explosion without causing curriculum overload. An additional problem is the mismatch between academic veterinary training and veterinary professional practice, with recent graduates claiming the need of appropriate skills, abilities and confidence for (economic) success in the dynamic environment of veterinary practice. These demands need new educational principles.

Teacher-centred programmes are focused excessively on teachers delivering knowledge to students, while the learning of students receives considerably less attention. It is the teachers who mostly determine what is to be learned, how, when and in what sequence. It is generally assumed that the role of students in these programmes is that of more or less passive recipients of knowledge and information.

In modern teaching formats, the role of the teacher is no longer regarded as primarily concerned with transmitting information to students. Nowadays, teachers can employ student-focused strategies to help students change their thinking about relevant subject matter. The student-centred approach requires teachers to put students and student learning at the centre of their efforts. Teachers are expected to stimulate student learning by challenging their ideas through questioning, offering them problems to solve, and asking them to discuss topics and present what they have learned. Students are actively involved in their own learning – through dialogue, discussion, questioning and collaborating with peers and teachers. The teacher's role within student-centred curricula is that of guiding and stimulating student learning. Consequently, it is no longer sufficient for teachers to give lectures, they are also expected to develop course materials and create learning situations that encourage students to actively engage in learning. Educational methods that stimulate interaction between students and teachers are needed. Student-centred learning also requires assessment methods geared towards stimulating deep learning in students, instead of requiring only the rote memorisation of facts. The student's role needs to change accordingly; students should be active learners who ask questions and spend more time on self-study instead of passively listening to their teachers. In addition to being individual learners, students should also be competent team members in both their education and careers.

Another key factor is the change in the relationship between subject matter and individual disciplines. While formerly subject matter was mostly discipline-based, today subject matter is becoming integrated into broader, interdisciplinary themes in order to provide meaningful learning contexts relevant for the future profession. This format is expected to facilitate student learning and enhance their understanding of the subject matter. Conversely, discipline-based subjects that are taught in isolation are likely to be perceived as having little context, the students' horizon will be narrow and unlikely to rise beyond the passing of the next exam by way of memorizing a series of disembodied facts. Key

features of educational interventions are interactions among students and between students and teachers, combined with the use of pedagogical materials that promote problem-solving and thinking.

Increasing importance is being attached to academic training in (veterinary) medical curricula around the globe. The explosion of new information coupled with the emergence of new technologies requires that (veterinary) doctors are capable of appropriately appraising and applying new knowledge. In order to do so, doctors need to be equipped with the knowledge and skills that enable them to make judicious use of the new (bio-)medical research literature and to ascertain when and how new developments and new evidence are relevant to professional practice in their particular setting.

The ultimate goal of higher education is to prepare students for the dynamic environment of today's labour market by ensuring they have acquired the appropriate competencies. Communication skills, leadership skills, entrepreneurship skills, the ability to act independently, planning and organisation skills, and the ability to use and manage copious amounts of information are often cited as desired work competencies for a broad range of contexts and situations.

In response to these issues, the following radical changes are advocated for undergraduate veterinary education at the University of Veterinary Medicine, Vienna:

- decreasing reliance on conventional teaching (teacher-centred education) and increasing reliance on student-centred education;
- focus on subject-matter-based veterinary education integrated into broader, interdisciplinary themes
- increasing emphasis on academic skills development;
- increasing emphasis on generic, non-technical competencies that are relevant to the veterinary profession as a whole, such as communication skills and business management skills.

1.3. Suggestions

Further development of innovative and interactive teaching

According to the principles of student-centred learning, the University of Veterinary Medicine, Vienna endeavours to design the teaching and learning process so as to actively engage students. Questions and contributions by students are integrated to allow for intensive interaction. Through the interactive teaching roster, students get the support they need to realize their full potential and to take responsibility for their education. It is still necessary to further expand e-learning offerings and web-based, interactive discussion platforms and courses that assist with, for example, independent processing of animal patient cases. The course offerings for teaching the skills needed for effective communication with animal owners must also be strengthened. The skills lab VetSIM should be expanded to include special facilities that offer innovative and interactive teaching and learning elements.

Trainings and information, which will support the educational shift

To shift the attention to student-centred learning environments and broad-based competency development, it is of utmost importance that the University supply teachers and students with additional training and information to increase awareness of the educational concepts underlying the interactive education model. Students and teachers

need help with methods to stimulate effective group learning and with the use of problem-solving techniques to foster learning. The assignments are the main vehicle for stimulating discussion in seminar groups and have to be discussed.

Emphasis on the mere reproduction of memorised factual knowledge must be replaced by more open questioning and lively discussion as the new model for classroom instruction. Trusting the students to carry out peer-to-peer teaching, even extending to caring for animal patients, and shifting more responsibility from teacher to student must become self-evident in terms of these new modes of instruction.

2. Organisation

2.1. Factual Information

Details of the Faculty

Name of the Faculty: University of Veterinary Medicine, Vienna (Vetmeduni Vienna)

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Title and name of head of the University (Rector): Dr. Sonja Hammerschmid

The University of Veterinary Medicine, Vienna is an autonomous stand-alone State University comparable to a one-faculty establishment. It is the only institution for higher education in Austria that provides undergraduate and postgraduate veterinary education. Like all Austrian institutions for higher education, the University is supervised by the Federal Ministry for Science and Research in accordance with the University Act 2002 (Universitätsgesetz, UG 2002).

Details of the competent authority

The rules of procedure necessary for the University's governance are regulated by the University's statute within legal limits based on the University Act 2002. The statute is proposed by the Rectorate for approval by the Senate, and requires a simple majority for its adoption.

In particular, the statute governs:

- the rules for the election of the University Council, Senate and other governing bodies;
- the appointment of an officer to hear appeals in matters concerning the enforcement of study law in the first instance;
- general guidelines for the conduct and publication of evaluations, and the implementation of their findings;
- the application of study law in accordance with Part II of the University Act;
- the composition of the Equal Opportunities Working Party (§ 42(2) UG 2002);
- the enactment of a female advancement plan;
- the establishment of an organisational unit responsible for the coordination of activities relating to equal opportunities, the advancement of women and gender research;
- guidelines for academic honors;
- the form and extent of alumni involvement in University life.

■ ANNEX 2.1: [Satzung der Veterinärmedizinischen Universität Wien](#)

2.1.1. University Council

Next to the Rectorate and Senate, the University Council is one of the University's highest authorities. Its rights and obligations are defined by the University Act (§ 21 UG 2002) and

include controlling and management tasks as well as supervising functions. In particular, these include:

- approving the development plan, the organisation plan and the draft Performance Agreement of the University, as well as the rules of procedure of the Rectorate;
- advertising the position of the Rector;
- issuing regulations for the election of the Rector after obtaining the Senate's official statement;
- electing the Rector from a shortlist of three candidates nominated by the Senate;
- electing the Vice-Rectors on the basis of nominations made by the Rector after receiving an official statement from the Senate;
- concluding the Rector's and Vice-Rectors' service agreements as well as the Rector's and the Rectorate's Performance Agreement;
- dismissing the Rector and Vice-Rectors;
- nominating one female and one male member of the Arbitration Commission;
- approving the formation of companies and foundations as well as the investment in companies;
- approving the guidelines for financial management, the financial statements and the intellectual capital report, and forwarding the same to the Federal Ministry;
- appointing an auditor to audit the financial statements of the University;
- approving the assumption of non-current liabilities, and empowering the Rectorate to assume such liabilities up to a certain limit without seeking the prior approval of the University Council;
- mandatory annual reporting as well as reporting to the Federal Ministry in the event of serious breaches of the law by University governing bodies or the danger of serious financial loss;
- approving the budget estimate issued by the Rectorate;
- providing an official statement regarding the Performance Agreement with the Federal Ministry for Science and Research prior to signing the contract by the Rector;
- issuing rules of procedure of the University Council.

Based on propositions by the Rectorate and in close cooperation with the Senate, the Council determines the University's future direction and the strategies required to achieve set goals. The Council has five members who are all past or present holders of responsible positions, especially in academic, cultural or business life, and whose knowledge and experience are such as to enable them to contribute to the attainment of the objectives and the fulfillment of the duties of the University. Two members are appointed by the Federal Government, two members are elected by the Senate and the fifth member is appointed by the four members. The chairperson is chosen among the members of the Council. The members' term of office lasts five years; for the recent Council this means from 2008 to 2013. The University Council meets 3 to 4 times a year.

- ANNEX 2.2: [Geschäftsordnung des Universitätsrates](#)
- ANNEX 2.3: [Universitätsgesetz 2002, §21](#)

2.1.2. Rectorate

The Rector and the Vice-Rectors are appointed by the University Council. For the election of the Rector a finding commission has to be implemented according to §23a UG (2002). The finding commission has to evaluate the applicants, to initiate an active search and to submit a short list of three candidates to the Senate. The finding commission consists of the head of the University Council and the head of the Senate. The Rector is elected from a shortlist of three candidates provided by the Senate by the University Council, the Vice-Rectors are appointed following nominations made by the Rector.

The Rectorate heads the University and acts as its external representative. It is responsible for all tasks which are not assigned to other governing bodies according to the University Act (§22 UG 2002). In particular, its duties include:

- preparing a draft version of the statute for submission to the Senate;
- preparing a University development plan for submission to the Senate and the University Council;
- preparing a University organisation plan for submission to the Senate and to the University Council;
- preparing a draft version of the Performance Agreement for submission to the University Council;
- preparing the annual performance report, the financial statements and the intellectual capital report;
- approving guidelines for the delegation of authorisations to University employees according to §28 (1) UG 2002;
- organising the collection of tuition fees in the amount provided for by statute;
- Establishment and cessation of curricula for degree programmes and courses as well as providing statements on the curricula;
- providing an Animal Hospital's institutional regulations for approval by the University Council;
- Allocation of the budget;

The Rectorate superintends all organisational units of the University. It consists of the Rector and three Vice-Rectors.

■ Rector

The Rector is the chair- and spokesperson of the Rectorate and has the following duties, as defined by the University Act (§ 23 UG 2002):

- presiding over the meetings of the Rectorate and acting as its spokesperson;
- nominating candidates for election as Vice-Rectors;
- managing the University office;
- negotiating and concluding Performance Agreements with the Federal Ministry;
- acting as the superior of all University staff;
- selecting professors from shortlists drawn up by the appointments Committees;
- conducting professorial appointment contract negotiations;
- concluding employment and service contracts;
- awarding authorisations under §28(1) UG 2002.

According to the Rectorate's rules of procedure, the following additional duties are performed independently by the Rector:

- appointing and dismissing the heads of organisational units;

- contracting of target agreements with the heads of the organisational units;
- assigning University staff (§94, (1), (2 to 6) UG 2002) to individual organisational units;
- awarding authorisations to teach (venia docendi);
- instigating evaluations of research and publication of evaluation results;
- person of contact for good scientific practice;
- internal auditing and strategic controlling;
- public relations;
- nominating and appointing the members of the Scientific Advisory Board and the Research Evaluation Committee after resolution of the Rectorate.

■ Vice-Rectors

The Rector determines the number of Vice-Rectors and their duties. At the University of Veterinary Medicine, Vienna three Vice-Rectors are in charge:

- Vice-Rector for Research and International Relations
- Vice-Rector for Resources
- Vice-Rector for Study Affairs and Clinical Veterinary Medicine

Their duties are defined in the Rectorate's rules of procedure as follows:

■ Vice-Rector for Research and International Relations:

- preparing recommendations for the formation of research foci;
- coordinating research foci;
- contracting national and international research cooperations;
- habilitation procedures and introduction as well as quality assurance of PhDs;
- contracting target agreements in relation to publications and external funding on the level of organisational units;
- giving advice and support concerning external funding;
- informing and coordinating the University's Scientific Advisory Board;
- allocating research scholarships and fellowships, prizes etc.;
- coordinating sabbaticals and exchange programmes for young researchers;
- promoting young researchers;
- optimising the utilisation and occupancy rate of resources in research;
- coordinating and contentual governance of the post for biosecurity;
- establishing a holistic quality management system for assurance of quality and performance;
- further developing technology transfer activities

■ Vice-Rector for Resources:

- establishing an accounting and reporting system;
- introducing a planning- and reporting system that fulfills the reporting duties of the University according to legal regulations and statutory provisions of the Minister of Finance on the establishment of investment- and finance controlling;
- managing the University office per procura and as representative of the Rector;
- acting as the superior of all University staff per procura and as representative of the Rector;

- concluding employment and service contracts per procura and as representative of the Rector;
- preparing a draft version of the financial statements and the intellectual capital report;
- allocating budgets to their respective cost centres and operative controlling;
- finance- and investment management as well as banking transactions;
- planning of Human resource development as well as basic conditions for employment and service contracts;
- continuing education in the context of human resource development;
- optimising the utilisation and occupancy rate of resources unless already regulated by budget;
- coordinating new media, internal information service, website and intranet.

■ Vice-Rector for Study Affairs and Clinical Veterinary Medicine:

- supervising student admission;
- organising the collection of tuition fees in the amount provided for by law;
- instigating evaluations pertaining to education and publication of evaluation results;
- admissions for study authorisation examination;
- acting as chair of the Ethics and Animal Welfare Committee;
- acting as head of the Animal Hospital;
- acting as commissioner of the University in cases of an epidemic;
- fulfilling legal regulations pertaining to education at first instance;
- supporting the Senate in the establishment of bachelor-, master-, graduate- and doctoral studies;
- supporting the Senate in the establishment of postgraduate studies and continuing education , in particular doctoral- and PhD studies as well as University courses;
- furthering the involvement of alumni;
- optimising the utilisation and occupancy rate of educational resources;
- responsibility for all clinical affairs which are not specifically assigned to other governing bodies;
- preparing a draft version of the Animal Hospital's institutional regulations;
- coordinating affairs concerning the service offered and received by the Animal Hospital;
- coordinating affairs concerning clinical postgraduate and continuing education, in particular internships und residencies;
- optimising the utilisation and occupancy rate of clinical resources

■ ANNEX 2.4: [Geschäftsordnung des Rektorats](#)

2.1.3. University Management

The University management consists of the Rector, the three Vice-Rectors, the director of the Animal Hospital and the director of human resources and infrastructure. The latter two are appointed by the Rectorate. The University management meets once a week, additionally the Rectorate meets once a month for strategic planning.

■ Director of the Animal Hospital

The Vice-Rector for Study Affairs and Clinical Veterinary Medicine delegates the operative tasks concerning the Animal Hospital to the director of Animal Hospital.

■ **Director of Human Resources and Infrastructure**

The Vice-Rector Resources delegates the operative tasks concerning employment and human resource development as well as infrastructure to the director of human resources and infrastructure.

The director of Human Resources and Infrastructure has to collaborate close with the works council. The works council consists of representatives of the academic staff and of the non academic staff.

2.1.4. Extended University Management

The Extended University management (EUM) consists of the Rectorate and the department heads. The organisation of the EUM and the duties of department heads are defined by the departmental rules of procedure. The EUM meets once a month. Twice a year the EUM organises a closed meeting in which strategies and developments are discussed.

■ **ANNEX 2.5: Geschäftsordnung DepartmentsprecherInnen**

Responsibilities, constitution and function of the main administrative bodies

Academic issues are addressed in Councils consisting of academic staff and students elected for their positions.

2.1.5. The Senate

The Senate is composed of 18 members, among them nine University professors, four representatives of the assistant and associate professors, four student representatives and one delegate of the non-academic staff. Representatives are elected by the respective parties; the chairperson is elected by the members of the Senate. The Senate members' term of office lasts three years, the recent period ends with summer semester 2013.

The Senate's duties are laid down in the University Act (§25 UG 2002) and include:

- enacting and amending the statute;
- approving the draft development plan prepared by the Rectorate;
- approving the draft organisation plan prepared by the Rectorate;
- changing the size of the University Council and electing its members (§21 (6) (1) and 21 (7) UG 2002);
- approving the advertisement for the position of the Rector prepared by the University Council and drawing up a shortlist of three candidates for election by the University Council;
- submitting of a short-list of candidates to the University Council for the election of the rector based on the recommendations of the finding commission;
- expressing an opinion on the Rector's recommendations with regard to the Vice-Rectors (number, duties and shortlist);
- participating in procedures for the dismissal of members of the University Council, the Rector or Vice- Rectors;
- participating in procedures for the award of authorisations to teach;
- participating in procedures for the appointment of professors;

- enacting and amending the curricula for degree programmes and courses (§§ 56 and 57 UG 2002);
- determining the academic titles awarded by the University;
- making decisions pertaining to study affairs at second instance;
- establishing categories for the allocation of income from tuition fees;
- appointing collegial bodies with or without decision-making powers (§§ 7 and 8 UG 2002);
- enacting regulations governing the activities of collegial bodies;
- approving the decisions by collegial bodies with decision-making powers;
- expressing opinions to the Rectorate on the allocation of staff to given organisational units;
- establishing an Equal Opportunities Working Party;
- nominating one female and one male member of the Arbitration Commission.

Further regulations concerning the Senate's organisation, its rights and duties as well as the general code of conduct are laid down in the collegial bodies' rules of procedure.

- ANNEX 2.6: Geschäftsordnung der Kollegialorgane
- ANNEX 2.7: [Universitätsgesetz 2002, §19](#)

■ Curricular Committees

For preparing necessary study-specific decisions for existing degree programmes, the Senate relies on Curricular Committees.

Each Curricular Committee consists of six members, among them two professors and two University lecturers appointed by the Senate as well as two students appointed by the Students' Union. The Vice-Rector for Study Affairs and Clinical Veterinary Medicine is an associate member. A Curricular Committee may be in charge of one or several substantially related curricula. The members' term of office follows that of the Senate. Duties primarily relate to the enactment of curricula for degree programmes and University courses according to § 25 (1) (10) UG 2002.

For study programmes which have not yet been approved, a working group is implemented for preparatory planning.

At the University of Veterinary Medicine, Vienna following Curricular Committees are implemented (Table 2.1).

Table 2.1: Overview of Curricular Committees

Curricular Committee for	Responsible for
Degree Programme Veterinary Medicine	Diploma Programme in Veterinary Medicine Master Programme Wildlife Ecology and - Management Internship Programme
Degree Programmes Biomedicine and Biotechnology	Bachelor Programme Biomedicine and Biotechnology Master Programme Biomedicine and Biotechnology
Degree Programmes Equine Science and Human Animal Interactions	Bachelor Programme Equine Science Interdisciplinary Master Human Animal Interactions Applied Kynology
Degree Programmes for Postgraduate Education	Doctoral Programme Veterinary Medicine PhD Programme Postdoc Programme

Additionally following standing Committees and Councils act as advisory bodies of the Rectorate and/or Senate:

■ **Ethics and Animal Welfare Committee**

The Ethics and Animal Welfare Committee is an advisory body of the Rectorate. Its duties are laid down in its rules of procedure and include peer-reviewing projects with in-vivo animal experiments, securing the compliance with good scientific practice guidelines, Animal Welfare Law and Law for Animal Experiments and assuring quality of filed projects. The Committee's workflow is laid down in its standard operating procedure.

The Vice-Rector for Study Affairs and Clinical Veterinary Medicine chairs the Committee. It consists of seven full members with expertise in the field of animal experiments, one student member and three advisory members. Members are appointed by the Rectorate. Their term of office follows that of the Rectorate.

■ ANNEX 2.8: [Geschäftsordnung Ethik- und Tierschutzkommission](#)

■ **Equal Opportunities Working Party**

The major task of this working party is to counteract gender discriminations by governing bodies of the University and to provide advice and support to University staff members and governing bodies in matters of gender equality and advancement of women. It consists of eight members which are elected by the Senate. The chairperson is elected by the members of the working group. The members' term of office is two years, the recent period being from summer semester 2012 to winter semester 2013/14.

■ Annex 2.9: [Frauenförderungsplan](#)

■ Ombudswoman for Good Scientific Practice

The task of this office is to give advice on scientific integrity and settle minor cases of scientific misconduct, should they occur. In serious cases, the University calls upon the Committee of the Austrian Agency for Scientific Integrity.

- Annex 2.10: [Good Scientific Practice](#)

■ The Arbitration Board

The installation of an Arbitration Board is regulated by the University Act (§ 43 (1) UG 2002). It consists of six members, whereby Senate, University Council and Equal Opportunities Working Party nominate two members each. The chairperson is elected by the members of the Arbitration board. The members' term of office is two years, the recent period being 2010/11 and 2011/2012.

The Board is responsible for following tasks:

- mediation in disputes between University members;
- decision about complaints lodged by the Equal Opportunities Working Party in cases of discrimination due to gender, ethnicity, religion, ideology, age or sexual orientation;
- decision about complaints by the Equal Opportunities Working Party pertaining to the erroneous composition of collegial organs and the inadequacy of nominations.

- Annex 2.11: [Geschäftsordnung Schiedskommission](#)

- Annex 2.12: [Universitätsgesetz 2002, §43](#)

Involvement of the veterinary profession and general public for further development of the University

The University of Veterinary Medicine, Vienna has realized that this inclusion of alumni and the veterinary profession in the decision-making processes of the University is imperative for its healthy development.

The veterinary profession is therefore strongly involved in the development of the University of Veterinary Medicine, Vienna by regular interactions with the University management. At the Rectorate's request, a practicing veterinarian and representative of the Austrian Veterinary Chamber was nominated as an associate member of the University Council, thereby allowing the veterinary profession deep insight and participation in the core decisions and strategies pursued by the University. In addition, alumni, external lecturers and instructors, most of which are practicing veterinarians, are strongly involved in SWOT analyses performed by the University. Concerning the evaluation of competencies and Day-one skills of the graduates stakeholders around the veterinary profession are involved like representatives from the Austrian Veterinary Chamber, from the ministries and from the biomedical and pharmaceutical industry.

The most recent survey was carried out in 2011 and concerned the strengths and weaknesses of the current veterinary curriculum. Concurrently, an alumni analysis was performed. The results obtained are valuable road maps – they have direct influence on the ongoing reformation of the veterinary curriculum.

In addition, the University cherishes its ongoing exchange of information with the veterinary profession and stresses this point by jointly publishing the official professional journal (Vet Journal) and the University periodical (vetmedmagazint).

To strengthen the University's standing, it is important for the general public to understand and appreciate the value of the University's activities and services. The University of Veterinary Medicine, Vienna seeks to transport its core message "We know the most about animals, their habitats and living context" with all communicative measures available. This goal is to increase the visibility of the University, in particular its research performance. In 2011, the University of Veterinary Medicine, Vienna focused especially on the area "Communication of research and science". Its main focus is to make recent publications available to a wider audience. In 2011 34 press releases about various fields of research were published.

Additionally the University of Veterinary Medicine, Vienna organises guided tours for different target groups on a regular basis: the gamut runs from tours for kindergarden groups and high school students, to special tours for companies or groups with a veterinary medicine background. In 2011, the guides of the University of Veterinary Medicine, Vienna gave campus tours to more than 2,000 visitors for the first time.

In the context of the new "Mini Med Tiere" lecture series for a wide general audience experts of the University for Veterinary Medicine Vienna together with practitioners answered questions on topics of pet ownership.

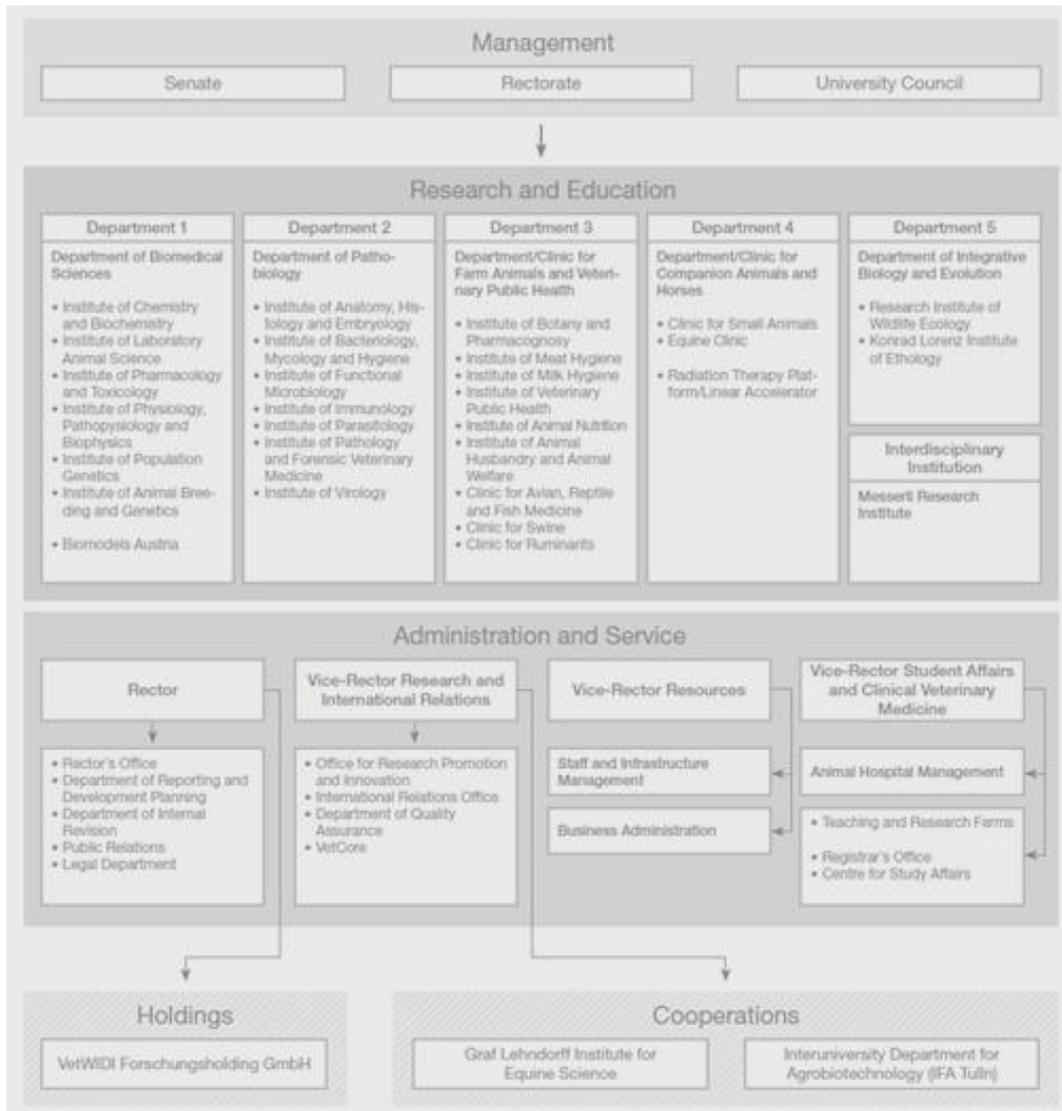
For one week the University for Veterinary Medicine Vienna offers annually interested youth the opportunity to gain a deep insight into the life of the University of Veterinary Medicine, Vienna, the campus and the veterinary profession. During the Science Camp they learn more about the Diploma Programme in Veterinary Medicine and the veterinary profession especially working in the fields of farm animals, veterinary public health and food safety.

Organisational chart of the University of Veterinary Medicine, Vienna

The areas of teaching, research and clinics at the University of Veterinary Medicine, Vienna are structured to form five subject-specific departments and one research institute (Messerli-Research-Institute). The Animal Hospital is composed of the clinical organisational units of Department 3 and Department 4 in its entirety.

0. Introduction | 1. Objectives | **2. Organisation** | 3. Finances | 4. Curriculum | 5. Teaching and Learning | 6. Facilities and Equipment | 7. Animals and Teaching | 8. Library and Learning Resources | 9. Student admission and Enrolment | 10. Academic and Support Staff | 11. Continuing Education | 12. Postgraduate Education | 13. Research

Figure 2.1: Organisational chart of the University of Veterinary Medicine, Vienna



2.2. Comments

The University of Veterinary Medicine, Vienna finds designing and developing its organisational structure in an integrated and targeted manner to be of utmost necessity for the effective use of resources and differentiated personnel development. Therefore the University seeks to create organisational levels that match its responsibilities and align with its areas of expertise.

Internal communication is used as a strategic instrument for increasing efficiency and transparency, as well as for promoting dialogue and motivation.

Communication and cooperation within and between the various departments is based on a collegial atmosphere between staff members who share the same vision for the future and are committed to the stated objectives.

The existing organisation ensures that decisions are made within the veterinary area of the University. The financial framework is specified for a period of three years in the Performance Agreement with the Federal Ministry for Science and Research.

As members of all boards and collegiate bodies at the University, students actively participate in decisions impacting the development of the curricula. Also, through course evaluations and ongoing dialogue with lecturers, all students have the opportunity to voice their opinion with regard to the quality and effectiveness of the teaching.

Furthermore, students and representatives of the Students Union may contact the faculty, the Vice-Rectors and the Rector at any time and bring up issues concerning education or work at the University of Veterinary Medicine, Vienna. This open-door policy is considered an integral part of daily quality control efforts at the University, and also the beginning of networking within the veterinary profession.

2.3. Suggestions

No suggestions.

3. Finances

3.1. Factual Information

Similar to all universities in Austria, the University of Veterinary Medicine, Vienna receives the main part of its budget from the federal government. The amount of its annual budget is determined by the financial capacities of the government and the demands made on the University in terms of the duties it needs to fulfil. The University's budget is subdivided into a basic budget (80%) and a formula-based budget (20%). The basic budget is negotiated triennially with the Federal Ministry for Science and Research on the basis of the Development Plan and Performance Agreement. The allocation of the formula-based budget is linked to a set of eleven indicators. These are:

- In the field of education:
 - Indicator 1: the number of students taking examinations within the normal timeframe specified by their course of studies
 - Indicator 2: the number of graduating students
 - indicator 3: the number of students graduating within the normal timeframe specified by their course of studies
 - Indicator 4: success rate of students
- In the field of research:
 - Indicator 5: the number of graduates in Doctoral Programmes
 - Indicator 6: revenue from research projects funded by the Austrian Science Fund (FWF) or the EU
 - Indicator 7: other revenue from research projects in accordance with §26(1) and §27(1)2 and §27(1)3 University Act of 2002 (UG 2002)
- In the field of societal objectives: advancement of women
 - Indicator 8: proportion of women among full professors
 - Indicator 9: the number of women graduating from Doctoral Programmes
- In the field of societal objectives: student mobility
 - Indicator 10: the number of students taking part in international mobility (i.e., exchange) programmes
 - Indicator 11: the number of students with a foreign undergraduate degree enrolled in a master's degree or Doctoral Programme at the University of Veterinary Medicine, Vienna

The University of Veterinary Medicine, Vienna's budget is pre-calculated for a period of three years; appropriation of funds from the government takes place annually. In principle, the University of Veterinary Medicine, Vienna is entitled to autonomously decide how to use its budget within the limitations imposed by its budget plan and Performance

Agreement. Revenues from third-party funding have to be accounted for separately and remain at the disposal of the University without decreasing the budget negotiated with the Federal Ministry for Science and Research.

The budget is allocated to the University as a lump sum with only a portion being designated as funding dedicated to special purposes (Research Institute of Wildlife Ecology, special programmes of the Federal Ministry for Science and Research). Since the University campus is owned by the federal government (Federal Real Estate Company), the University must pay rent and in effect has the rights and duties of a tenant as defined by the Austrian Tenancy Act (Mietrechtsgesetz).

3.1.1. Performance Agreement

The Performance Agreement is regulated by the University Act of 2002 (UG 2002) and is negotiated by the University of Veterinary Medicine, Vienna and the Federal Ministry for Science and Research for a period of three years. It comprises measurable goals and indicators, which define the strategic objectives outlined in the Development Plan. Taken together, the Performance Agreement and the Development Plan represent the core strategic documents of the University.

In particular, the Performance Agreement contains:

- the requirements to be met by the University in the following areas:
 - strategic goals, profile development, University and staff development
 - research
 - courses of study and continuing education
 - societal objectives
 - expansion of internationalisation and mobility
 - inter-university cooperation
 - specific sectors (such as the Research Institute of Wildlife Ecology and the University Clinics)
- the requirements to be met by the Ministry for Science and Research, especially as regards budget appropriation
- the annual allocation of the negotiated budget across the period of the Performance Agreement
- the measures to be taken in case of non-fulfilment of the Performance Agreement
- reporting and accounting

The extent to which the goals defined in the Performance Agreement are being met is closely monitored by the Rectorate with results published annually in the University of Veterinary Medicine, Vienna's Performance Report, which in turn becomes an integral part of the University's Intellectual Capital Report.

Allocation of funds within the University

As a rule, salaries, rent and the basic budget for teaching and research are financed out of central funds. The financial sovereignty of organisational units is limited to material resources, special funds for investments and reimbursed overhead payments.

The allocation of funds within the University is founded on a thorough planning process, which takes place in a bottom-up fashion based on the needs of the organisational units

within a budgetary framework defined in a top-down process by the Rectorate. A budgetary forecast is produced for every organisational unit for the entire triennial planning period. The principle of balanced budget planning is applied: all projected costs must be covered by available reserves, extra income or internal fund allocation. Planning performed at each level of the organisation is settled with the next higher level, especially in the case of an existing or impending funding gap. The planning process is complete once the Rectorate and University Council have given their approval.

Revenues generated from research grants or by scientific services remain at the disposal of the researcher who has acquired the grant or the organisational unit performing the scientific service, respectively. 20% is deducted as overhead, with half of this amount being retained centrally and the other half being equally apportioned between the organisational unit and its department. While organisational units may use revenues from scientific services to cover additional personnel costs or clinical expenditures, they must comply with University regulations such as the directives on authorisations and procurements at all times.

Furthermore, organisational units receive special endowments for guest lecturers, excursions and clinical training in the Animal Hospital. They can also generate funds by means of the performance of their research staff with regard to publications and by establishing agreements with the Rectorate for special projects, which are paid according to how well they have met their objectives. In addition to this, several types of competitive funding are provided by the University's Research Profile Area Board (refer to Chapter 13: Research), a management instrument that aims to support the strategic development of the University's research profile by furthering young scientists and encouraging third-party funding.

Funding and replacement of equipment takes place via agreed investments ("paktierte Investitionen") and reinvestments ("Reinvestitionen") for which the Rectorate defines a fixed budget for each department. Which investment is financed is based on a decision-making process within the department. In the case of agreed investments, half of the acquisition cost is covered out of central funds and half is paid by the respective organisational unit. For reinvestments, the approval process takes place within the Rectorate. 75% of costs are financed out of central funds and 25% are paid by the respective organisational unit. In exceptional cases, the department to which the organisational unit belongs may contribute extra funds to cover costs.

Major projects are mostly financed by extra income from investment programmes of the federal government, the Federal Ministry for Science and Research or research funds. Expensive equipment is mainly invested into the University of Veterinary Medicine, Vienna's core facility "VetCore". The scope of these acquisitions is inherently determined by the rate of depreciation.

3.2. Information on extra income

In accordance with §91(1) of the University Act of 2002 (UG 2002) undergraduate students with Austrian citizenship or with equal rights for access to the veterinary profession by contracts under international law (e.g. EU and EEA citizens) are – with a few exceptions – exempt from paying tuition fees. Instead, the University receives compensation payments

(“Studienbeitragsersatz”) from the Federal Ministry for Science and Research amounting to approximately €1.4 million.

Undergraduate students who are not Austrian citizens or who do not have status equivalency to Austrians under international law must pay a fee of €363.36 for each semester. The same holds true for undergraduate students whose duration of studies exceeds the number of semesters allocated per tier by more than two semesters.

The income generated from these exceptional tuition fees is earmarked specifically for projects that are jointly defined by the Senate and the students as set out in §25(1)13 and §25(11) University Act of 2002 (UG 2002). As such, student representatives nominate one project and the Senate nominates three projects. Mostly, these projects are aimed at improving learning opportunities.

In the 2011/12 academic year the projects encompassed:

1. development of the skills lab
2. improvement of elective subjects and excursions
3. expansion of extramural training opportunities, especially in farm animal medicine
4. improvement of study area infrastructure in the library and extension of library opening hours into weekends

Upon payment of the tuition fee, students are asked to vote for the projects they wish to see realized.

Students participating in several programmes of study simultaneously – whether at the same institution or at different Austrian universities – have to pay the tuition fee only once.

3.3. Overview income (revenue) and expenditure

3.3.1. Overview revenue of Vetmeduni Vienna 2011

Overall revenue of Vetmeduni Vienna 2011

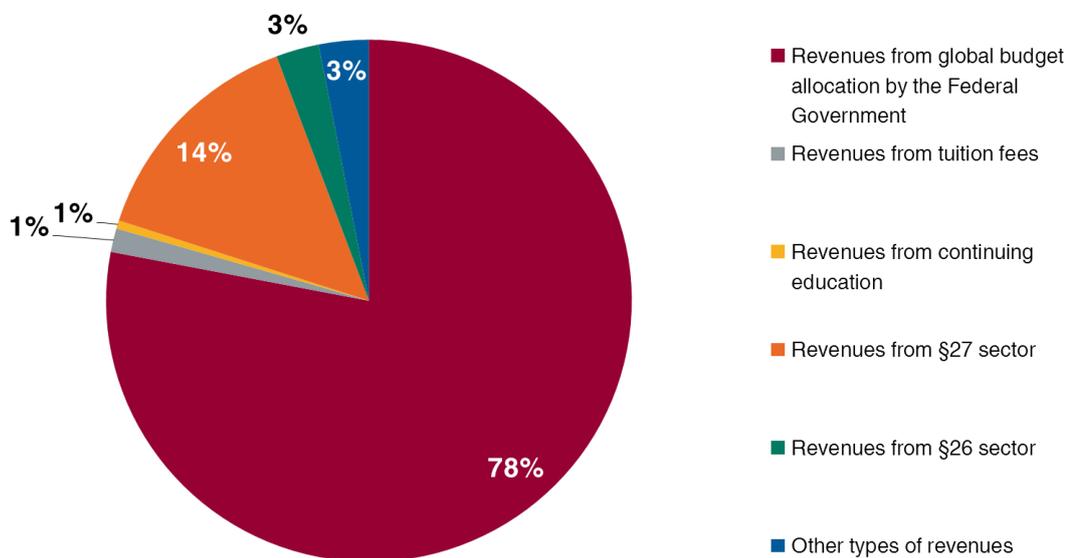


Figure 3.1: Overall revenues of the University of Veterinary Medicine, Vienna 2011

Table 3.1: Overall revenue 2011

Overall revenue 2011	Euro
Revenue from global budget allocation of the federal government	87,747,253.00
Revenue from tuition fees including compensation payments by the federal government (because of the abolition of tuition fees by law in 2008)	1,645,386.17
Revenue from continuing education	580,265.40
Revenue from the §27 sector	16,093,408.43
Revenue from the §26 sector	2,970,751.86
Other types of revenue	3,455,304.14
	112,492,369.00

3.3.2. Revenue from global budget allocation by the federal government

Table 3.2: Revenue from global budget allocation by the federal government

Revenue from global budget allocation by the Federal Government	Euro
2007	80,815,805.00
2008	79,972,838.39
2009	80,804,354.00
2010	86,340,428.00
2011	87,747,253.00

3.3.3. Revenue from the §27 sector

Table 3.3: Revenue from the §27 sector

Revenue	Euro
Animal hospital	6,900,596.54
Other scientific services	1,333,420.04
Research services	4,773,641.16
Other types of revenues from §27 sector	3,085,750.69
Total	16,093,408.43

Revenue from the §27 sector of Vetmeduni Vienna 2011

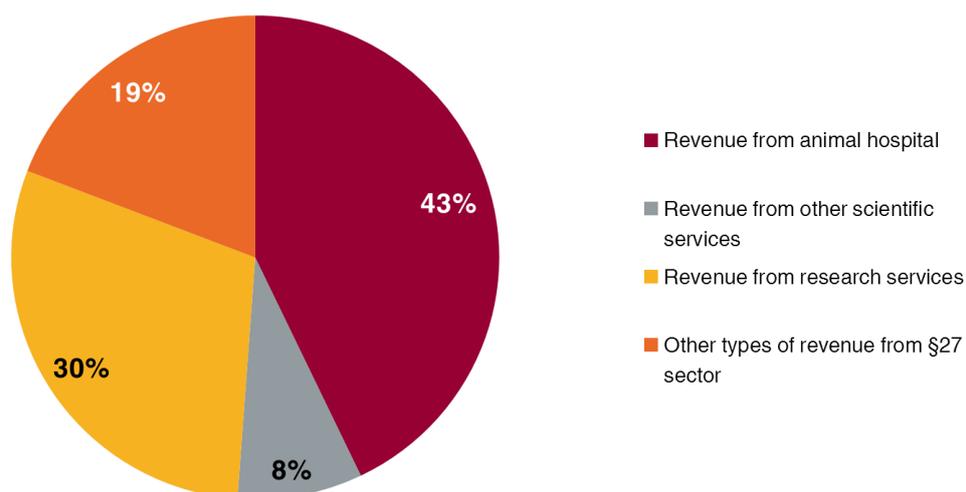


Figure 3.3: Revenue from the §27 sector of University of Veterinary Medicine, Vienna 2011

3.3.4. Overall expenditures 2011

Overall expenditures of Vetmeduni Vienna 2011

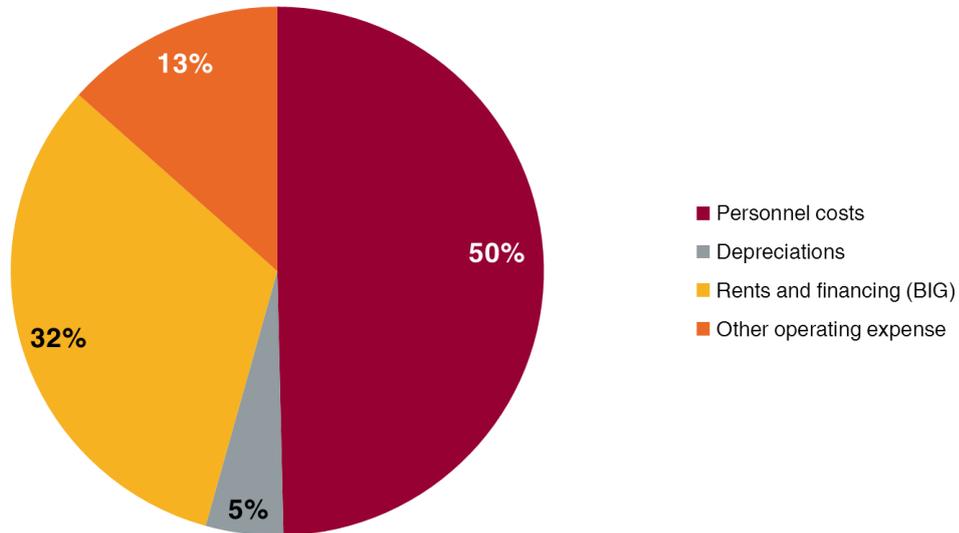


Figure 3.4: Overall expenditures of University of Veterinary Medicine, Vienna 2011

Table 3.4: Overall expenditures of University of Veterinary Medicine, Vienna 2011

Expenditures	Euro
Personnel costs	54,327,225.53
Depreciation	5,145,849.61
Rents and financing (Federal Real Estate Company)	35,342,060.69
Other operating expenses	14,644,112.17
Total	109,459,248.00

3.4. Comments

The priority of additional funding is defined by the Performance Agreement, which in turn is based on the Development Plan.

Financing of universities in Austria is in transition. Following European trends, a model for financing universities based on enrolment capacity (“Kapazitätsorientierte Studienplatzfinanzierung”) is currently in development. In essence, budgets will be distributed amongst universities based on the actual costs of certain disciplines (e.g., technical and medical studies, as well as the arts and studies in humanities) and based on the following four criteria:

- number of active studies (60%)
- number of graduates (10%)
- knowledge transfer (15%)
- cooperation agreements (15%)

The partial amounts for criteria 1–3 are to be distributed amongst universities according to certain indicators. Funds for cooperation agreements (criterion 4) will be awarded after a bidding process.

3.5. Suggestions

While it is commendable that the funding of universities is to be put on a more output-related footing, this new financing model disadvantages small universities and universities with limited capacity due to regulations, such as the University of Veterinary Medicine, Vienna. Indicators for criteria 1 and 2 will be weighted according to discipline and therefore should take into consideration the special budgetary demands of hands-on veterinary training in small groups. The new model appears to be most beneficial to universities with great room for improvement concerning their numbers of active studies and graduates, also universities with ample possibilities for obtaining external research funding.

The University of Veterinary Medicine, Vienna is adamant that the new financing model must not lead to budget cuts and must safeguard compliance with EAEVE specifications, especially with regard to the staff:student ratios. At the same time, it must allow further development according to the goals defined in the University's Development Plan.

4. Curriculum

4.1. Factual information

Since the entry into force of the University Act (“Universitätsgesetz” UG 2002) in the year 2004, Austrian universities are exempt from the directives and by-laws that had been specified by Austrian law up to that point. Consequently, the authority to issue academic regulations lies with each respective university. As pertains to medical education in Austria, the University Act sets out that diploma programmes be continuous, meaning that the Bologna structure of Bachelor/Master is implemented only informally with regard to content.

The University of Veterinary Medicine, Vienna is the only veterinary educational facility in Austria, therefore the curriculum is unique and accepted nationwide.

Upon completion of the Diploma Programme, students are awarded the academic degree of “*Magister/Magistra medicinae veterinariae*” (in German “*Diplom-Tierarzt/Diplom-Tierärztin*”).

According to the Austrian law, the student is eligible for:

- The Austrian and EU veterinary authorisation, since the student has obtained the EAEVE Day-one skills needed to start a career as a practicing veterinarian, fulfilling the EU Directive 36/2005.
- Enrolment in either a PhD or doctoral programme, since the student has obtained a solid foundation of scientific knowledge and skills and is able to understand, retrieve, handle and critically evaluate scientific data and literature.

The entire veterinary curriculum, which was implemented in the year 2002, spans 6 years, which is equivalent to 360 ECTS credits, (i.e., 60 ECTS per year). The focus of the curriculum is on the acquisition of Day-one skills with lots of hands-on training and problem-oriented learning. The curriculum is structured in three phases. To move up to the next tier, the preceding tier of the Diploma Programme has to be completed successfully. The first tier lasts one year and imparts a foundation of basic science. The second tier spans 2 years and deals with pre- and paraclinical subjects integrated into clinical cases. The third tier lasts three years and focuses on clinical education. In this tier, students' understanding of clinical theory is assessed prior to starting the practical clinical part. An overview of the curriculum is presented in table 4.1a.

Table 4.1a: Overview of the Curriculum (timeline, involvement of students and ECTS)

Semester	Students involvement	Description	ECTS
1 to 9	All students	Uniform part of the education including the 1 st , 2 nd and half of the 3 rd tiers	234
10/11	Track students	Track of specialisation	29
10/11	All students	Medical Biometry and Epidemiology, Veterinary legislation and forensic medicine, Training in meat and food hygiene	9
12	All students	Diploma thesis	20
1 to 12	All students	Practicums	39
2 to 6, 2 to 12	All students	Compulsory electives	6
10/11	Track students	Compulsory electives per track	10
1 to 12	Free electives	Choice of offered courses	13

Management of the veterinary curriculum

The management of the curriculum, in terms of content, lies with an appointed committee (the Curricular Committee) of the highest executive body of the University, i.e., the Senate. The Rectorate has the oversight of financial feasibility and has the right of a de facto veto in cases of proposals that violate the financial framework.

The Curricular Committee consists of a total of six members, representing different facets of the University in equal parts: two professors, two members of the academic faculty and two students. The Vice-Rector for Study Affairs and Clinical Veterinary Medicine is coopted as an advisory member. To gain legal validity, the decisions made by the appointed committee have to be confirmed by the Senate. The University Council is involved in delivering a statement about the curriculum to the Senate.

A schematic overview of the decision-making process is shown below (Figure 4.1):

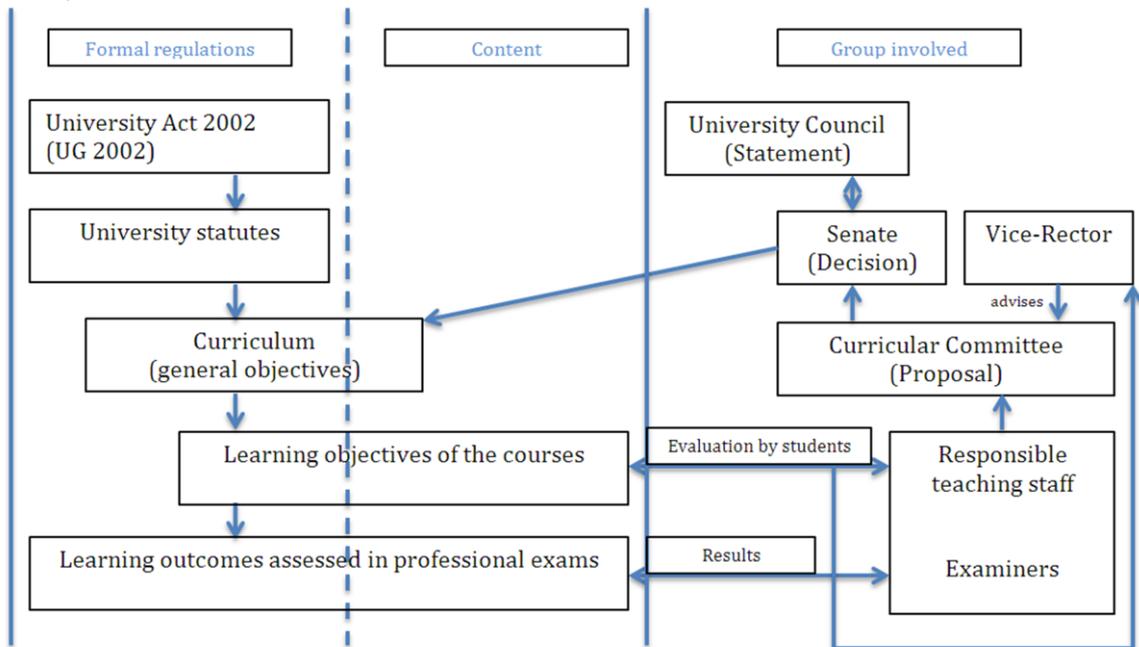


Figure 4.1: Scheme of decision making process and constructive alignment concerning the curriculum

The Curricular Committee has to submit the curriculum at least 8 weeks in advance of decision-making to the Senate, the University Council and the Rectorate. The collegiate bodies involved in the decision-making process of the curriculum should deliver their statement within four weeks. The final version of the curriculum is determined by the Senate.

4.1.1. Power of subjects and types of training

Power of subjects

The curriculum is uniform from the 1st through the 9th semester and also for the 12th semester, meaning it is the same for all students. A track of specialisation has to be completed in the 10th and 11th semesters, although some courses are compulsory for all students. The deadline for completion of the 12th semester exams is variable to a great extent. Hence, working on and completing the diploma thesis is possible throughout the course of studies.

The mandatory part of the education, being the same for all students, amounts to 321 ECTS-credits in total, the track of specialisation 39 ECTS.

■ Compulsory electives taken by each student

The following lectures are mandatory for each student. The point in time to take the exams can be chosen by the students themselves.

- 1) Upon successful completion of the exam Zoology / Animal Science exam and prior to the 3rd tier

0. Introduction | 1. Objectives | 2. Organisation | 3. Finances | **4. Curriculum** | 5. Teaching and Learning | 6. Facilities and Equipment | 7. Animals and Teaching | 8. Library and Learning Resources | 9. Student admission and Enrolment | 10. Academic and Support Staff | 11. Continuing Education | 12. Postgraduate Education | 13. Research

- Animal handling and behaviour (3 ECTS)
- First aid for animals (1 ECTS)
 - 2) Upon successful completion of the exam Zoology / Animal Science exam and prior to graduation:
- Business administration (2 ECTS) chosen from the following list of courses:
 - Practice and clinic management I, II, III (each 1 ECTS)

From the 10th semester to the 11th semester, students have to take a track of specialisation equal to 495 hours of training (29 ECTS). Additionally, compulsory electives totalling 10 ECTS have to be completed within the specialisation. These lectures are geared to match different elective modules within the area of specialisation (see “Description of Tracks”).

In total the students must perform 39 ECTS (26 weeks = 560 hours) of practical work, mostly extramural work.

■ Free electives offered for each student

Free electives are non-compulsory lectures, as well as lectures offered by other national or international universities and colleges.

Students of the Diploma Programme have to complete free electives worth 13 ECTS during their education (Table 4.3).

Types of training

Below are explanations of the types of training employed at the University of Veterinary Medicine, Vienna, as well as their matching categories in Annex III of the SOP's for the visitation by the EAEVE.

■ Theoretical training

Lectures as defined by Annex III of the SOP's for the visitation by the EAEVE are the following types of training:

Vorlesungen (VO) are meant to function as means of imparting basic concepts and systematic principles, to highlight the scientific background, to explain difficult circumstances, to create connections/cross-references and also to illustrate clinical relevance.

Seminars as defined by Annex III of the SOP's for the visitation by the EAEVE are the following types of training:

Seminare (SE) are courses used to discuss academic topics scientifically. Students are required to participate actively. In small groups, students are encouraged to apply acquired knowledge to analysis and to solving scientific or clinical problems. Participants need to hand in written tasks or take oral exams.

■ Self-directed learning

Self-directed learning involves a process whereby the student, with supervision, takes the initiative to diagnose his/her learning needs, formulate learning goals, identify resources for learning, select and implement learning strategies and evaluate learning outcomes.

According to Annex III of the SOP's for the visitation by the EAEVE the following types of training supports self-directed learning:

Konversatorien (KV) are courses in the form of discussions where lecturers answer the students' questions, with the intent of deepening prior knowledge and enhancing problem-solving abilities.

POL – Seminare (Problem-oriented seminars) are an opportunity for students to gain module- and topic-relevant knowledge during self-study, present findings in the course and discuss them in a wider context.

Journal Club: Current publications and findings are scientifically appraised, presented and discussed in groups in terms of their relevance for ongoing research projects or practical applications.

■ Supervised practical training

Laboratory and desk-based work – according to Annex III of the SOP's for the visitation by the EAEVE – are the following types of training:

Übungen (UE) give students with a clearer understanding of scientific situations and processes and provide them with the qualifications required for their future careers.

Patientenpräsentationen/Fallanalysen (Case presentations): Students present patients or cases they have worked on and discuss them with their group.

Non-clinical animal work – according to Annex III of the SOP's for the visitation by the EAEVE – are types of training that are also included in the Übungen (UE) and can only be distinguished from them by their content.

Clinical work – according to Annex III of the SOP's for the visitation by the EAEVE – includes the following types of training:

Klinische Übungen (Clinical training): Students participate in clinic operations, including the enrolment of patients, diagnosis, therapy and overall care of the patients under supervision.

Klinische Rotationen (Clinical rotation): Students get the chance to practice (and perfect) their hands-on skills and abilities directly on the patients – under supervision. Important are discourse about unique cases and attendance at clinical visits.

Spezielles Training (Special training): Students are introduced to special examination, surgical and treatment methods.

4.1.2. Undergraduate Curriculum followed by all students

4.1.2.1. Core subject progression and integration

Basic sciences and propaedeutics

The basic subjects are scheduled as compulsory material for the 1st and 2nd diploma exams taking place during the first three years of the curriculum. In the first year of their studies, students are taught the basics of physics, chemistry and biochemistry, as well as animal science, zoology, epidemiology, immunology and botany. Furthermore, they are given an approach to understanding the scientific literature, research, and ethical issues. The subjects of anatomy, histology and embryology, physiology and propaedeutic imaging are covered in the second year of the Diploma Programme in an organ-oriented and

interdisciplinary manner. The basics of the paraclinical subjects are presented as subject-oriented blocks in the third year of studies. During the winter term there is one block of parasitology and microbiology, and a second block consisting of immunology, animal breeding and genetics, and general pathology. In the summer term the subjects botany and pharmacognosy, nutrition, and pharmacology form one block, while the other is composed of animal husbandry and animal welfare, as well as food hygiene.

Agricultural and Animal Production, Animal Husbandry

Since most of the first-year students no longer have a relationship to or previous knowledge of agricultural production, the curriculum pays increased attention to the area of animal production. Currently more than 90 % of new students come from an urban environment. The curriculum allows for this fact by offering introductory information at the very beginning of the Diploma Programme (educational and professional orientation). In addition, the compulsory subject of domestic animal science was placed in the first semester and is also part of an exam. In the third year of studies the basics of the compulsory subjects of animal husbandry and animal welfare are taught and – in the course of the general and the subsequent specialised training – are complemented by courses in reproductive medicine and intense herd health management with a focus on preventive medicine and farm monitoring. Furthermore, students can intensify their knowledge about the handling of animals and animal husbandry in a number of elective courses.

Professional knowledge

The course "Business Management and Practice Management" is classified as a compulsory elective subject. It can be taken after successful completion of the exams of the first semester and as a requisite prior to graduation from the Diploma Programme. The introduction of the new subject about scientific theory pays tribute to the increasing importance of ethics. This subject is part of the first diploma exam and consists of the following courses: "Basics of Theory of Cognition and of Science", "Ethics", and "Scientific Literature – Basics of Information". The course "Regulatory Framework of Veterinary Medicine" is part of the third diploma exam. This course deals primarily with the national legal framework with reference to international and EU regulations. At the end of the Diploma Programme, students are required to write a diploma thesis.

Table 4.1: General table of curriculum hours taken by all students

Year	Hours of training							Total training hours	Course preparation	Total student workload
	Theoretical training			Supervised practical training			Other			
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)				
First	382.50	37.50	135.00	60.00	30.00	0.00	110.00	755.00	745.00	1,500.00
Second	285.00	0.00	0.00	315.00	0.00	0.00	160.00	760.00	740.00	1,500.00
Third	366.00	0.00	67.50	151.50	15.00	0.00	160.00	760.00	740.00	1,500.00
Fourth	273.00	0.00	247.50	4.50	15.00	132.00	80.00	752.00	748.00	1,500.00
Fifth general part	105.00	0.00	0.00	0.00	30.00	480.00	215.00	830.00	95.00	925.00
Fifth and Sixth specialisation	495.00 hours for each track of specialisation						800.00	1,295.00	780.00	2,075.00
Total	1,906.50	37.50	450.00	531.00	90.00	612.00	1,525.00	5,152.00	3,848.00	9,000.00

Table 4.2: Curriculum hours in EU-listed subjects taken by each student

Subject	Theoretical training			Supervised practical training			Other	Total
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
1. Basic Subjects								
a) Physics	52.50		22.50	15.00				90.00
b) Chemistry	22.50		22.50					45.00
c) Animal biology	60.00							60.00
d) Plant biology			11.10	7.50				18.60
e) Biomathematics	15.00		15.00					30.00
1- Total number of hours	150.00	0.00	71.10	22.50	0.00	0.00	0.00	243.60
2. Basic Sciences								
a) Anatomy (incl. histology and embryology)	135.00			255.00				390.00
b) Physiology	120.00			45.00				165.00
c) Biochemistry, cellular and molecular biology	135.00			45.00				180.00
d) Genetics (including molecular genetics)	45.00			15.00				60.00
e) Pharmacology and pharmacy	30.00		12.90	19.50				62.40
f) Toxicology (including environmental pollution)	10.50							10.50

Subject	Theoretical training			Supervised practical training			Other	Total
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
g) Microbiology (including virology, bacteriology and mycology)	60.00		24.00	30.00				114.00
h) Immunology	22.50		15.00					37.50
i) Epidemiology (including scientific and technical information and documentation methods)	30.00		15.00					45.00
j) Professional ethics	15.00							15.00
2- Total number of hours	603.00	0.00	66.90	409.50	0.00	0.00	0.00	1,079.40
3. Clinical Sciences								
a) Obstetrics	16.50							16.50
b) Pathology (including pathological anatomy)	100.50		30.00			45.00		175.50
c) Parasitology	30.00		7.50	30.00				67.50
d) Clinical medicine and a surgery (including anaesthetics)	55.50					387.15		442.65
e) Clinical lectures on various domestic animal, poultry and other animal species including	48.50		135.00					183.50
f) Field veterinary medicine (ambulatory clinics)						34.95		34.95
g) Preventive Medicine	10.00							10.00

Subject	Theoretical training			Supervised practical training			Other	Total
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
h) Diagnostic imaging (including radiology)	57.00		15.00			15.00		87.00
i) Reproduction and reproductive disorders	30.00					69.90		99.90
j) Veterinary state medicine and public health	45.00							45.00
k) Veterinary legislation and forensic medicine	15.00							15.00
l) Therapeutics	45.00							45.00
m) Propaedeutics (including laboratory diagnostic methods)	37.50		24.00	4.50		75.00		141.00
3- Total number of hours	490.50	0.00	211.50	34.50	0.00	627.00	0.00	1,363.50
4. Animal Production								
a) Animal production	30.00							30.00
b) Animal nutrition	25.50		10.50	19.50				55.50
c) Agronomy			7.50					7.50
d) Rural economics			7.50					7.50
e) Animal husbandry	15.00					22.50		37.50
f) Veterinary hygiene			3.75	7.50				11.25
g) Animal ethology and protection	15.00					15.00		30.00
4- Total number of hours	85.50	0.00	29.25	27.00	37.50	0.00	0.00	179.25

Subject	Theoretical training			Supervised practical training			Other	Total
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
5. Food Hygiene/ Public Health								
a) Inspection, and control of animal foodstuffs or foodstuffs of animal origin and the respective feedstuff production unit					30.00			30.00
b) Food hygiene and technology	15.00		30.00		7.50			52.50
c) Food science including legislation	15.00		11.25	7.50				33.75
d) Practical work (including practical work in places where slaughtering and processing of foodstuffs takes place)							160.00	160.00
5- Total number of hours	30.00	0,00	41.25	7.50	37.50	0.00	160.00	276.25
6. Professional Knowledge								
a) Practice management	15.00		15.00					30.00
b) Veterinary certification and report writing	15.00		240.00					255.00
c) Career planning and opportunities	22.50							22.50
6- Total number of hours	52.50	0.00	255.00	0.00	0.00	0.00	0.00	307.50

Table 4.3: Curriculum hours in EU-listed subjects offered and to be taken as electives

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Basic subjects	105.00	90.00	150.00					345.00
Basic sciences	225.00	240.00	150.00	105.00				720.00
Clinical sciences	123.75	142.50	247.50	7.50		116.25		637.50
Animal production	60.00	22.50	180.00		157.50	60.00		480.00
Food hygiene / Public health	90.00	30.00						120.00
Professional knowledge	75.00	75.00	37.50	120.00				307.50

Table 4.4: Curriculum hours in subjects not listed in Table 4.2 to be taken by each student, including Diploma work (final graduation thesis, or final graduation work)

Subject	Theoretical training			Supervised practical training			Other	Total
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Study didactics		37.5						37.5
Specialised terminology			30					30
Diploma work							240	240
								307.5

4.1.3. Tracks of specialisation (39 ECTS)

Following the general clinical education (1st through 9th semester), students gain advanced competencies in their chosen field of expertise. In-depth training within their track of specialisation, combined with the basic competencies in the respective area of expertise, is the basis for further postgraduate specialisation.

During the track of specialisation, problem-based learning (PBL) and problem-oriented learning (POL) in small groups is of utmost importance. Theoretical training in the form of lectures is not implemented. Through this way of studying, aspects of lifelong learning are taken into account.

In these courses, real and complex problems from the context of everyday life are analysed. Furthermore, students have to search the literature and reference material, evaluate the research and compare, choose and apply solutions. In interdisciplinary courses – outside of the traditional course format – students work on subject matter with real-world relevance in a problem-oriented way.

Assignment of the number of places by each track

The number of places per track is determined by the Senate. Currently, the students can choose between following tracks (amount of student places):

- Small Animal Medicine (50)
- Equine Medicine (25)
- Ruminant Medicine (45)
- Pig and Poultry Medicine (12)
- Food Safety and Veterinary Public Health (4)
- Zoo and Wildlife Medicine – Conservation Medicine (10)
- Reproduction/Reproductive Biotechnology (10)
- Laboratory Animal Medicine (15)

The Laboratory Animal Medicine track will start in the academic year 2012/2013.

There are limited numbers of places per each track, which are assigned according to following procedure. The selection of the tracks can be done after successfully completing the OSCE exams. Before the beginning of the 10th semester, eight electable tracks have to be ranked from 1 to 8, where 1 is equivalent to the first priority and 8 equals the last. The assignment of the places within a track is performed according to the following guidelines:

- a. according to the number of tracks a student has already been assigned to or has successfully completed;
- b. according to the ranking submitted by each student;
- c. according to the success rate after successfully completing the OSCE exams.

If there are no places available in the student's first choice of courses, the student gets assigned to her/his 2nd choice. If there are no places available in the student's 2nd choice, the student gets assigned to her/his 3rd choice of tracks, and so forth.

Once students have already completed a track they are ranked last, so that students applying for the first time can be given precedence.

Structure of the tracks of specialisation

Students have to complete courses and lectures worth 39 ECTS.

Basically, students have to work 33 hours per week during each semester (33 hours x 15 = 495 working hours) for the track on the campus. Additionally they have to complete the uniform part of the 10th and 11th semester.

Exceptions are the “Zoo and Wildlife Medicine” and “Reproduction/Reproductive Biotechnology” tracks, where the first semester is dedicated to one of the clinical specialised tracks.

The mandatory lectures of the specialised tracks are: Clinical Rotations, Patient Presentation, Case Study and Specialised Training. Discussion of specific cases and participation in clinical visits and farm teaching are of utmost importance. Working on different complex cases and trying to find the best solution, while in the process gaining knowledge through independent study and self-initiated reflection, are the main drivers of this education. Acting with respect and responsibility towards patients and their owners is basis for every encounter.

4.1.3.1. Description of tracks

Each track consists of compulsory courses and compulsory electives, which can be chosen by the students according to the curriculum. The EU-listed subjects and the compulsory electives are summarized for each track in Table 4.3a–4.3h.

■ Small Animal Medicine Track

Students of Small Animal Medicine track deepen their knowledge and broaden their skills through enhanced practical training in small animals, reptiles, exotic birds and animals (Table 4.3a).

■ Equine Medicine Track

In the enhanced Equine Medicine training, manual and therapeutic skills and abilities in all areas of Equine Medicine are practised (Table 4.3b).

■ Ruminant Medicine Track

Students are trained in professional skills and knowledge concerning ruminants, both individual animal health and herd health management are covered (Table 4.3c).

■ Pig and Poultry Medicine Track

Pig and Poultry Medicine focuses on herd health management. Visiting farms, working out the problems, running the diagnostic procedures and suggesting treatment and prevention measures are essential parts in this enhanced training. In this track, aspects of fish diseases, particularly in farmed fish, are included (Table 4.3d).

Both tracks offer basic training in herd health monitoring to familiarise students with larger animal populations. This course is available for students of the Food Safety and Veterinary Public Health Track as a compulsory elective.

■ Food Safety and Veterinary Public Health Track

The main focus of this track is to establish a causal relation between “healthy animals – healthy food – healthy humans”. The phrase “from stable to table” refers to monitoring every detail of the food chain, from feeding, breeding and raising animals, right up to the

point where the food reaches the consumer. By modernising and standardising food inspection procedures, the highest level of health protection is achieved and society's requirements for food safety can be met (Table 4.3e).

■ Zoo and Wildlife Medicine Track – Conservation Medicine

Conservation Medicine is a burgeoning interdisciplinary field of science. It deals with questions concerning the influence of environmental factors on human health and wildlife, especially with respect to humans' heavy strain on nature.

Health issues affecting humans and animals that are based on environmental influences are highly complex and little is known about them. Therefore, it is necessary for physicians and veterinarians to work together in various disciplines (for example, in microbiology, epidemiology, ecology, pathology, landscape analysis, marine biology, toxicology, anthropology, economics, political science etc. (Table 4.3f).

■ Reproduction/Reproductive Biotechnology Track

The enhanced training in this track concentrates on reproductive-biotechnological issues. Thus, the track focuses on the growing importance of laboratory animal management, as well as farm management which will change in the future. Reproduction and the establishment of biomodels within agricultural production are of great importance.

The training is based on factors in the efficient use of genetic potential for breeding purposes, as well as breeding with regard to hygiene, species and race obtaining aspects. These are vital issues with regard to maintaining genetic diversity and the health of the animals. The focus is on germ cell storage and embryos in the pre-implantation stage, and also covers essential areas of fertility problems. The goal in this track is to learn to work preventively diagnostically, in alignment with ecological and economic realities (Table 4.3g).

■ Laboratory Animal Medicine Track

Students of this track gain an enhanced knowledge and training in the fields of breeding, housing and husbandry of laboratory animals. Interacting with animals in laboratories as biomodels is tied to normative criteria (e.g. the 3R-principles), which connect scientific interests to ethical concerns. As veterinarians the students are trained to take responsibility for keeping and treating laboratory animals in a humane manner (Table 4.3h).

Table 4.3a: Curriculum hours in EU-listed subjects offered and to be taken in the "Small Animal Medicine Track"

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Uniform part								
Clinical rotation							180	180
Case presentation			120					120
Pathological case analysis			15					15
Diagnostic imaging - case studies			15					15
Special training							30	30
Total Uniform part	0	0	150	0	0	210	0	360
Compulsory elective subjects								min. 135
Neurology and endocrinology in small animals		2				13		15
Onkology and dermatology in small animals		3				12		15
Cardiology and respiratory diseases in small animals			8			7		15
Gastroenterology and nutrition in small animals		12				3		15

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Immunology and clinical pathology: selected topics in small animal medicine		10				5		15
Veterinar dentistry small animals						7.5		7.5
Soft tissue and orthopedic surgery			5			10		15
Fertility management and biotechnology of reproduction in small animals			7.5			15		22.5
Ultrasonography in small animals	7					8		15
Intensive/critical care and pain therapy			7			8		15
Diseases of small mammals			15					15
Common diseases of birds and reptiles as well as diagnostic techniques and methods of treatment			15					15
Summerschool of exotic medicine		45						45
Behavioural disorders in dogs and cats			15					15
Nephrology in companion animals		15						15
Total available compulsory elective subjects	7	87	72.5	0	0	88.5	0	255

Table 4.3b: Curriculum hours in EU-listed subjects offered and to be taken in the "Equine Medicine Track"

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Uniform part								
Clinical rotation						135		135
Special training						60		60
Case presentation			60					60
POL-Seminar			60					60
Journal Club			15					15
Case analysis			30					30
Total Uniform part	0	0	165	0	0	195	0	360

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Compulsory elective subjects								min. 135
Physical therapy for horses	15							15
Law of horse sale, liability, insurance		30						30
Behaviour of horses	15							15
Equine study farm medicine and horse breeding	15							15
Clinical pathology and cytology in equine medicine			15					15
Workshop in equine dentistry						15		15
Eye diseases in horses			7.5					7.5
Equine perinatology			15					15
Training, exercise physiology, doping and sportsmedicine	30							30
Hoof care and trimming						15		15

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Advanced lameness examination			15					15
Vet lab fracture treatment							15	15
Colic in horses			22.5					22.5
Special aspects in eqine anaesthesia			7.5					7.5
Total available compulsory elective subjects	75	30	82.5	0	0	45	0	232.5

Table 4.3c: Curriculum hours in EU-listed subjects offered and to be taken in the "Ruminant Medicine Track"

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Uniform part								
Flock management	60							60
Herd management						52.5		52.5
Presentation of results of visitations of cattle farms			18.75					
Total Uniform part	60	0	18.75	0	0	52.5	0	131.25
Compulsory elective subjects								
Fish diseases		30						30
Bee diseases		15						15
Veterinary aspects of feeding of farm animals		15						15
Immunology of farm animals		15						15
Current trends in pathology of farm animals		15						15

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Animal husbandry and animal welfare in herd management					15			15
Diagnosis of Mastitis - Microbiology		15						15
Endocrinology and embryotransfer in ruminants			7.5			7.5		15
Artificial insemination in cattle			7.5			7.5		15
Endoscopy and sonography in small ruminants			15					15
Functional claw trimming in cattle & documentation of lameness data						15		15
Health management of pig herds		45						45
Selected diseases in sheep and goats			15					15
Special diagnosis of mastitis		15						15
Special diagnostic and therapeutic measurements in ruminants		15						15
Total available compulsory elective subjects	0	180	45	0	15	30	0	270

Table 4.3d: Curriculum hours in EU-listed subjects offered and to be taken in the "Pig and Poultry Medicine Track"

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Uniform part								
Presentation, discussion and analysis of in-patients			90					90
Special training						30		30
Flock management	60							60
Herd management						67.5		67.5
Presentation of results of visitations of cattle farms			22.5					
Total Uniform part	60	0	112.5	0	0	97.5	0	270

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Compulsory elective subjects								min. 135
Fish diseases		30						30
Bee diseases		15						15
Veterinary aspects of feeding of farm animals		15						15
Immunology of farm animals		15						15
Current trends in pathology of farm animals		15						15
Animal husbandry and animal welfare in herd management					15			15
Diagnosis of Mastitis - Microbiology		15						15
Endocrinology and embryo transfer in ruminants			7.5			7.5		15
Artificial insemination in cattle			7.5			7.5		15

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Endoscopy and sonography in small ruminants			15					15
Functional claw trimming in cattle & documentation of lameness data						15		15
Health management of pig herds		45						45
Selected diseases in sheep and goats			15					15
Special diagnosis of mastitis		15						15
Special diagnostic and therapeutic measurements in ruminants		15						15
Total available compulsory elective subjects	0	180	45	0	15	30	0	270

Table 4.3e: Curriculum hours in EU-listed subjects offered and to be taken in the "Food Safety and Veterinary Public Health Track"

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Uniform part								
Animal welfare during transportation and slaughtering		15						15
Examination of food		120						120
Food hygiene and technology		105						105
Total Uniform part	0	240	0	0	0	0	0	240

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Compulsory elective subjects								min. 135
Milking technology in quality milk production	15							15
Flock management	60							60
Meat in human nutrition	15							15
Risk management of infectious diseases of ruminants and swine	30							30
Preliminary course for the theoretical training for official veterinarians (approp. LMSVG-Aus- und WeiterbildungsVO)	7.5							7.5
Milking technology in quality milk production						15		15
Total available compulsory elective subjects	127.5	0	0	0	0	15	0	142.5

Table 4.3f: Curriculum hours in EU-listed subjects offered and to be taken in the "Zoo and Wildlife Medicine Track – Conservation Medicine"

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Uniform part								
Clinical rotation							90	90
Presentation, discussion and analysis of in-patients			37.5					37.5
Special training						37.5		37.5
Flock management	60							60
Herd management						30		30

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Introduction to statistical data analysis				30				30
Wildlife population ecology			15					15
Current problems of environmental conservation				30				30
Basics of wildlife biology I	15							15
Geographic information system				15				15
Biotelemetric methods in wildlife research				15				15
Essentials of disease in wild animals	15							
Pathology of zoo (wild) animals and exotic pets	15							
Wildlife medicine						15		
Wildlife management	15							

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Management of captive population			15					
Conservation genetics		15						
Biotelemetric methods in wildlife research - excursion					15			
Clinical wildlife medicine (excursion)					15			
Total Uniform part	120	15	67.5	90	30	172.5	0	495

Table 4.3g: Curriculum hours in EU-listed subjects offered and to be taken in the "Reproduction/Reproductive Biotechnology Track"

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Uniform part								
Clinical rotation							90	90
Presentation, discussion and analysis of in-patients			37.5					37.5
Special training							37.5	37.5
Flock management	60							60
Herd management							30	30
Focal module - biotechnology of reproduction – lectures			75				135	210
Practical on reproductive biotechnology at the artificial insemination centre						30		30
Total Uniform part	60	0	112.5	0	30	292.5	0	495

Table 4.3h: Curriculum hours in EU-listed subjects offered and to be taken in the "Laboratory Animal Medicine Track"

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Uniform part								
Basics in Laboratory Animal Science	7.5	7.5						15
Design and Management of Laboratory Animal Facilities	7.5	7.5						15
Animal models, breeding and genetics of laboratory animals	7.5	7.5						15
Alternatives to Animal Experimentation	15	15						30
An introduction into laboratory animal law	7.5		7.5					15
Diseases and Health Monitoring in Laboratory Animals	7.5					7.5		15

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Comparative medicine	7.5	7.5						15
Cognitive Ethology of Laboratory Animals	7.5	7.5						15
Introduction to applied bioinformatics			15					15
Practical Training (FELASA B)						15		15
Pathology of laboratory animals and tissue banks	15	15				15		45
Special anatomy of laboratory animals			15					15
Special histology and embryology of laboratory animals			15					15
Basics in Anesthesia, pain therapy and surgery in laboratory animals	15					15		30
Imaging in Biomedicine and Biotechnology	7.5		7.5					15
Experimental immunology in compliance with biosafety issues	9.9	10.05	10.05					30
Experimental pharmacology issues	9.9	10.05	10.05					30
Ethics in laboratory animal science	7.5	7.5						15
Total Uniform part	132.3	95.1	80.1	0	0	52.5	0	360

Subject	Theoretical training			Supervised practical training			Other	Hours to be taken by each student per subject group
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
Compulsory elective subjects								min. 135
Legal aspects of animal welfare	15							15
Neurology and endocrinology in small animals		2				13		15
Onkology and dermatology in small animals		3				12		
Cardiology and respiratory diseases in small animals			8			7		
Gastroenterology and nutrition in small animals		12				3		
Immunology and clinical pathology: selected topics in small animal medicine		10				5		
Fertility management and biotechnology of reproduction in small animals			7.5			15		
Intensive/critical care and pain therapy			7			8		
Diseases of small mammals			15					
Total available compulsory elective subjects	15	27	37.5	0	0	63	0	142.5

4.1.4. Further information on the curriculum

Prior to the clinical training in small groups starting in the 9th semester, students have to successfully complete the training in propaedeutics and the theoretical examination on the diseases of all species.

Clinical training

Clinical training is part of the general clinical education in the 9th semester. It is together with the course “Clinical Pharmacology” compulsory for each student. Within the clinical training which lasts 12 weeks, students rotate between the practical exercises shown in Table 4.4a in groups of 1 to 12. During this time, as specified in the curriculum, students are prohibited from attending other courses.

Table 4.4a: Overview of clinical training (9th semester)

Small Animal Medicine, in total 3.5 weeks	Horses, in total 4 weeks	Farm Animals, in total 4.5 weeks
Internal medicine	Internal medicine	Internal medicine and orthopaedics in ruminants
Surgery and ophthalmology	Surgery and ophthalmology	Internal medicine in pigs
Anaesthesiology and intensive care medicine	Obstetrics, gynaecology and andrology	Internal medicine in poultry, reptiles and fish
Obstetrics, gynaecology and andrology	Orthopaedics	Obstetrics, gynaecology and andrology
		Teaching and Research Farm

During the clinical training, the students are closely supervised by the veterinary teaching staff at the clinics. Students are assigned to patients and have to follow and document their entire case from anamnesis to diagnosis, therapy and treatment. Interpretation of laboratory results and necropsies of relevant cases are integrated into the training.

Students have to complete a total of 5 night shifts during their clinical training.

Clinical rotations

During the tracks of specialisation students are once again involved in clinical rotations, thus enhancing their skills and knowledge specifically as they relate to their chosen species. Students of the track of “Small Animal Medicine” and “Equine Medicine” are involved in the emergency services completing 8 compulsory night shifts during their clinical rotation.

Emergency and hospitalisation services

Emergency medicine is a compulsory part of the general clinical training during the 8th semester, in the course of which students have to fulfil at least one obligatory night shift in emergency services.

Students are involved in all aspects of patient management for hospitalized patients. Furthermore they have the opportunity to take part in after-hours emergency services at the Animal Hospital.

4.1.5. Obligatory extramural work

There is a small part of compulsory clinical training that is done on an extramural basis (see Tables 4.5 and 4.5a); the rest of the time is allocated to practicals.

For extramural work 1, totalling 320 hours, students can choose from the options listed in Table 4.5a.

Whereas students are encouraged to spend their practicals outside the University (extramural), they also have the possibility of performing their practicals on campus in the Animal Hospital.

Table 4.5: Obligatory extramural work that students must undertake as part of their courses

Nature of work	Minimum period2)		Maximum period2)		Year in which1) work is carried out
	hours	% of total study time*	hours	% of total study time	
Propaedeutics			6	0.12	4 (TRF)
Clinical Training			40	0.78	5 (TRF)
Extramural work 1			320	6.21	see Table 4.5a
Extramural work 2*			160	3.11	4 (Food Inspection at the slaughterhouse)
Extramural work 3**			160	3.11	5 (Clinical basic training)
Extramural work 4**			400	7.76	5 (Practical after specialised track)
Clinical Rotation			40	0.78	5 (TRF: Track "Ruminant Medicine" and "Pig and Poultry-Medicine")

Total curriculum hours=5152 (see table 4.1)

* A one-month slaughterhouse internship is compulsory for all students supervised by an instructor. Students of the Food Safety and Veterinary Public Health Track* have to complete this internship at designated slaughterhouses (slaughtering of cattle, pigs and poultry is mandatory)

** Optional whether this performed inside the University or externally

Table 4.5a: 8 weeks extramural work by choice of the students

Nature of work	Minimum period ²⁾		Maximum period ²⁾		Year in which ¹⁾ work is carried out
	hours	% of total study time*	hours	% of total study time	
Extramural work 1a			80		1 (Agricultural training)
Extramural work 1b**	80		240		>1 (Institute of the second tier (Bacteriology, Parasitology))
Extramural work 1c**	80		240		>1 (Veterinary practitioner or Clinics of the Animal Hospital)

4.1.6. Specific information on the practical training in food hygiene/public health

■ Basic training

The basic training in meat and food hygiene inspection at the University begins in the 6th semester and continues in the 9th semester. Excursions to cattle and pig slaughterhouses are conducted for practical training purposes.

The basic course for all students (main focus on cattle, swine and poultry) is an introductory lecture at the University for one week dealing with the legal foundation pertaining to slaughter, the slaughtering of cattle, swine and poultry, anaesthesia, industrial hygiene and patho-anatomical changes.

Practical training for meat inspection and the requisite examination techniques take place at the University using swine carcasses and internal organs that are brought to the University for use in teaching.

Video material and e-learning courses are available for independent study. At the end of this training an examination is held under the supervision of a representative of the veterinary authority.

■ Slaughterhouse internship

A one-month slaughterhouse internship is compulsory for all students; this is supervised by an instructor. Students of the Food Safety and Veterinary Public Health track* have to complete this internship at designated slaughterhouses that deal in the slaughtering of cattle, pigs and poultry (all three are mandatory; Table 4.5).

■ Additional training for students of the Food Safety and Veterinary Public Health track

Students of the above mentioned track receive additional training, for example:

- Online-research on relevant legal texts with reference to practical questions in the E-centre;
- Specialised industrial hygiene for large enterprises and small businesses;
- Microbiological inspections within the self-monitoring of the slaughterhouses, including microbial count of surface on carcasses and validating the cleaning and disinfectant programme.

Track students also take exams as required by the government authority responsible for the inspection of carcasses and meat. After completing their Diploma Programme, students need relatively little time for this non-University additional training; on average it takes 2 weeks to be authorized for inspecting carcasses and meat.

4.1.7. Ratios

Explanation of the abbreviations:

A = lectures

B = seminars

C = self-directed learning

D = laboratory and desk based work

E = non-clinical animal work

F = clinical work

G = other

Table 4.6: General indicators of types of training (Ratios R6 – R8)

R6	2,394.00	Theoretical training (=Lectures, Seminars, Self directed learning)
	1,233.00	Supervised Practical training (=Laboratory and desk based work, Non-clinical animal work, Clinical work)
Denominator	0.52	
EAEVE Guidelines	0.51-0.36	
R7	612.00	Clinical Work
	621.00	Laboratory and desk based work + non clinical animal work
Denominator	1.01	
EAEVE Guidelines	1.88-2.21	
R8	690.00	Self directed learning (incl. Diploma thesis)
	5,152,00	Teaching load (=total training hours)
Denominator	7.47	
EAEVE Guidelines	0.51-7.87	
R8a	5,152.00	Teaching load (=total training hours)
	3,848.00	Course preparation
Denominator	0.75	

Table 4.7: Indicators of training in food hygiene/public health (Ratios R9, R10)

R9	276.25	Total no. curriculum-hours Food Hygiene/Public Health
	5,152.00	Total no. Hours vet curriculum
Denominator	18.65	
EAEVE Guidelines	6.00-42.26	
R10	276.25	Total no. curriculum-hours Food Hygiene/Public Health
	160,00	Hours obligatory extramural work in veterinary inspection
Denominator	0.58	
EAEVE Guidelines	0.05-0.82	

4.2. Comments

4.2.1. Preparation of the graduates for the various aspects of the veterinary profession

The curriculum exposes students to all aspects of veterinary medicine; this broad-based coverage is its primary strength. Thus, students graduate with clinical competence in most areas of small and large animal practice. Students and teachers generally welcome the tracks of specialisation, as they allow deepening of knowledge with regard to selected species. The tracks of specialisation of the current veterinary curriculum were introduced in order to meet the increasingly complex and specialised work requirements within the traditional fields of veterinary work, also in response to the increase in job opportunities within research.

The teaching on herd health, animal welfare, food safety and veterinary public health has been given renewed emphasis in the core courses, as well as in the tracks of specialisation. Thus, by graduation all students have demonstrated the essential knowledge and competencies needed to start careers as general practice veterinarians or modern farm veterinarians.

The curriculum provides considerable variety in the educational modalities (lectures, practical exercises, clinical practical exercises, project-based learning, case-based learning, e-learning, skills laboratory) available to students.

4.2.2. Curricular changes and the EAEVE Visitation 2006

The curriculum, which was in place since 2002, was evaluated in 2006 as part of the last EAEVE visitation. Improvements were suggested. Some of them have been implemented by default due to organisational restructuring. However, some basic changes were recommended. These suggestions necessitated a methodical curriculum reform; this was initiated at the end of 2010 (after evaluating three graduating classes) and is still in process. Further information on this topic can be found below.

EAEVE Suggestions from 2006 concerning the curriculum and the measures taken and or planned:

Table 4.8: EAEVE Suggestions

EAEVE Suggestion	Measure	Status
4.1 The time spent on several of the basic sciences should be reduced to lighten the curriculum and leave more time for applied material.	New Curriculum	In progress
4.2 The Vetmeduni Vienna should continue its development and improvement of the curriculum and teaching, in particular aiming to improve the 'vertical' integration of the material taught.	New Curriculum	In progress
4.3 The curricular time allocated to the disciplines of physics, chemistry/biochemistry, anatomy/ histology/embryology, and to some extent physiology, should be reduced.	New Curriculum	In progress
4.4 The relevant veterinary components of zoology and botany should be integrated into other disciplines, and these subjects discontinued as independent courses.	New Curriculum,	In progress
	Reorganisation of the Institute of Botany and Pharmacognosy	In progress
4.5 The efforts to integrate the disciplines and their teaching/learning should be continued, at both structured and informal levels.	New Curriculum	In progress
	Implementation of the OSCE format Interdisciplinary review of examination questions in Zoology/Animal Science	Done: 2007 Done: 2011
4.6 The Vetmeduni Vienna should make efforts to improve the amount of small group work in the animal production disciplines.	Increase of courses and trainings in small groups at TRF Implementation of tracks of specialisation at the end of the Diploma Programme to ensure hands on training in small groups among the students and species	Done: 2007
4.7 The coverage of applied agronomical aspects and applied economics in the teaching should be improved, including by orienting teaching on botany towards toxic and feed plants.	Increased offer of economics education (Praxismanagement)	Done: 2007

	Renovation of the cattle farm at TRF	Done: 2009
	Cooperation agreement with Reproduction Centre Wieselburg	Done: 2009
4.8 The Vetmeduni Vienna should make full and 'equalised' use of the animals and facilities on the Teaching and Research Farm for the training of undergraduates.	Start of building a new pig facility	Start 2012
	Courses and trainings at TRF as part of the compulsory education	Done: 2008
	Implementation of tracks of specialisation according to the Curriculum 2002	Done: 2007
4.9 The differentiated elective tracks in the clinical fields should have less theory and more applied elements.	No theoretical lectures during the tracks of specialisation	Done: 2007
	Clinical students have unlimited access to TIS on the campus	Done: 2007
	Implementation of a skills lab	Done: 2012
4.10 There should be greater 'vertical' integration of clinical and pre-and paraclinical disciplines	Trainings and case presentation in physiology/pathophysiology are organised in cooperation with the clinics	Done 2007
	New Curriculum	In progress
	Organisation of species-based-clinics	Done: 2008
	State-of-the-art equipment in diagnostic imaging	Done: 2011
4.11 Integration in both clinical activities and teaching should be increased. There should be fully unified species-based-clinics, as well as clearer development and use of high-standard centralised services, such as diagnostic imaging.	Involvement of Laboratory Diagnostics Platform in teaching and training	Done: 2007
	Perioperative Intensive Care Unit	Done: 2008
	Emergency service 24 hours in the Clinic for Small Animals	Done: 2011
	Platform for radiation therapy	Done: 2012

<p>4.12 There should be a closer connection between food hygiene and technology and veterinary public health with clinical aspects of farm animals and herd management, also on a structural level to provide a sound understanding of the concept "from farm to fork".</p>	<p>Common basic education on herd health management for the specialisation tracks „Ruminant Medicine, Pig and Poultry Medicine and Food safety and veterinary public health“ Implementation of the unit Herd Health Management in the Clinic for Ruminants</p>	<p>Since 2007 Done: 2010</p>
<p>4.13 The subject 'Food Hygiene' should be presented concurrently with the clinical teaching programme to provide a sound introduction to the concept of consumer protection and veterinary public health through the food chain.</p>	<p>Opportunity to combine the Farm Animal specialisation tracks and the VPH track New Curriculum</p>	<p>Done: 2007 In progress</p>
<p>4.14 The introductory course 'Food Sciences and public health Services' should be given in the 5th year, so that students have a better understanding of the paraclinical disciplines on which such teaching has to be based.</p>	<p>New Curriculum</p>	<p>In progress</p>
<p>4.15 There should be closer involvement and liaison with the veterinarians involved in the tutoring and Supervision of veterinary undergraduates during the extramural work in slaughterhouses and processing plants, to ensure quality and consistency in the sites used and training provided. This could be supported by a professorship covering HACCP in the food chain.</p>	<p>Cooperation with regional veterinary authorities Internship under supervision of an instructor in representative slaughterhouses</p>	<p>Done: 2008 Done: 2007</p>

4.2.3. The new curriculum

The new curriculum utilises the groundwork laid by the 2002 curriculum, which basically was evaluated positively. In particular, vertical and horizontal integration of the teaching content had to be developed. The track system in the specialised clinical training on selected species (10th and 11th semesters) remains the same.

The new curriculum includes the following radical changes:

■ Student-centred learning

The term student centred learning is used by the University of Veterinary Medicine, Vienna in accordance with the definition given by the European Students Union in the Bologna-Process.

»Student-Centred Learning represents both a mindset and a culture within a given higher education institution and is a learning approach which is broadly related to, and supported by, constructivist theories of learning. It is characterised by innovative methods of teaching which aim to promote learning in communication with teachers and other learners and which take students seriously as active participants in their own learning, fostering transferable skills such as problem-solving, critical thinking and reflective thinking.

The following measures ensure its implementation:

- Reduction of the time the students need to be present on campus (40% of the whole curriculum.)
- Establishment of a skills lab for students to gain practical and social skills on their own
- Coaching professors via the „Train the Trainer“-concept
- Definition and description of learning outcomes
- Providing material for contemplative self-study as well as guidance and feedback in the process of self-directed learning, supported by the use of electronic e-learning platforms.
- Strengthening the interdisciplinary approach in teaching, definition of organ-oriented interdisciplinary themes.

■ Restructuring the curriculum away from traditional subject-oriented formats

Where subjects used to be taught as individual silos of information, now the focus is on their interconnectedness. Clinicians are present throughout the basic modules, as well as during the basic training, to ensure clinical relatedness and alignment of course content.

Educational Working Groups (EWGs) are responsible for defining teaching concepts. Teachers are responsible for discussing and implementing the concepts and developing them further. The EWGs have to formulate the learning outcomes and educational content, define the assessment methods and initiate optimisation procedures according to the evaluation results.

Currently there are 15 EWGs consisting of 5 to 15 members drawn from the academic faculty, which guide the Diploma Programme in the respective interdisciplinary themes. The EWGs are coordinated by a project group assigned by the Senate in cooperation with the Curricular Committee. The head of the Curricular Committee is a member of the project group, thus the realisation of the project is ensured. At the present time the EWGs are

concerned with describing learning outcomes, defining teaching and assessment formats and aligning teaching content. The classification of levels concerning skills and diseases ensures that students acquire the necessary skills and knowledge of diseases in order for them to be able to function independently, as well as ensuring at least passable knowledge of less common topics. The project is scheduled to be completed in June 2013, with the updated curriculum due to be rolled out in the 2013/2014 winter semester.

■ Increasing emphasis on academic skills development

Increasing importance is being attached to academic training in (veterinary) medical curricula around the globe. The explosion of new information and the emergence of new technologies require that (veterinary) doctors are capable of appropriately appraising and applying new knowledge. In order to do so, doctors need to be equipped with the ability to make judicious use of the new (bio-)medical research literature and ascertain when and how new developments and new evidence are relevant to professional practice in their particular setting.

■ Increasing emphasis on additional social skills and basic economic knowledge.

The ultimate goal of higher education is to prepare students for the dynamic environment of today's labour market by ensuring that they have acquired the appropriate competencies. Communication skills, leadership skills, entrepreneurship skills, the ability to act independently, planning and organisation skills, and the ability to use and manage copious amounts of information are often cited as desired work competencies for a broad range of contexts and situations.

A special educational track throughout the entire curriculum, called "personal and scientific education" should ensure to cover the above mentioned requirements for the veterinary profession. During the programme about 2.5 ECTS per semester are dedicated to this training.

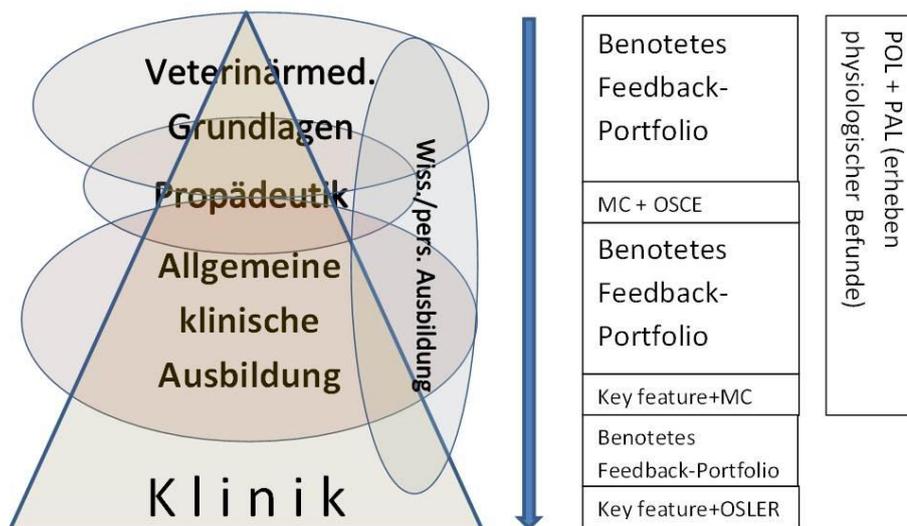


Figure 4.2: Structure of the new veterinary curriculum

0. Introduction | 1. Objectives | 2. Organisation | 3. Finances | **4. Curriculum** | 5. Teaching and Learning | 6. Facilities and Equipment | 7. Animals and Teaching | 8. Library and Learning Resources | 9. Student admission and Enrolment | 10. Academic and Support Staff | 11. Continuing Education | 12. Postgraduate Education | 13. Research

4.3. Suggestions

5. Teaching and Learning

5.1. Factual information

The University's teaching philosophy is to promote in-depth learning and the acquisition of high-quality expertise based on comprehension and to foster the ability to apply knowledge to problem solving. The purpose of teaching and supervision is to support learning and professional growth and to encourage lifelong learning and individual development.

The instruction in veterinary medicine covers the methods of gathering, documenting and analysing scientific and technical data. Practical training familiarises students with subjects studied in theoretical courses and provides them with insight into how scientific knowledge is acquired. Students' generic problem-solving skills and awareness of issues regarding food safety and veterinary public health are developed in many ways throughout their studies. Furthermore in the last semesters the focus is on the acquisition of Day-one skills in the chosen field of specialisation.

Clinical instruction takes place in small groups, thus ensuring that every student receives individual feedback and that all students get hands-on experience across common domestic species. Students develop their clinical skills through their full, supervised involvement in case management. The clinical training in the 9th semester is nearly free from scheduled lectures until 4.00 p.m. in order to allow sufficient time for students to develop a fundamental basis in clinical cases.

The basic scientific skills imparted during the 6-year curriculum provide graduates with the solid educational foundation to continue their education based on the latest scientific developments, to follow up on the scientific literature in their respective fields of specialisation and to adopt new findings and techniques to augment their extant professional qualifications. Students are taught to recognise scientific problems, to describe them by use of medical terminology and to critically judge the significance of scientific articles in the field of veterinary medicine and related areas of natural science.

The graduates are aware of their responsibility towards patients, clients and society and are familiar with the legal framework of regulations governing their professional activities. They recognise their affiliation to the veterinary profession and commit themselves to being the public face of the profession through their personal behaviour. They are aware of the limits of their knowledge and proficiency and have gained sufficient insight into the structure of the veterinary health system to take appropriate action. Furthermore, they are conscious of the interactions between humans, animals and the environment and the associated systemic effects, and they are ready and willing to stand up for the well-being of animals.

5.1.1. The teaching programme

The sequence of courses is regulated by the curriculum as well as the structure of which is designed to facilitate working in a team and to enable students to complete parts of their studies at recognised university programmes abroad.

The Vice-Rectorate for Study Affairs and Clinical Veterinary Medicine is in charge of coordinating the implementation of the curriculum. In close cooperation with the Curricular

Committee, catalogues of specific learning outcomes, that are coordinated across disciplines, are compiled for every course and made available in an online format. Further tasks include the precise sorting of students into groups, based on student registration for individual courses and the consolidated compilation of the time tables.

In the current teaching programme, steps have been taken to intensify the vertical integration of clinical activities and teaching, which means that learning outcomes were defined, board examinations were established and joint lectures are held by clinical and non-clinical teachers.

Course content and its representation in teaching are organised and determined by the professors or responsible lecturers. As the University's governing bodies, the Senate and Rectorate only get involved in the administration of the curriculum in cases of formal or strategic problems. It is nearly impossible for lecturers to keep track of the entire curriculum in terms of learning outcomes and course contents.

At the University of Veterinary Medicine, Vienna, teachers are responsible for teaching, as well as assessment of student knowledge acquisition. Students are responsible for learning and making progress in their courses of studies. To be successful, they should share a common view.

The University takes student welfare very seriously, is well aware of the most common problems that may arise, and does its best to help students before problems escalate. For the Diploma Programme in Veterinary Medicine the students elect a representative to be the contact person responsible for providing up-to-date information to students and solving problems together with the Vice Rector for Study Affairs and Clinical Veterinary Medicine. Additionally, at the beginning of every academic year the students select a representative to facilitate communication in case of problems or lack of clarity. Moreover, each semester a student council reports suggestions for improvement to the Curricular Committee and the Vice Rector for Study Affairs and Clinical Veterinary Medicine. During the tracks of specialisation, one student per track is responsible for organising and synchronising the courses.

On the one hand restructuring the curriculum broadens the extent of vertical and horizontal integration. On the other hand, due to organisational improvement, teachers are responsible for discussing and implementing the concepts and developing them further, while educational working groups are responsible for defined teaching concepts. EWGs have to formulate the learning outcomes and educational content, define assessment methods, work out teaching concepts and initiate optimisation procedures based on evaluation results.

The main focus shifts from the transmission of content to learning and programme outcomes. Lecturers become coaches; they are no longer simply educators or reproducers of knowledge.

Students should be able to decide for themselves – or at least give direction to – the amount of intensity and time required for their studies. Therefore, opportunities for independent study were extended (e.g., Vetucation® for blended learning, VetSIM for skills training, extended library opening hours).

The pedagogical approach of the institution

The teaching methodology of the University of Veterinary Medicine, Vienna is research based, student-centred and based on constructive alignment. Constructive alignment

refers to teaching formats wherein the objectives are appropriate and clear to the students, and the teaching methods and assessment methods encourage students to engage in learning activities in order to gain the desired understanding and skills. The principle of student-centredness means that the student is an active and responsible participant in the academic community. The collective production of knowledge, supported by teaching methods that rely on seeking, producing and evaluating information in collaboration, is closely connected to student-centredness and is more and more used in teaching.

Lectures are still the most common form of teaching. However, lectures are used for more than just distributing information, and an increasing number of lectures include active student participation. Many lectures use real-life examples and cases to illustrate the topic under discussion. To strengthen interactive teaching during lectures teachers have the option of using an audience response system, an option that is popular and frequently used. Apart from traditional lecturing at the beginning of the course of studies, case study methods like problem-based learning and other activities are employed to ensure the active involvement of students and enhance their learning. In the 3rd semester, students are already confronted with clinical problems. Case-based teaching is an essential element of the fifth and sixth years, especially during the tracks of specialisation.

Small group teaching and learning are used to train students in skills such as microscopy, laboratory work, project work, formulating research plans and evaluating scientific papers.

For hands-on training at the clinic, students are encouraged to spend extra time at the clinic above and beyond their mandatory course hours. This engagement is rewarded, for instance 21 voluntary emergency services within the course "Emergency Service" can be counted as free electives or as practicals and are worth 6 ECTS.

Practical exercises are greatly valued, especially those with hands-on experiences, *inter alia* necropsies, examining microbiological samples, practicing surgical procedures on cadavers, and clinical work.

VetSIM – simulating vet's life

VetSIM, the skills lab of the University of Veterinary Medicine, Vienna, a model of a veterinary office where students can simulate life as a veterinarian, was opened in June 2012 to give students a way to intensify their practical skills in a friendly, self-guided learning environment. VetSIM is operated by students as a „skills library“, which means easy access for students and self-directed learning. Additionally curricular courses will be implemented to prepare the students for their clinical training. Peer-to-peer courses, mostly organized by students, will complement VetSIM.

VetSIM is designed as a veterinary office, with a reception area, an operating theatre, a laboratory and a consultation room. Mannequins of various species together with instruction manuals are available for students to practice on. The laboratory provides equipment that students can get acquainted with standard laboratory procedures performed in daily practice. The consultation room is furnished with an audio-visual device for simulated client communication training.

A discussion corner and a tutorial room equipped with multimedia devices are used for supervised clinical training.

As an added benefit, VetSIM can be used as a laboratory for postgraduate veterinary training.

It should be noted that VetSIM does not neglect the animals in the teaching of practical and communication skills. Simulation training lets students practise the skills they will need in dealing with patients, so that when they work with live animals the students are well prepared. During VetSIM training, students get feedback on their professional and social demeanour immediately, something which is rarely possible during hands-on clinical training in direct contact with live patients.

VetmedOnline

All lecturers and students must use the administrative study management system called VetmedOnline.

VetmedOnline makes course information, learning objectives, type of course, prerequisites, dates, responsible faculty and assessment available to students at any time. Besides containing descriptions of all lectures and courses, VetmedOnline offers students the opportunity to register and deregister for exams. Results of assessments are also documented in VetmedOnline. VetmedOnline serves a vital information source for students and provides them with official grade certificates, which can be printed out by the students.

Vetucation®

Since 2006, the e-learning platform Vetucation® has been available as an information and blended learning platform to the academic staff members and students of the University of Veterinary Medicine, Vienna. Many of the members have supported efforts to modernise education by introducing online courses and new media.

Many lectures (in PowerPoint form) are also displayed there. Students have access to the learning management system for the duration of their sojourn at the University for Veterinary Medicine, Vienna. They can easily review the fine points of any classroom lecture at any time during their course of studies.

The IT Centre for Audiovision provides courses on e-learning and use of e-learning software and VetmedOnline for teachers and students. They actively support and supervise on pedagogical design and practical setup of interactive computer-assisted learning within courses.

Each year a jury comprised of representatives of the Vetucation® team, students and the Vice-Rector for Study Affairs and Clinical Veterinary Medicine presents an award for an ambitious e-learning project. In 2011, the Vetucation® Award for a multimedia learning software was presented to representatives of the Institute for Food Hygiene, Food Technology and Food Science and representatives of the Clinic for Small Animals for interactive learning content for orthopaedic examinations. These are examples of structured interactive e-learning sessions:

- Meat inspection in slaughter pigs – an interactive multi-media based learning course with educational instruction videos
- Orthopaedic clinical examination in small animals – an interactive learning course with explanations, pictures and videos

Vetmediathek

The University of Veterinary Medicine, Vienna introduced the Vetmediathek project in 2011. The Vetmediathek, the central multimedia database efficiently and securely manages pictures, videos, sound files and pdf documents. Based on international standards, the Vetmediathek is distributed throughout the campus, providing users with

functions such as keywords searches to locate and display multimedia-documents for education and research. Numerous features, such as workflows and predefined and customized image processing, allow the user to manage pictures professionally. This database is based on software products from Fotoware, a company that specialises in university requirements. Administrators work with multifunctional clients, staff and students can access the database via specific web-platforms. The Vetmediathek will include picture, video and document archives for pdf documents.

Use of course notes and standard veterinary textbooks

Material and documents need to be provided for self-studying. Generally, students are allowed to choose their study material (determined by law).

The students are encouraged to use veterinary textbooks. All course descriptions contain a reference list of textbook materials on which the course syllabus is based.

In general, the aim is for the course notes to support and help one's reading of the textbooks. For some courses scripts are available. In the 1st tier, covering theoretical basics, materials are collected in scripts. Scripts are featured either privately or from the department. In the clinical part of the Diploma Programme, the use of original literature is requested in the respective courses to solve clinical problems (for example: Journal Club). Students prefer having handouts of the teachers' PowerPoint presentations in good time before the lectures, but teachers try to leave room for the students to write their own notes. In some courses (such as case presentation), the final versions of the case presentations, produced by groups of students in collaboration, are shared with the whole course using Vetucation®.

Extramural teaching arrangements

There are plenty of established arrangements that support undergraduate education at the University. These include external arrangements with slaughterhouses, food processing companies and freelance veterinarians working in clinics that handle small animals, horses and farm animals.

In order to provide practical training in the farm animal sector within the scope of the mobile clinic, the university maintains a number of separate legal contracts with farm animal practitioners, with the University's Teaching and Research Farm (TRF) serving as the main point of contact. In addition, veterinarians at the Clinics for Ruminants and Swine visit to external establishments upon request.

Furthermore, there are about 200 practitioners working within different fields of specialisation, who are involved in the training of undergraduates, where they act as instructors during extramural work. A "Logbook for Extramural Work" has been compiled especially for this purpose.

■ ANNEX 5.1: Logbuch

In addition to extramural studies, essential parts of the compulsory studies include visits to different types of farms, e.g., a dairy, slaughterhouses and food & feed processors.

In order to improve the quality of clinical training and provide clinical experience from a practitioner's view and to offer courses very closely related to veterinary practice, a number of particularly qualified external lecturers are bound to the University by cooperation contracts.

Ensuring the general learning objectives underlying the veterinary curriculum

The veterinary curriculum at the University of Veterinary Medicine, Vienna is structured to be a future-orientated, research based programme of study that employs modern educational principles and learning platforms. The requirements of the EU Directive 36/2005, the Bologna Process as well as the University's own mission have been taken into account when preparing the list of objectives.

Because the University of Veterinary Medicine, Vienna's multifaceted curriculum endows students with the skills they need to practice veterinary medicine from the day they are awarded their diploma (Day-one skills), graduates are fundamentally well prepared to successfully launch careers in a fiercely competitive job market. By augmenting their education with lifelong learning and vocational education and training, students are virtually assured of excellent careers within a veterinary field of expertise.

The official list of objectives for the undergraduate curriculum is available in the study guide; these are summarised below:

- comprehensive basic knowledge of the disciplines that form the basis of the work of a veterinarian, including food safety and veterinary public health;
- the ability to make scientifically and ethically justified decisions independently and critically;
- the ability to communicate and cooperate in a variety of ways;
- the ability to perform the professional duties of a veterinarian and practise veterinary medicine independently with respect to economics and entrepreneurship;
- the ability to identify and solve scientific problems
- the ability to follow developments in the field and to continue learning;
- the ability to pursue further academic and professional training;
- the awareness of a veterinarian's responsibility towards patients, clients and society.

Assessment of Day-one skills

Because they are based on learning objectives and course content, all Day-one skills are embedded in the curriculum. Thus, passing the obligatory examinations vouchsafes that the student has acquired the requisite knowledge and skills. In addition to examinations, there are several different types of oral and written assignments such as presentations and reports that students have to satisfactorily complete to pass courses or training modules.

Even though the structure and functioning of healthy animals and their husbandry are most evident in the healthy animal concept and in animal hygiene, subjects such as pathology and clinical training offer further insight into this matter. Understanding the nature and treatment of common diseases and disorders, as well as the principles of disease prevention and the promotion of health and welfare, requires studying not only the clinical sciences, but also microbiology, parasitology, immunology and epidemiology. Legislation concerning the welfare of animals and veterinary medicine is taught within the context of courses in ethics and animal welfare, animal hygiene, microbiology, parasitology, pharmacology and toxicology, meat inspection, epidemiology, veterinary health services and municipal administration, as well as during clinical studies. Students learn about veterinary public health issues (including zoonoses) in classes about microbiology, parasitology, pathology, epidemiology, meat inspection, food and environmental hygiene and during clinical training.

Hands-on competencies are acquired mainly in courses on animal hygiene and farm practice, meat inspection and meat inspection practice, epidemiology, pathology, pharmacology and toxicology, food hygiene and food inspection, environmental hygiene and toxicology and related practice, as well as in the introduction to clinical work and during clinical training and clinical rotations. Tasks related to samples and standard laboratory tests are also practised in laboratory medicine, microbiology, parasitology and immunology. At the clinic, skills are classified into levels to ensure that every student has either the necessary hands-on experience or has seen demonstrations to be able to perform certain tasks. Working in small groups provides opportunities for continuous feedback.

In addition to the competence assessment embedded in the curriculum, appraisal of the Day-one skills of graduates and students is performed in meetings with the instructors and via online surveys.

In the spring semester 2011, the University of Veterinary Medicine, Vienna conducted an online survey with graduates of the Diploma Programme in Veterinary Medicine and the Bachelor's Programmes in Equine Sciences and in Biomedicine and Biotechnology. The results help to further improve the curricula. According to the survey, graduates are generally very satisfied with the University; they report that they are well prepared for starting their professional careers. The respondents are furthermore satisfied with their choice of field of study and their careers.

They indicated a preference for more problem-centred learning and interactive instruction and listed business and communication skills, along with decision-making, practical training and problem-solving skills as areas that should receive increased emphasis in the context of academic training.

■ ANNEX 5.2: AbsolventInnenbefragung

5.1.2. The teaching environment

The University realises the importance of the didactic and pedagogical development of the teaching staff. This point is often raised in the annual personal review meetings between superior and employee and in the personal work performance assessments associated with the new collective contract introduced in 2009.

Staff members have the opportunity to receive basic and advanced training in teaching-related matters on a regular basis, both at the University and off campus, with the University reimbursing at least part of the cost.

One of the central issues of the University of Veterinary Medicine, Vienna is affirmative action for women. While the basic conditions for students who are mothers have been improved, the percentage of women employed as professors or in other leading positions ought to be raised. The exchange of staff members with foreign institutions ought to be enhanced through an increased use of sabbaticals, exchanges of postdocs, added involvement of foreign doctoral students and postdoctoral fellows in ongoing research projects and the establishment of vacancies for visiting professors. In this respect it is worthwhile mentioning existing cooperation agreements for the exchange of scientific staff with universities in Utrecht, Zurich, Giessen and Hannover; these ought to be maintained and extended even further.

Reward for teaching excellence

Once a year the “Teacher of the Year” honour is awarded. Prior to 2012, the twenty best junior and senior teachers were selected based on the results of the compulsory evaluation. From this short list, students voted for their choice of junior and senior teacher of the year. This procedure was changed in 2012. Now it starts with a self-initiated application. A jury consisting of former teachers of the year, students and the Vice-Rector Student Affairs and Clinical Veterinary Medicine selects the ten best applicants from each group – junior or senior teacher. Only then do the students vote for their choice of teacher of the year in each category. Traditionally only staff members have qualified for the award, but since 2012, the freelance veterinarians acting as instructors are included in the pool of nominations. In this way, the University desires to show its appreciation to the importance of these volunteers.

Additionally, teaching activities of university teaching staff is acknowledged in financial terms by the allocation of a so-called performance incentive, which will be redesigned in the near future.

5.1.3. The examination system

In general, basic guidelines for the examination system are specified in the University Act of 2002, while general information is set forth in the Statutes of the University and detailed information is covered by the current curriculum.

While the University Act of 2002 is a federal law passed by the government, the Statutes as well as the curricula are issued by the executive bodies of the University (Rectorate, Senate, University Council).

Matters related to the curriculum and examinations and the assessment of students are handled in the Curricular Committee.

The curriculum is structured in years (except the 2nd tier of courses). Continuing the course of studies is only possible if all exams from the prior year have been successfully completed and passed. Therefore, it is advisable to pass the professional examination on the first or second try. Otherwise, timing constraints will impede the course of study; in this case, students must reckon with a waiting period of up to two semesters. Apart from that, students can decide on their own when to take exams and in what timeframe they will complete their education.

The regulation for examinations (Prüfungsordnung) governs the part of the curriculum concerning assessment. It defines the content-related prerequisite for taking an exam as well as the examination format (written, oral, board examination, singular/overall examination, courses with continuous exams, OSCE, etc.).

Generally, there is a difference between examinations required to complete individual courses and comprehensive professional examinations covering the content of several subjects plus additional knowledge and skills acquired through self-study.

Content of courses either is tested permanently throughout the semester (“prüfungsimmanner Charakter”, e.g. in practicals), or via an oral and/or written exam at the end of the course. Content and assessment of courses are set by the responsible lecturers and must be announced in VetmedOnline before the academic year starts. They can be changed from one academic year to the next.

The format of professional examinations is predefined within the curriculum. The results of examinations must be made available within one month.

Table 5.1: Overview professional examinations

1st tier		oral/written	Amount of examiner
208110502 U	Zoology/ Animal science	written (computerbased MC)	
208111002 U	Fundamentals of medical physics/biochemistry*	-	
208112002 U	Med.physics/Med.biochemistry	oral	2
2nd tier		oral/written	Amount of examiner
208210002 U	Functional Propaedeutics	oral	3
208211002 U	Bacteriology/Virology/Parasitology	written	
208211502 U	Animal nutrition/Botany/Pharmacology and Toxicology	written	
2nd tier		oral/written	Amount of examiner
208212002 U	Immunology/Basic Pathology/Animal breeding	written	
208212502 U	Food Sciences and Public Health services/Animal Husbandry and Welfare	written	
3rd tier		oral/written	Amount of examiner
208311002 U	Clinical Propaedeutics I	written (computerbased MC)	
208311502 U	Clinical Propaedeutics II	oral	2
208312002 U	Organ-,Metabolic- and Infectious Diseases/Emergency Medicine/Epidemiological Medicine	written (computerbased MC)	
208312502 U	Clinical Diagnostic and Therapy**	-	

208312602 U	Clinical Diagnostic and Therapy I	Oral (OSCE)	5
208312702 U	Clinical Diagnostic and Therapy II	Oral (OSCE)	6
208314502 U	Regul.Framew.o.Vetmed/Forensic Vetmed	written	
208318002 U	Track- Small Animal Medicine	oral	min. 4
208318302 U	Track - Equine Medicine	oral	min. 4
208318102 U	Track - Ruminant Medicine	oral	min. 4
208318202 U	Track - Pig and Poultry Medicine	oral	min. 4
208318402 U	Track - Food Safety and Veterinary Public Health	oral	min. 4
208318502 U	Track - Conservation Medicine	oral	min. 4
208318602 U	Track – Reproduction/Reproductive Biotechnology	oral	min. 4

* since 2011 the examination is replaced through assessments, which are performed during the lecture period

** since 2010 OSCE is split in 2 parts

Professional examinations

Examination dates are fixed in the course schedule. Regularly three dates for each exam, i.e. at the beginning, in the middle and at the end of each semester, have to be offered. The Austrian legal regulations do not provide for lecture-free periods.

Professional examinations take place at the end of each semester. At the end of the first and second year of study as well as during clinical training, some examinations will be held as comprehensive oral exams (five exams in total). Apart from the oral exam at the end of the 1st year, every oral exam includes a practical part, where knowledge gained in the hands-on training is being tested; either on the basis of preparation (anatomical specimen) or patients or based on several case studies.

In general the types of examinations in the curriculum are comprehensive exams taken in front of a committee, which means that several subjects are tested in the framework of one examination that takes place on a single occasion in front an examination committee. According to the requirements for examinations, comprehensive exams can be either written or oral, and if required by the subject matter, complemented by a practical component.

In addition to traditional oral or written examinations, other forms of assessment such as written assignments and OSCE are also used.

In total, eight comprehensive professional examinations are written exams. Written exams are conducted not only in paper/pencil format but also as tests on the computer. Three out of eight exams are already computer-based exams. The aim is to take every written exam via the computer or computer-aided.

Since 2007 the examination at the end of the uniform part of the curriculum is performed as an OSCE. Initially, the OSCE had 11 exam-stations which have been split up into 2 exams with 5 to 6 stations each in the year 2010.

The oral exam at the end of the tracks of specialisation is now taken in form of an oral comprehensive examination with respect to academic discourse. It aims at examining the Day-one skills according to EU Directives 78/1027/EWG, 89/48/EWG and 2005/36/EG and to EAEVE standard operating procedures. Examination regulations were made to guarantee consistency across all tracks.

■ ANNEX 5.3: Prüfungsreglement

A professional exam can be retaken three times, if it is negative. After the first tier, professional examinations can be retaken four times. In general, the last two retakes are held in front of an examination committee of at least three examiners to ensure integrity in terms of content and format. Additionally, in case of retakes, students can ask for an accompanying senior examiner as listener.

Students are allowed to retake the exam to improve their grades within six months even if it was positive. However, students do not make use of this option very much.

5.1.4. Evaluation of teaching and learning

The evaluation of teaching is regulated by the UG 2002 and by the Statutes of the University of Veterinary Medicine, Vienna.

In principle, according to § 14 of the UG 2002, Austrian universities are bound to perform assessments of evaluations and quality assurance:

Based on § 14 (7) of the UG 2002, the University Statute contains the following general guidelines for the performance, publishing and implementation of evaluations:

- All areas of the University of Veterinary Medicine, Vienna (research, teaching, animal hospital, services) have to be evaluated according to § 14 of the University Act 2002.
- According to the Statutes, the course lecturers have to provide an evaluation of their courses in regular intervals to the Vice-Rector for Study Affairs and Clinical Veterinary Medicine.

The course evaluations are performed online by use of the web-based application VetmedOnline. The results of the evaluation process are communicated to the lecturers and the Vice-Rector for Study Affairs and Clinical Veterinary Medicine.

Until the spring semester 2012 the course evaluation was specific to the individual lecturer. Students could evaluate several lecturers within one course or several lecturers giving one lecture separately. The evaluation process ran the whole semester and the results were sent to the lecturers at the end of the semester. Lecturers could give their opinion to the Vice-Rector for Study Affairs and Clinical Veterinary Medicine regarding the results of the evaluation.

Until the year 2009/2010 results were openly presented at the University of Veterinary Medicine, Vienna intranet as a ranking. Since 2010/11, based on the request of the works council, this is no longer the case, as the return rate was too low for a representative result. Starting the academic year 2012/2013 there will be "Evaluation New". A competence-based instrument for the evaluation, developed at the University Graz, will be implemented. It focuses on different types of action competence (i.e. professional, methodological, action, social, personal and media competence) and comprises both the point of views of students as well as instructors. The evaluation model supports the paradigm shift in teaching, from teacher orientated to student centred learning.

Following fundamental changes take place:

- The questionnaires are remodelled:
- The questions are out-put-oriented and focus on student's acquisition of skills. The questionnaires are created according to the "Grazer Evaluierungsmodell für Kompetenzerwerb (GEKO)", where five basic competences are defined. Apart from questions to evaluate the acquisition of competences the following items are also components of the evaluation questionnaire: items which might influence the acquisition of competences such as attitude and behaviour of the students, i.e., interest, effort, previous knowledge etc., items that deal with the general conditions of teaching and learning
- The focus will be on student's reflection on his/her gained competencies. There will be different questionnaires for different types of training such as lecture, seminar and courses.
- The course evaluation will still be initiated and managed via VetmedOnline, but lecturers have more responsibility and freedom in carrying out the evaluation. In future, lecturers determine the dates and length of the evaluation. The new application includes questions created by the lecturer additional to the standard-questions. After closing the evaluation process the results are delivered immediately to the lecturer. Again, lecturers can give their favourable opinion to the Vice-Rector for Study Affairs and Clinical Veterinary Medicine concerning the results of the evaluation and decide whether the results are published or not.
- At the beginning of the semester the Vice-Rector for Study Affairs and Clinical Veterinary Medicine invites students to take part in the evaluation. Instead of annually, all lectures are now evaluated every 4 semesters. Lecturers, however, can administer a course evaluation any time voluntarily.
- Additionally, there is going to be a mirrored questionnaire for lecturers to reflect on the aims of the courses. The comparison of students' and instructors' answers ("What have I learnt in this course?" resp. "What should students learn in this course?") allows the instructors to name the important items of the evaluation. Also, a comparison of the point of view of students and teachers is possible; the instructors gain revealing information to what extend the goals of the course have been achieved.

5.1.5. Student welfare

Measures taken to protect students from zoonoses (e.g. rabies) and physical hazards

Students have accident insurance, which is in effect during their entire course of studies.

The curriculum includes instruction on the protection against zoonoses (e.g., in classes on microbiology, parasitology, pathology, epidemiology, clinical training and food hygiene).

Students are vaccinated against rabies.

Student Services

Student services at the University is responsible for student guidance and advice, the provision of information to new students, protection of students' legal rights, registration of completed studies (including the recognition of studies completed elsewhere), retakes of University examinations and communications with regard to academic affairs. Student services helps students in all practical matters, both at the departmental and faculty levels, and can advise students about whom to contact in case further actions are needed.

Balancing studies, career and family is a central topic for the University of Veterinary Medicine, Vienna. In 2010, the University of Veterinary Medicine, Vienna was awarded the "career and family" certificate, and in 2011 the "university and family" certificate. These certificates are bestowed by the Federal Ministry of Economy, Family and Youth and the Ministry for Science and Research respectively to recognize universities that have successfully completed an independent audit to assess the possibility of balancing studies or a university career with having a family. Participation in the audit programme has provided valuable guidance to the University of Veterinary Medicine, Vienna in introducing family-friendly initiatives, while at the same time giving it the opportunity to position itself as an attractive employer.

International Relations Office is responsible for advising students about international student exchange programmes, as well as helping with their coordination. International Relations Office is also in charge of the overall coordination of the ERASMUS mobility programme at the University. The planning officer for international affairs helps the students at the University in all matters related to exchange programmes.

- The campus offers various services to the students, the following are organised by the University:
 - Extended opening hours of the library and the VetSIM skills lab;
 - 90 computer work stations free of charge; E-mail address free of charge;
 - Several freely accessible rooms for studying, some of which are equipped with personal computers;
 - Access to the internet for private use at a reduced rate;
 - Rooms for students doing night shifts;
 - Childcare centre;
 - Student rates for treatment of pets at the Animal Hospital;
 - Biotope; rooftop terrace at the library;
 - Allocation of a free parking space for students.

- The campus offers various services to the students, the following are organised by the Students Union and supported by the University:
 - One Student Services Centre with two administrative employees and 12 student advisers, including five veterinary student advisers;
 - One on-campus shop run by the Students Union with scripts, specialist books, supplies for clinical work, personal items and supplies including pet food and snacks;

- Membership at IVSA (public transportation within Europe) and BVVD (Bundesverband der Veterinärmedizin-Studierenden Deutschlands);
- Student mentoring programme „From Students – For Students“;
- Student magazine “RECTUM“;
- On-campus cultural, social and sports activities: theatre group, practice room for musicians;
- sports ground;
- support in case of financial hardship (micro-credits);
- Educational courses (Refworks® – citation programmes, seminars);
- Management of VetSIM together with the Vice-Rector for Study Affairs and Clinical Veterinary Medicine;
- Rental offers: course material such as stethoscopes or preparations, also bus rentals for transportation to sites such as the TRF or slaughterhouse or for private use;
- Copy service;
- Kennels.

Guidance offered by the University or the Federal Ministry for students with problems

During the admissions process, as well as during their period of residence at the University of Veterinary Medicine, Vienna, physically handicapped students and students with chronic diseases can turn to the counselling and service centre located on campus and meet with a representative for disabled students.

Furthermore, psychological counselling is provided by the Federal Ministry for Research and Science.

The Ombudsman for Higher Education is also a service of the Federal Ministry available for students who face problems in their educational institution. In these cases, the Ombudsman counsels the students and, if appropriate and necessary, also serves as a mediator between them and the institution.

Guidance offered by the University for future career development or job selection

The Public Health Pool (PHP) is a new, independent platform in the field of public health. It was launched by students of the University of Veterinary Medicine, Vienna. The PHP was founded based on the belief that there is a demand for information concerning opportunities for further education in the fields of food science, veterinary public health and related working areas.

The aim of the PHP is

- to encourage veterinary students and graduates with an interest in veterinary public health;
- to offer access to specific further education programmes by promoting networks and scholarships.

Furthermore the PHP works to identify and structure working areas in the field of veterinary public health and to enhance interdisciplinary exchanges with related disciplines of veterinary medicine. The platform allows members to share infrastructure and resources with cooperating partners and to foster teamwork among students at different levels of their academic studies.

5.2. Comments

The IT supported course evaluation is at the heart of the course (and teaching) evaluation procedures. However, with the change from paper/pencil to electronic evaluations, course evaluation response rates dropped significantly – to below 30% in some courses. The implementation of the new evaluation system in VetmedOnline automatically reminds students to submit their course evaluations every time they log on to the system. Of course, it is still the responsibility of the course coordinator to remind the students at the end of each course.

In terms of retakes of examinations, the Vice-Rector for Study Affairs and Clinical Veterinary Medicine first invites students to an informal talk. Detailed information on the examinations, as well as individual advice and opportunities to gain further experience through voluntary practicals, is given.

Feedback and information sessions on examinations, where feedback on courses and examinations – and on OSCE in particular – is gathered and discussed, are organised at least once a year in cooperation with the Students Union.

Since the 2011/2012 academic year self-assessments in physics and chemistry are offered to students in the first semester to assess and, if necessary, fill the gaps of knowledge in the subjects of basic science.

5.3. Suggestions

In order to assure adequate evaluation response rates from students, an automatic reminder possibility must be established within VetmedOnline. Moreover, course coordinating staff must be urged to motivate students to carry out the evaluations by including former evaluation results and subsequent improvement actions in the course introduction lecture in order to make it clear to the students that their evaluations matter.

6. Facilities and Equipment

6.1. Factual information

The University of Veterinary Medicine, Vienna, covers 15 ha and 47 buildings, which were built in 1996. Since 2010 the interdisciplinary Messerli-Research-Institute has been situated on the campus. The campus of the University is located in the 21st district of Vienna and is accessed easily by public transportation. Bus No. 27A has a stop in front of the main entrance and offers a direct connection to the U1 metro line. The Nr. 26 tramline goes to the Floridsdorf and the Kagraner Platz stations, respectively, where a change to the U6 or U1 metro lines is possible. Either way, the campus can be reached conveniently from the Vienna city centre within 20–35 minutes.

The University of Veterinary Medicine, Vienna also maintains specialised off-campus teaching and research infrastructure such as the teaching and research farm (TRF) in Pottenstein, the interdisciplinary research centre in Wieselburg and the Graf-Lehndorff-Institute for Equine Science in Neustadt an der Dosse (Germany).

6.1.1. Premises in general

The The Diploma Programme in Veterinary Medicine at the University of Veterinary Medicine, Vienna is mainly carried out by 5 departments. Four of them are in different buildings and facilities on the Floridsdorf campus and the 5th department is situated in the 16th district of Vienna, on Savoyenstrasse.

The clinics of Department 3 and 4 form the Animal Hospital. The Animal Hospital provides comprehensive yet specialised services distinguished by high-level expertise and professional consulting; in addition, it serves to fulfil teaching duties and support young academics in undergraduate, graduate and postgraduate programmes.

Premises on the Campus

■ Department of Biomedical Sciences (Department 1)

The Department of Biomedical Sciences covers the subjects of medical biochemistry, biophysics, physiology, pathophysiology, pharmacology and toxicology, genetics including animal breeding and biotechnology, molecular genetics, population genetics, laboratory animal science, bioinformatics and biostatistics. The goal of the department may be seen as counteracting the trend towards scientific specialisation by extending the cooperation between the units, an objective further enforced by the reality of limited funding. From another point of view, the basic subjects have to integrate themselves into veterinary medicine, especially to holistic teaching and research in the fields of medical biochemistry and biophysics, pathophysiology, pharmacology and toxicology (including environmental toxicology), supported by bioinformatics and biostatistics. The department is continually developing its scientific programme in open discussions with the faculty, the staff and the students. As a first pass, the lectures and teaching courses were harmonized. The department offers unique combinations of scientific services to the University. The Department of Biomedical Sciences is situated in two buildings, a first step towards supporting internal communication and a major advantage in developing and carrying out joint scientific projects.

■ Department of Pathobiology (Department 2)

The Department of Pathobiology is divided into two main fields: "Microbiology" and "Fundamental Morphology and Pathology". In the Fundamental Morphology and Pathology field the following subjects are represented: anatomy, embryology, histology; pathology and forensic veterinary medicine and clinical pathology. The Microbiology field covers virology; bacteriology, mycology and hygiene; parasitology and immunology. Teaching focuses on basic morphology and pathology, as well as on infectious agents and immune response mechanisms after infection.

The Department 2 represents the interface between "healthy and sick" in terms of morphology and infectious diseases.

■ Department for Farm Animals and Veterinary Public Health (Department 3)

This department reflects the importance of the linkages between farm animal clinics and certain disciplines concerning veterinary public health. In accordance with the integrated approach towards safety and wholesomeness of food from animal origin along the production chain ("from stable to table") the department covers all disciplines.

The farm animal clinics are represented by the Clinic for Ruminants, the Clinic for Swine and the Clinic for Avian, Reptile and Fish Medicine.

All clinics provide teaching and research, as well as patient care and herd health management for the above-named species. State-of-the-art medicine is offered at the level of individual patients all the way up to entire herds and includes the use of a spectrum of modern veterinary techniques in diagnostics, prophylaxis and therapy.

The veterinary public health sector is covered by the following subjects: applied botany and pharmacognosy; animal nutrition; molecular food microbiology, milk hygiene and milk technology, food hygiene, food technology and food science; risk assessment and veterinary public health; animal husbandry and animal welfare.

Cooperation between these units allows an interdisciplinary approach to be taken towards individual animals up to and including herd health management, thus is a vital component of food safety. Interdisciplinary cooperation is a strong focus not only of research, but also of the teaching programme, especially during the tracks of specialisation.

The Department for Farm Animals and Veterinary Public Health makes an active contribution to animal health, animal husbandry and welfare and public health through herd health management of livestock, as well as through its cooperation with food production companies.

■ Department for Companion Animals and Horses (Department 4)

The department is part of the Animal Hospital with its Clinic for Small Animals and its Equine Clinic. Services for injured and diseased animals provide the basis for research and teaching. The department consists of these clinical units: Internal Medicine, Surgery and Ophthalmology, Orthopaedics, Anaesthesiology, Diagnostic Imaging (equipped for radiology and sonography as well as computer tomography, magnetic resonance tomography, and scintigraphy), Obstetrics, Gynaecology and Andrology; and the Centre for Artificial Insemination and Embryo Transfer.

For companion animals Internal Medicine offers special services in cardiology, dermatology, endocrinology, gastroenterology, neurology, medical oncology, radiation oncology and small mammal medicine.

The Department for Companion Animals and Horses defines its socio-political obligation as providing clinical education and continuing education to veterinarians and stockmen, thus ensuring responsible care for animal patients and providing excellent emergency care around the clock. Consultations for referrals and hospitalized patients are part of the training for students during their clinical training.

The Department offers medical service 24 hours a day, 7 days a week. The majority of the graduates of the University of Veterinary Medicine, Vienna continue their professional careers by working in disciplines taught at this department.

The manifold diagnostic and therapeutic services offered, provide the basis for research as well as clinical training. This guarantees a state-of-the-art research based and practically oriented education.

■ Department of Integrative Biology and Evolution (Department 5)

The department consists of the Research Institute of Wildlife Ecology and the Konrad Lorenz Institute of Ethology.

The central purpose of the Research Institute of Wildlife Ecology is to study the needs and behaviour of wild animals in ecological contexts, thus establishing the scientific basis for effective nature, species, and environmental conservation, also for the sustainable use of multi-functional landscapes. This institute is also responsible for teaching conservation medicine to undergraduates participating in the “Zoo and Wildlife Medicine” track. The institute undertakes long-term, inter-disciplinary and international research at different levels – individual, population, ecosystem and landscape – and applies a trans-disciplinary approach:

- Applied ecology and conservation medicine;
- Ecophysiology and population ecology ;
- Ecological genetics.

The Institute’s areas of focus include basic and applied research in landscapes used for agriculture and forestry, urban regions and protected habitats at national and international levels; also services for public and private entities such as advisory services, ecological assessments, and veterinary science diagnosis; as well as interdisciplinary university-level teaching, training seminars and environmental education.

Two thirds of the basic financing for the Research Institute of Wildlife Ecology comes from the overall university budget, while about one third is provided by the Society for the Support of the Research Institute of Wildlife Ecology.

The Konrad Lorenz Institute of Ethology specialises in animal behavioural research. The Institute was originally founded in 1945 by Otto und Lilli Koenig who were inspired by the pioneering work of Konrad Lorenz and the emerging new field of behavioural biology called ethology. Today the institute is devoted to the study of animal behaviour, ecology, and evolutionary biology. Scientists at the institute study animals in natural or semi-natural conditions, as well as in the laboratory, and seek to answer questions about proximate mechanisms and evolution.

Both institutes are located in Vienna, in the foothills of the Wienerwald (Vienna Woods), on Savoyenstraße 1 and 1a, opposite Wilhelminenberg castle. The spacious buildings house well-equipped offices, laboratories and animal care facilities. Adjacent to the buildings is a large forested research enclosure of 45 ha for studies on wild animals kept in close to natural conditions.

Premises outside the campus

■ Teaching and Research Farm (TRF)

The Teaching and Research Farm (TRF) of the University of Veterinary Medicine, Vienna is situated about 50 km south of Vienna. Different farm animals are kept on 4 separate sites totalling about 263 ha, of which 150 ha is grassland. These enterprises are practice-oriented, agricultural model plants, complementing veterinary education and research.

The TRF fulfils all the prerequisites for excellence in hands-on teaching. Through continuous improvement the TRF satisfies today's requirements for teaching veterinary medicine and research within the livestock sector.

All students gain practical insight at the TRF during their clinical training; those in tracks of specialisation get additional training during their clinical rotations. Moreover, a mobile clinic is available for outpatient treatment and herd health management of farm animals at the TRF.

■ Gutshof Kremesberg:

The 100-year-old cow-shed was completely renovated in the year 2009. This building now contains modern pens with the latest technology for housing animals. It provides functional domains for veterinary education. The new pens and the well-spaced areas for movement and resting within the stable offer ideal conditions for more than 100 dairy cows. A tandem milking parlour provides eight (i.e., two times four) milking places. Additionally, a new outdoor facility serves for the healthy rearing of calves.

Students gain experience in different milking techniques in the new Milking Technology training room. Techniques – such as moveable milking bails hitched to stationary milking lines – are demonstrated. Undergraduates of the Ruminant Medicine track are trained to identify deficiencies in milking techniques.

■ Hof Rehgras:

Hof Rehgras lies 600 meters above sea level, in the municipal area of Furth an der Triesting in Lower Austria. The advantageous location of the farm, which is surrounded by about 60 ha grassland, are optimal conditions for raising healthy young animals. Around 130 head of cattle are held in outdoor climate housing and on pastures. Horses owned by the University spend summers on the wide-open pastures. The bovine population is split into three groups.

■ Hof Medau:

A herd of pigs with 35 sows was used to teach students the basics of veterinary medicine in pigs and practical herd health management. The swine shed was knocked down in 2011. The plans for a new, modern farm fulfil the criteria listed below:

- future-oriented, modern state-of-the-art husbandry, with stables structured especially for the comprehensive needs of pigs (from farrowing to fattening);

- able to accommodate a herd of economical size that guarantees enough animals for the veterinary education programme;
- flexible enough to set up and support practice-oriented research, especially for testing new husbandry systems.

The new facility is designed to keep 140 sows and 720 piglets; it will include 600 fattening places. Construction is scheduled to start in August 2012.

In the year 1997, a facility for small ruminants was built at Hof Medau. In a functional outdoor climate housing built entirely out of wood, 90 sheep and 40 goats are kept in a species-appropriate manner. An examination room, a laboratory and changing rooms complete this facility. The pastures around the stable offer the animals ample room for grazing and moving around.

■ Hof Haidlhof:

Because of its advantageous location, the Haidlhof is run as a specialised research station. Housing for poultry and stables for pigs and large animals allow research to be conducted on topics like animal welfare and animal feeding, as well as on special projects dealing with the prevention of infectious diseases.

An additional research facility was established in 2010 in cooperation with the University of Vienna; this consists of 3 enormous aviaries for birds of the Corvidae family (ravens, crows, jackdaws) and a 52-meter long aviary for New Zealand mountain parrots (Keas). These aviaries are connected by a corridor and equipped with a multifunctional laboratory for researching behaviour and vocalisation. The laboratory includes a bio-acoustics laboratory (x-ray, ultrasound-analysis, endoscopy, electro-glottography etc.) and a room to keep animals for a short time.

■ Reproduction Centre Wieselburg (RCW)

The University of Veterinary Medicine, Vienna (Institute of Animal Breeding and Genetics) together with the Austrian Federal Research Farm Company Ltd. (BVW, founded by the Federal Ministry of Agriculture, Forestry Environment and Water Management), the state of Lower Austria and the City of Wieselburg founded the Reproduction Centre Wieselburg (RCW). Construction of the facilities on the grounds of the BVW Wieselburg in western Lower Austria was completed in 2009. The heart of the new facility is a holding pen for 50 heifers, which is connected to examination rooms and laboratories where embryo transfers and research into the early stages of gestation/pregnancy are conducted and students of the Reproduction/Reproductive Biotechnology track are trained.

The RCW was established

- to provide a scientific platform for tackling the steadily increasing fertility problems in dairy cattle,
- to provide innovative reproduction techniques in order to assist with animal breeding strategies and
- to provide a teaching and training facility for under- and post graduates, veterinarian practitioners and breeders.

Thus, the RCW combines basic and applied research in the field of reproductive biotechnology with hands-on training and education, and links universities with breeding associations and breeders.

The main topics are proteomics of gamete-maternal communication with:

- analysis and characterization of gamete-induced changes in the oviduct on the proteome level in order to identify cellular processes linked to reproduction,
- development and application of proteomic technologies for subcellular fractionation and protein quantitation from reproductive tissue samples,
- identification of proteins involved in cell-cell interaction for improving fertilization approaches,
- application of the acquired knowledge to farm animal breeding (in close cooperation with the Reproduction Centre Wieselburg);
- genetics of mitochondrial DNA (mtDNA) with the
- analysis of the prevalence of mtDNA haplotypes in animal species,
- creation of heteroplasmic animal models for the detection of functional consequences of mtDNA polymorphisms and
- search for mtDNA mutations in cancer and the utilisation of such polymorphisms as diagnostic markers.

■ Graf-Lehndorff-Institute for Equine Science

The Graf-Lehndorff-Institute for Equine Science established the first equine science research institute in Germany offering excellent facilities for applied research in Neustadt-Dosse (Germany). Students can perform their extramural training within their tracks of specialisation and conduct their own research for their diploma thesis under supervision of experts from the University of Veterinary Medicine, Vienna.

The institute conducts its own research projects focusing on reproduction and breeding, animal welfare, training and equine health management. In addition, it is a scientific partner for the German Equestrian Federation and other horse breeding and equestrian associations as well as for scientists from academic institutions which do not have facilities for long-term studies on healthy horses.

■ Messerli-Research-Institute

The Messerli-Research-Institute was founded in 2010 with financial support from the Messerli Foundation in Sörenberg, Switzerland under the auspices of the University of Veterinary Medicine, Vienna in cooperation with the Medical University of Vienna and the University of Vienna. The Messerli-Research-Institute is located on the campus.

Research is devoted to the interaction between humans and animals, as well as to theoretical principles in animal cognition and behaviour, comparative medicine and ethics. Its work is characterized by its broad interdisciplinary approach (biology, human medicine, veterinary medicine, philosophy, psychology, law) and strong international focus.

Research findings form an integral part of the academic curriculum of a new Master's Programme and are designed to provide guidelines for the responsible and acceptable treatment of animals. Thus, the main responsibilities are seen as providing scientific information to help people working in the field of human-animal interactions.

The Messerli-Research-Institute is structured as 3 divisions:

- Comparative Cognition
- Comparative Medicine
- Ethics and Human-Animal Studies

Service area for students (e.g. lounges, cafeterias, etc.)

In addition to the services the campus offers to the students (mentioned in Chapter 5.1.5) there are several service areas:

- One student cafeteria on the campus,
- One student café run by the „Verein zur Verbesserung der Freizeitgestaltung von Studierenden“ at Josef Baumanngasse (WET-CAT),
- Organisation of “get-togethers” on campus.

Safety measures and regulations

The faculty, as well as the departments, follows the strict safety procedures and regulations required by Austrian legislation. The safety measures in place in all relevant areas (e.g., laboratories, dissection and post-mortem halls and isolation facilities) are in accordance with Austrian safety regulations. Each department has appointed safety officers among the academic and technical staff. For safety and educational purposes all relevant safety protocols are posted in the respective facilities, and students receive instruction in the safety procedures prior to working in such areas.

6.1.2. Premises used for clinics and hospitalisation

Table 6.1: Places available for the hospitalisation of different animals

	Species	No. Places
regular hospitalisation	cattle	44
	horses	84
	small ruminants *	17
	pigs	19
	dogs	56
	cats	63
	birds	21
	reptiles and amphibians	16
	new world Camelidae *	17
Isolation facilities	farm animals and horses	10
	small animals	38
	Birds	39
	rabbits, guinea pigs	6

* small ruminants and new world camelidae are kept in the same places

6.1.3. Premises used for animals

Animals for teaching purposes are kept within the Animal Hospital.

- Birds

Pigeons are housed in two outdoor aviaries which are closed at the side panels and partially roofed. Budgerigars are kept in two similar outdoor aviaries with connected indoor shelters that can be heated. Aviaries for the birds used for teaching purposes are located in another building, separate from the patients of the clinic. Poultry is kept indoors in cages or in small pens on deep litter.

■ Small animals

Dogs are kept in rooms with kennels which lead directly to roofed pens.

For teaching purposes, there are sixteen beagles in two groups with no contact to patients. One group at the Internal Medicine for Small Animals clinical unit has one room with sleeping areas, feeding places and water, plus outdoor kennels. The dogs in the other group, i.e., in the Obstetrics, Gynaecology and Andrology clinical unit, sleep in indoor kennels.

■ Horses

Horses for teaching the disciplines of internal medicine, surgery and orthopaedics and reproduction are kept in outdoor paddocks with access to spacious sheds all year long. There is a strict separation between patients and horses kept for teaching purposes. The majority of horses for teaching are transferred to the TRF during the summer months to foster their well-being.

■ Swine

Pigs are kept indoors in pens spread across three different housing units. 60 to 70 animals per year spend about 4–5 months at the clinic for the purpose of practical training. These animals are kept strictly separate from patients. Of course, patients are used for teaching and practical training activities as well.

■ Ruminants

At the Clinic for Ruminants cows for teaching purposes are housed in tie-stalls (long stands) with a generous layer of straw bedding. The housing of patients is similar, but separate from the healthy cows used for teaching. Additionally 2 stalls are available for bulls, beef cattle and orthopaedic patients.

Calves, sheep and goats are kept in individual stalls or group pens. During the summer, small ruminants are kept outdoors on the premises or put out to pasture at the TRF.

South American *Camelidae* are either kept outdoors in an open fronted shelter or in group pens in a building.

■ Centre for Artificial Insemination and Embryo Transfer

The stallions of the EU-approved Centre for Artificial Insemination and Embryo Transfer are kept in accordance with the relevant decisions and directives of the European Union authorities. Thus, the stallions are kept apart from any other animals with undefined health status (patients, as well as University animals). In addition to separate stables paddocks are also available for these animals. Stallions are regularly exercised in the University riding arena.

6.1.4. Premises used for theoretical, practical and supervised teaching

All lecture rooms are equipped with state-of-the-art infrastructure, like equipment for double slide projection, video tape projection and video LCD projection.

WLAN is installed in the following buildings:

- University Library (Building BA, ground floor and 1st floor)
- Festive Hall (Building CA, ground floor and 1st floor)
- Administration Building (Building CB, 1st floor)
- University Canteen (Building DA, ground floor, 1st and 2nd floor)
- Large Lecture Halls A and B (Building FA)
- Building GA = Institution Building (2nd and 3rd floor)
- Building IA = Obstetrics (1st floor)
- Obstetrics Lecture Hall (Building IC)
- Building KA = Internal Medicine (ground floor)

To strengthen interactive teaching during lectures an interactive audience response system was introduced in 2011. Students use a clicker to respond to questions posed by teachers to receive instantaneous feedback.

In general, teaching laboratories are designed for groups ranging from 6–15 students up to 25 students; these are well-equipped for demonstration purposes as well as for experimental laboratory work in molecular biology, biochemistry, microbiology, histology, cell biology, electrophysiology, skeletal phenotyping, and bio-imaging of live cells.

Additionally Department 1 organises a computer lab in statistics and bioinformatics with 28 computers along with the option of remote supervision. With its 52 computer workspaces, the E-centre is used for computer-based exams.

Table 6.2: Premises for clinical work and student training

Small animals	no. of consulting rooms	21
	no. of surgical suits	9
Equine and farm animals	no. of examination areas	7
	no. of surgical suites	5

*including endoscopy and dental surgery

0. Introduction | 1. Objectives | 2. Organisation | 3. Finances | 4. Curriculum | 5. Teaching and Learning | 6. **Facilities and Equipment** | 7. Animals and Teaching | 8. Library and Learning Resources | 9. Student admission and Enrolment | 10. Academic and Support Staff | 11. Continuing Education | 12. Postgraduate Education | 13. Research

Table 6.3: Premises for lecturing (HS = lecture hall)

Number of places per lecture hall									
Hall	HS A	HS B	HS C	HS D	HS E	HS F	HS G	HS M	Panorama-saal
Room Number	FA05G02	FA05G16	AE06B01	GA06X49	OA06Y03	IC10P10	LA06Y03	HA06X05	DA06R09
Places	360	245	161	74	164	152	164	74	50
Total number of places in lecture halls:			1.444						

Table 6.4: Premises for group work (Number of rooms that can be used for supervised group)

Building	RoomNo	Description	Places	Organisation
AA	AA07B08+ AA08B09	library and seminar room	15	Parasitology
AA	AA06P17	reference library and seminar room	15	Bacteriology, Mycologie and Hygiene
AC	AC05N09	seminar room pathology	20	Pathology
AC	AC05P00	seminar room virology	29	Virology
BA	BA05H18	group room	8	University Library
BA	BA06B01	vestibule group room	6	University Library
BA	BA06B02	reading room	120	University Library
BA	BA06E01	group room	8	University Library
BA	BA06F01	group room	8	University Library
BA	BA06H18	group room	8	University Library
BA	BA06N10	audio-visual- media-room	12	University Library
BA	BA06S10	audio-visual- media-room	6	University Library
DA	DA06U15	conference room - Panoramasaal	50	Vice-Rectorate for Study Affairs and Clinical Veterinary Medicine
DA	DA07A00	computer centre	38	IT-Services
DA	DA07A11	study and reading room	18	University Library
DA	DA07A17	training classroom	12	IT-Services
EA	EA06N03	study room	48	Anatomy, Histology & Embryology
GA	GA05N23	seminar room	31	Animal Nutrition
GA	GA06G59	group room		Technology centre VETOMICS

0. Introduction | 1. Objectives | 2. Organisation | 3. Finances | 4. Curriculum | 5. Teaching and Learning | **6. Facilities and Equipment** | 7. Animals and Teaching | 8. Library and Learning Resources | 9. Student admission and Enrolment | 10. Academic and Support Staff | 11. Continuing Education | 12. Postgraduate Education | 13. Research

Building	RoomNo	Description	Places	Organisation
GA	GA06P06	seminar room histology	28	Anatomy, Histology & Embryology
GA	GA08P21	library	7	Meat Hygiene
GA	GA09B00	seminar room botany	40	Botany and Pharmacognosy
GA	GA09B51	examination/journal club	15	Animal Husbandry and Animal Welfare
GA	GA09B59	meeting room	5	Animal Husbandry and Animal Welfare
HA	HA05P51	seminar room	25	Pharmacology and Toxicology
HA	HA08B49	e-centre	50	IT-Services
HA	HA08E01	group room	6	Aquatic Ecotoxicology
HA	HA08P06	group room	6	Aquatic Ecotoxicology
HA	HA08P29	foyer	15	Pharmacology and Toxicology
HA	HA09P40	reference library	13	Population Genetics
IA	IA06B00	seminar room obstetrics	20	Obstetrics, Gynaecology and Andrology
IA	IA06B11	library	4	Obstetrics, Gynaecology and Andrology
IC	IC05C00	seminar room	20	Obstetrics, Gynaecology and Andrology
IC	IC05M20	vestibule - female horses	6	Insemination and Embryo Transfer
KA	KA05P11	seminar room - internal medicine	50	Internal Medicine - Small Animals
LF		library - administration university farm	10	TRF
MA	MA06N03	seminar room - ruminants	26	Clinic for Swine
NA	NA06B13	seminar room - surgery	10	Anaesthesiology
NA	NA06N03	seminar room - ruminants/swine	26	Clinic for Ruminants/ Clinic for Swine
NA	NA08B00	seminar room	40	Animal Breeding and Genetics
NC	NC05P16	training classroom	40	Large Animal Surgery and Orthopaedics
PA	PA05M03	training classroom	25	Large Animal Surgery and Orthopaedics
PA	PA06B17	library	10	Large Animal Surgery and Orthopaedics
RA	RA06B22	seminar room - poultry	20	Poultry
SA	SA05B28	seminar room - diagnostic imaging	25	Diagnostic Imaging
WT	WT06047	meeting room	10	Research Institute of Wildlife Ecology
Total number of places in rooms for group work:			1.004	

Table 6.5: Premises for practical work (Number of laboratories for practical work by students)

Building	RoomNo.	Description	Places	Organisation
AA	AA05P19	diagnostic laboratory	2	Bacteriology, Mycology and Hygiene
AA	AA06B15	laboratory	1	Bacteriology, Mycology and Hygiene
AA	AA06B17	laboratory	1	Bacteriology, Mycology and Hygiene
AA	AA06B23	diagnostical laboratory	3	Bacteriology, Mycology and Hygiene
AA	AA06P11	laboratory	1	Bacteriology, Mycology and Hygiene
AA	AA06P13	laboratory	1	Bacteriology, Mycology and Hygiene
AA	AA08B19	virological laboratory	3	Virology
AA	AA08M13	training classroom - infectious diagnostic	60	Parasitology, Bacteriology, Virology
AC	AC05M15	training classroom	80	Pathology
AC	AC08P25	seminar room	24	Virology
AD	AD05B09	dissection room	30	Pathology
AD	AD05H20	dissection room	15	Pathology
EA	EA05B00	study and examination room	35	Anatomy, Histology and Embryology
EA	EA05M10	dissection room	108	Anatomy, Histology and Embryology
EA	EA06G21	training classroom 2	42	Anatomy, Histology and Embryology
GA	GA06B00	training classroom-histology	54	Anatomy, Histology and Embryology
GA	GA07B00	training classroom	45	Applied Botany and Pharmacognosy
GA	GA07B06	chemistry laboratory	22	Milk Hygiene and Milk Technology
GA	GA08B00	training classroom	50	Meat Hygiene, Food Technology and Food Science
GA	GA08B09	laboratory	7	Meat Hygiene, Food Technology and Food Science
GA	GA08B15	chemistry laboratory	7	Meat Hygiene, Food Technology and Food Science
GA	GA08B37	bacteriology laboratory	10	Meat Hygiene, Food Technology and Food Science
GA	GA08B40	bacteriology laboratory	10	Meat Hygiene, Food Technology and Food Science
GA	GA08P06	microbiology laboratory	40	Meat Hygiene, Food Technology and Food Science
GA	GA08P11	microbiology laboratory	20	Meat Hygiene, Food Technology and Food Science

0. Introduction | 1. Objectives | 2. Organisation | 3. Finances | 4. Curriculum | 5. Teaching and Learning | 6. **Facilities and Equipment** | 7. Animals and Teaching | 8. Library and Learning Resources | 9. Student admission and Enrolment | 10. Academic and Support Staff | 11. Continuing Education | 12. Postgraduate Education | 13. Research

Building	RoomNo.	Description	Places	Organisation
GA	GA08P15	washroom	7	Meat Hygiene, Food Technology and Food Science
HA	HA04A06	training class room - physiology	7	Physiology, Pathophysiology and Biophysics
HA	HA04A07	training class room - physiology	7	Physiology, Pathophysiology and Biophysics
HA	HA04A09	training class room - physiology	7	Physiology, Pathophysiology and Biophysics
HA	HA04A11	training class room - physiology	7	Physiology, Pathophysiology and Biophysics
HA	HA04A14	training class room - physiology	7	Physiology, Pathophysiology and Biophysics
HA	HA04A16	training class room - physiology	7	Physiology, Pathophysiology and Biophysics
HA	HA04A18	training class room - physiology	7	Physiology, Pathophysiology and Biophysics
HA	HA04A20	training class room - physiology	7	Physiology, Pathophysiology and Biophysics
HA	HA06B00	training classroom	25	Pharmacology and Toxicology
HA	HA06P49	seminar room	20	Chemistry and Biochemistry
HA	HA07B53	laboratory	36	Chemistry and Biochemistry
HA	HA09B37	laboratory	14	University of Veterinary Medicine, Vienna
HA	HA09B43	laboratory	14	Physiology, Pathophysiology and Biophysics
HA	HA09B51	PC room	28	Population Genetics
HA	HA09G46	laboratory	2	Physiology, Pathophysiology and Biophysics
IA	IA07P05	endocrinology laboratory	6	Obstetrics, Gynaecology and Andrology
IC	IC05E24	semen analysis laboratory	6	Obstetrics, Gynaecology and Andrology
KA	KA06G05	laboratory	10	Central Laboratory

0. Introduction | 1. Objectives | 2. Organisation | 3. Finances | 4. Curriculum | 5. Teaching and Learning | **6. Facilities and Equipment** | 7. Animals and Teaching | 8. Library and Learning Resources | 9. Student admission and Enrolment | 10. Academic and Support Staff | 11. Continuing Education | 12. Postgraduate Education | 13. Research

Building	RoomNo.	Description	Places	Organisation
KA	KA06G15	laboratory	4	Central Laboratory
KA	KA06P07	laboratory	3	Central Laboratory
KA	KA06P13	laboratory	6	Laboratory Animal Science
KA	KA07B00	laboratory	3	Central Laboratory
KA	KA07B03	serology laboratory	3	Clinical Immunology
KA	KA07B09	bacteriology laboratory	3	Clinical Immunology
KA	KA07B11	laboratory	4	Central Laboratory
KA	KA07D05	laboratory	3	Central Laboratory
KA	KA07G19	laboratory	10	Central Laboratory
KA	KA07P03	laboratory	3	Central Laboratory
KA	KA07P05	laboratory	4	University of Veterinary Medicine, Vienna
LF	LF05N08	demonstration room- milking	5	TRF
LF	LF05N15	bacteriological laboratory	5	TRF
LF	LF05N17	chemical laboratory	3	TRF
MA	MA07P09	blood laboratory	10	Clinic for Swine
NA	NA06P11	seminar room- dentistry	12	Small Animal Surgery
NA	NA07B00	training classroom	20	Animal Breeding and Genetics
NA	NA07B21	room for trainees - molecular genetics	10	Animal Breeding and Genetics
PA	PA05M09	training classroom- non sterile		Large Animal Surgery and Orthopaedics
RA	RA05B05	parasitology laboratory	4	Poultry Medicine
RA	RA05B07	bacteriology laboratory	4	Poultry Medicine
RA	RA05B09	serology laboratory	4	Poultry Medicine
RA	RA05B13	room for clinical rotations	8	Fish Medicine
RA	RA05B17	parasitological laboratory	4	Poultry Medicine
RA	RA05G19	room for trainees / biochemistry and water analysis	4	Poultry Medicine
RA	RA06P11	laboratory -molecular 1	2	Poultry Medicine

Building	RoomNo.	Description	Places	Organisation
RA	RA06P13	laboratory - virology 3	2	Poultry Medicine
RA	RA06P15	laboratory - virology 2	2	Poultry Medicine
RA	RA06P17	laboratory - virology 1	2	Poultry Medicine
RA	RA06P21	laboratory	2	Poultry Medicine
SA	SA05N29	diagnostic imaging training laboratory	15	Diagnostic Imaging
Total Number of Places:			1,059	

Health and safety measures

Students are instructed repeatedly in the handling of hazardous and infectious material, personal hygiene and the handling of dangerous patients *inter alia*. In all cases, instructions are given prior to the beginning of each course. In some units students have to sign the safety instructions.

The following measures are in place to ensure that practical and clinical training is as safely as possible for students:

- Eating, drinking and pets are forbidden in lecture halls, training rooms etc.;
- During hands-on instruction, students are supervised by trained academic or technical personnel only;
- For hands-on work, all students must wear protective clothing (lab coats, gloves, goggles or glasses for labs etc.);
- Washbasins, fire extinguishers, first-aid kits and disinfectants are available in or near all buildings;
- Students are required by their teachers to perform disinfection properly;
- Everyone handling animals must be vaccinated against rabies.

In addition to these, there are special measures in place in laboratories as follows:

- showers over the entrance doors
- emergency circuit breakers
- a lever for gas cut-off
- Class L III specifications, which specify that laboratories be equipped with disinfectants, eye wash etc.

6.1.5. Diagnostic laboratories and clinical support services

6.1.5.1. Diagnostic laboratories

■ Laboratory Diagnostics Platform

The Laboratory Diagnostics Platform was established in 1999 as a response to the suggestions from the EAEVE visitation team in 1997. The Laboratory Diagnostics Platform is now part of the Clinical Department of Pathobiology.

The Laboratory Diagnostics Platform provides laboratory analyses in the main areas of veterinary clinical pathology, such as haematology, clinical biochemistry including

endocrinology and cytology. In cooperation with the Institute of Immunology special services such as immunophenotyping for haematologic malignancies and clonality testing for canine lymphoma are offered – these are unique services in the Austrian veterinary diagnostic market. Average turnaround time is 95 minutes for routine in house analyses and 30 minutes for emergency samples. The laboratory information system (LIMS) is connected to the Animal Hospital Information System, so that submission and result transmission times are minimised. About 75% of services are performed for clinics and research units of the University of Veterinary Medicine, Vienna, and the remaining 25% for other universities, outside practitioners, off-campus research institutions and industry. State-of-the-art equipment which is constantly upgraded and an EN ISO 9001:2008 approved quality management system ensure continuous improvement in fulfilling the University's academic and economic mandates. For haematology a laser-flow cytometric system (ADVIA 2120®) is used; for clinical chemistry a Cobas 501c autoanalyzer. Both are operated in an online mode. The Immulite 1000® system is available for endocrinology and some other analyses. For cytology an Olympus AX 70 microscope connected to a digital camera and video screen is available, as well as a digital image database. A collection of 4,700 cases and 580 slide sets have been prepared and stored for haematology and cytology courses, providing teaching material for students and postgraduate continuing education.

The Laboratory Diagnostics Platform is a fully approved ECVCP training laboratory and runs an ECVCP approved residency training programme.

■ Virology

A broad range of methods is applied for the detection of viruses, antigens, viral nucleic acids, and antibodies against viral pathogens. Conventional methods are used, for example, virus isolation (cell culture, embryonated eggs), immunofluorescence, haemagglutination, virus neutralization testing, enzyme-linked immunosorbent assay, immunodiffusion and many others, as well as molecular methods like polymerase chain reaction and sequencing. More than 40 viral infections of farm and pet animals can be investigated, including fish, reptile and bee viruses. Special attention is paid to viral infections with zoonotic potential, where animal as well as human samples are analysed. On average 1,400 samples per year are tested, with about 73% being sent by outside practitioners, and the rest by the clinics and research units of the University of Veterinary Medicine, Vienna.

Diagnostic procedures are performed by experienced and well-trained scientific and technical staff. Ten category S2 laboratories are available, some of them with special state of the art equipment for cell culture methods (2 rooms) and molecular methods (5 rooms) including sequencers, PCR and real-time PCR machines. The quality of the scientific services (diagnostics) is certified and constantly upgraded on the basis of an EN ISO 9001:2008 approved quality management system.

The diagnostic services are offered to internal as well as external customers and provide an important input for teaching and research activities. Teaching quality is improved based on intensive contact with practitioners familiar with real-life situations in the field. In particular, students taking practical hands-on courses (“Praktika”) or writing diploma or doctoral theses in the labs of Virology profit from the daily diagnostic work.

■ Bacteriology, Mycology and Hygiene

The Institute of Bacteriology, Mycology and Hygiene (IBMH) has long-standing experience in the detection and identification of bacterial and fungal agents; in fact, it is internationally renowned for its expertise in mycoplasma, bacterial taxonomy and wildlife microbiology. Its mission of teaching, research and diagnostic service is carried out by a highly motivated faculty and ambitious undergraduate and graduate students. The IBMH provides an environment that fosters creativity and enhances educational activity. Adhering to international quality standards, the IBMH offers state-of-the-art research and diagnostic services in the field of clinical bacteriology and mycology, with particular specialisation in the following areas:

- mycoplasma infections,
- infections of the genital tract,
- multi resistant bacteria, and
- wildlife diseases

■ Parasitology

The Institute of Parasitology is an EN ISO 9000 certified institution which includes a diagnostic laboratory that provides veterinary diagnostic services for external customers (practitioners, companies, public health institutions, private persons, animal owners) and internal customers in the following areas:

- standard examinations of faecal and urine samples for the diagnosis of protozoa and helminths and standard examination for ectoparasites of skin samples from livestock, wildlife, companion and zoo animals;
- identification of isolated (putative) parasite specimens;
- examinations of blood smears for haemoparasites and rickettsiae;
- examinations of blood for filariae infections (Knott test);
- serological examinations of blood serum for infections with various protozoa including leishmania, babesia, toxoplasma, neospora, and encephalitozoon as well as for sarcoptes infections;
- PCR-based detection and differentiation of the above-mentioned protozoa, as well as *Eperythrozoon (Mycoplasma) suis*, and *Anaplasma phagocytophilum* and *Ehrlichia* spp.

Furthermore, special services are provided for in vitro and in vivo efficacy testing of antiparasitic drugs and disinfectants.

Around 5,000 samples per year are analysed in the diagnostic laboratory. In addition, the Institute of Parasitology collects and archives specimens and samples, thereby providing a comprehensive collection of faecal material, parasite specimens and permanent mounts for undergraduate course work as well as research. These samples are also used in exchanges of material with other institutions in Europe. Each year students receive hands-on training in diagnostic parasitology during practicals and diploma thesis in the diagnostic laboratory, including training in Good Clinical Practice (GCP) regulations and quality management procedures. Equipment includes several standard wet-labs for parasitological procedures, as well as high-quality imaging units with digital documentation, equipment for molecular and serological diagnostic procedures, protein analysis, facilities for housing animals and computer facilities. Students have access to an up-to-date library with access to the major literature on general and veterinary parasitology

and to the SOP protocols used for diagnostic procedures. In addition, all students who have passed the Diagnostic Parasitology course can access the wet-labs under the supervision of a technician and examine samples with standard coproscopical techniques to deepen their skills in this area.

■ Pathology

The following facilities are in use for diagnostic pathology:

- Two autopsy rooms are available for post-mortem examination.
- For histopathological examinations, several laboratories are available for the preparation of organ and biopsy samples, tissue embedding, cutting, and routine staining procedures.
- Special facilities for immunohistochemistry and molecular pathology allow for in situ hybridization and polymerase chain reaction.

In addition, facilities for transmission electron microscopy and computer-assisted morphometry have been installed.

Some clinical units and clinics have specialised laboratories for their unique demands.

■ Clinic for Ruminants

- blood gas analyser,
- haematology and blood biochemistry (after hours and weekend)
- PCR-laboratory, serology
- bacteriological milk examinations, microscopy
- routine parasitological examination

■ Clinic for Swine

The laboratory of the Clinic for Swine is certified in accordance with EN ISO 9001:2008. Diagnostic tests offered by the laboratory are the detection of antibodies against specific swine pathogens (ELISA) and the determination of the genomes of certain viral pathogens (PCR, qPCR, rt-PCR).

■ Clinic for Avian, Reptile and Fish Medicine

Since 2007, the Clinic has been accredited for its diagnostic laboratory according to EN ISO/IEC 17025. In addition, the fish medicine division has been designated as a national reference laboratory for notifiable fish diseases.

The diagnostic laboratory is divided into two distinct areas located on two different levels of the building:

- a category S2 laboratory for molecular biology, virology, and cell culture on the first floor, and
- category S1 and S2 laboratories for basic bacteriology, serology, fish pathology, water testing, histology and parasitology on the ground floor. In addition to these two areas, the special pathology unit for avian medicine is located in the pathology building on the campus, which has been completely refurbished.

The category S2 laboratory for molecular biology consists of seven separate labs for conventional and real-time polymerase chain reaction analysis to detect a broad range of avian and fish diseases. The S2 laboratory for virology and cell culture (additional two

separate labs) supports the molecular diagnostics with conventional methods like virus isolation (primary cells and permanent cell cultures, embryonated eggs), virus neutralization and haemagglutination.

The basic bacteriology laboratory is distributed across two rooms – one for avian/poultry samples (S2 category) and the other for fish samples (S1 category) – it is used for diagnostics and isolation of a broad range of bacterial and fungal pathogens in birds, poultry and fish. A separate laboratory with a special focus on avian microbiology is used for running the diagnostics to identify salmonella infections in poultry. The serology laboratory for avian medicine is located in a special room, while the analysis of water samples is performed in the basic bacteriology lab for avian medicine. Analysis of fish pond water samples is carried out in a separate lab dedicated to fish medicine. Fish pathology and the analysis of fish parasitological samples are performed in a special necropsy room. The clinic also has a general histology lab used by all units and a separate parasitology lab (category S2) dedicated to avian parasites. Necropsy of avian samples is performed in a pathology unit located in a separate building on the campus.

Apart from the accredited services of the diagnostic laboratory, the clinic offers diagnostics for identifying lead poisoning in pets and wild birds. This analysis, which is performed at the unit for exotic animals, is not accredited.

The above-mentioned laboratory arrangements adhere to general hygiene measures and have been adapted to ensure optimal work flow, thus ensuring quick turnaround times .

The diagnostic services are offered to national and international customers, thus the laboratories process more than 18,000 cases/samples per year, ranging from single carcasses for post-mortem examination to a set of blood samples used for flock monitoring. Students attending the clinic during their curriculum must follow the regulations of accreditation. All lab facilities are equipped with the analytical instruments used in standard modern techniques and provide both routine diagnostics and research services.

Institutes from Department 1 offering special services:

■ Physiology, Pathophysiology, and Biophysics

For clinical support, the unit provides immunoassays for supersensitive measurement of estradiol and of serum fibroblast growth factor-23. Furthermore, the unit offers high resolution digital X-ray and μ -computed tomography as part of the decentralised Imaging Platform of the core facility VetCore.

■ Animal Breeding and Genetics

This unit provides molecular genetic expertise in the detection of hereditary defects in companion and livestock animals, parentage analysis, individual genotyping, and DNA analysis for veterinary forensics, as well as qualitative and quantitative nucleic acid (DNA, RNA) analysis by real-time PCR and next generation sequencing.

Additionally, Biomodels Austria is a Centre of the University of Veterinary Medicine, Vienna, founded on the twin pillars of the Institute of Laboratory Animal Sciences and the Institute of Animal Breeding and Genetics.

Biomodels Austria is an academic non-profit research platform enabling the generation of genetically engineered biomodels; the breeding, sanitation and archiving of biomodels; the genetic and post-genome characterisation of biomodels and the in vivo challenges of biomodels.

Biomodels Austria provides a competence platform for teaching and training in the fields of laboratory animal sciences and transgenesis; it also provides consulting services to academic and industrial research organisations with respect to generation, acquisition and utilisation of biomodels. Last but not least, the Biomodels Austria web site serves as a communications platform for knowledge transfer to the general public (see www.biomodels.at).

Since 2009/2010 Biomodels Austria is the official Austrian representative to EMMA, the European Mouse Mutant Archive (www.emmanet.org/partner/vetmeduni.php) and to Infrafrontier, the European infrastructure for phenotyping, archiving and distribution of mouse models (www.infrafrontier.eu/partners.php).

Finally, the unit hosts the Christian Doppler Laboratory for Innovative Immunotherapy.

■ Biochemistry

- pregnancy confirmation in mares (about 600 samples per year) and
- reproduction monitoring in zoo animals (rhinoceroses, okapis etc) by faecal steroid analysis

6.1.5.2. Central clinical support services

■ Diagnostic Imaging

Staff members are mainly involved in routine diagnostic imaging, including interventional radiology. New modalities such as CT (since 1993) and MRI (since 1997) have revolutionized patient management. The picture, archiving and communication system (PACS) was acquired in 2007, indirect digital radiography was implemented in 2009, and direct fluoroscopy in 2012. CT, MRI and X-ray equipment is state-of-the-art after being completely replaced in recent years.

Imaging facilities (radiology, ultrasound, computer tomography and magnetic resonance imaging) are available on a referral basis for external practitioners and for in patient referrals from the Animal Hospital.

Services are available from Monday to Friday from 9 a.m. to 4 p.m., as well as on an emergency basis (X-ray, ultrasound and CT) during the weekends and holidays.

■ Anaesthesiology

Handling a caseload of about 2,500–3,000 clinical and experimental cases per year, this unit provides anaesthesia services, including after-hours service for all other clinics and all species (large and small companion animals, small mammals, birds, reptiles, farm animals and non-domestic species). As an internationally recognised training centre for the European College of Veterinary Anaesthesia and Analgesia (staffed with 2 ECVAA graduates, 2 ACVA graduates and 2 residents), the clinical unit is outfitted with state-of-the-art equipment and infrastructure.

Research focuses on cardiopulmonary disturbances during anaesthesia and ventilation, as well as clinical problems of veterinary anaesthetic practice.

Undergraduate teaching is based on the course "Basics of Anaesthesiology" supplemented by lectures covering more specialised aspects of veterinary anaesthesia, an online training course (Vetucation®), clinical training and rotations and a month long practical internship.

■ Perioperative Intensive Care Unit

The Perioperative Intensive Care Unit (PICU) provides round the clock care 24 hours a day, 7 days a week. The PICU case load predominantly consists of postoperative surgical patients, however it also includes patients referred by the medical service as the need arises. The PICU has the ability to provide the following therapies: intravenous fluid therapy, blood transfusions, wound care, advanced pain management, nutrition (including total parenteral nutrition), oxygen supplementation, positive pressure ventilation, peritoneal dialysis and cardiopulmonary cerebral resuscitation. Monitoring capabilities include EKG, NIBP, IBP, CVP, pulse oximetry, measurement of arterial and venous blood gases, electrolyte and acid-base determination. Students on the anaesthesia rotation may assist in the PICU, as needed. Additionally there is a student team working at the PICU whose members receive clinical training as well as additional theoretical and practical lessons on a range of emergency and critical care topics.

■ Platform for Radiation Therapy

The Platform for Radiation Treatment was successfully established in 2012. The platform covers oncology treatment and includes the nuclear medicine diagnostics and treatment facility ScintiVET.

ScintiVET offers diagnostic services such as planar scintigraphy for horses and small animals, and SPECT for small animals. Therapies include radio-iodine therapy for hyperthyroid cats. Research focuses on different scintigraphic examination techniques performed on small animals and horses (e.g., to identify cartilage defects in dogs). At the moment, teaching is limited to graduates (residents, interns).

■ Pathology

A comprehensive pathology diagnostic service is provided to the University as well as to community-based veterinarians. The services include:

- Post-mortem examinations
- Examinations of organ samples and biopsy specimens by light microscopy, enzyme, and immunohistochemistry, in situ-hybridization, polymerase chain reaction, transmission electron microscopy, as well as morphometry

The high popularity of these services provides a steady supply of necropsies and organ and biopsy specimens for teaching and applied research projects.

■ Pharmacy

The central pharmacy handles procurement and storage of pharmaceutical supplies for the Animal Hospital. Additionally the central pharmacy performs audits to monitor the decentralised pharmacies at the clinics. The central pharmacy is in charge of:

- procurement and storage of drugs, reagents, diagnostics, disinfectants, (special diet) food, dressings and many other disposables (like syringes, gloves, catheters);
- drug information;
- small scale and individual pharmaceutical compounding of non-sterile drugs, such as capsules and ointments and sterile drugs, such as eye-drops, injections and infusions including documentation, validation and analysis;
- the implementation of a quality management system;
- participation in clinical studies, e.g. compounding, blinding;

- recycling of expensive packages and disposal of expired drugs

■ VetCore – Facility for Research

The VetCore facility provides high level technical support for veterinary research projects and has a strong focus on knowledge transfer in the following areas:

- Genomics (e.g. several qPCR technologies for medium throughput)
- Transcriptomics (e.g. next generation sequencing, laser dissection microscopy)
- Proteomics (e.g. mass spectroscopy)
- Cellular Imaging (e.g. confocal laser microscopy, live cell imaging, virtual microscopy)
- Mouse Imaging (e.g. micro-CT, In vivo Imaging)

6.1.6. Slaughterhouse facilities

To fulfil the requirements for the training in meat and food inspection, several cooperation contracts have been put into place with slaughterhouses and food processing units.

Students have access to three slaughterhouse facilities located between 50 and 80 km outside of Vienna, two to the west and one to the north of Vienna.

- Unit 1 (Gewerbering, 2020 Hollabrunn): cattle/pig, EU-approved;
 - Activities of the students: attendance at the slaughtering of a pig; meat inspection (of carcasses), ante-mortem inspection; visitation of a meat cutting room;
- Unit 2 (Schloßstr. 3, 3062 Kirchstetten): cattle/pig, EU-approved;
 - Activities of the students: attendance at the slaughtering of a pig; meat inspection (of carcasses), also practical meat inspection of thoracic inner organs and liver; ante-mortem inspection; attendance at the slaughtering of cattle; meat inspection of carcasses, also hands-on meat inspection of thoracic inner organs, liver, and head; ante-mortem inspection;
- Unit 3 (Rotheau 70, 3153 Eschenau): cattle, EU-approved;
 - Activities of the students: attendance at the slaughtering of cattle; meat inspection (of carcasses), also hands-on meat inspection of thoracic inner organs, liver, and head; ante-mortem inspection; visitation of a meat cutting room.

Each student attends one cattle slaughter at unit 2 or 3 and one pig slaughter at unit 1 or 2.

Transportation costs (minivans) are covered by the excursion budget of the department.

Group size per excursion: seven students, one teacher.

Schedule: 6 a.m.: Start in Vienna. Transportation to the slaughterhouse in a small bus (1 driver, 1 teacher, 7 students) takes 60 minutes one way.

Teaching at the slaughterhouse:

- About 45 min. for ante mortem inspection and stunning
- About 45 min. for hygiene of the slaughter process
- About 90 min. for meat inspection
- About 30 min for visitation of a meat cutting room (unit 1 and 3)

The bus trip is used for interactive discussion between teacher and students and allows enough time for briefing and debriefing.

6.1.7. Foodstuff processing unit

A food processing unit with the essential equipment for manufacturing meat products is available at the University's Institute of Meat Hygiene, Meat Technology and Food Science. All students are trained by means of practicals and demonstrations in :

- meat technology and associated chemical analysis of meat products (ingredients, chemical composition as stipulated in the Austrian Codex Alimentarius),
- packaging and labelling issues and related legislation,
- sensory analysis (appearance, odour, flavour) as related to consumer expectations,
- writing an expert's report, taking into consideration the associated legislation,
- the actual manufacture of at least one meat product (e.g. cooked sausage, meat loaf).

Visitation of a meat-cutting room during the pig slaughter excursion (unit 1, see above) or during the cattle slaughter excursion (unit 3, see above) is performed during the uniform part of the Diploma Programme.

Subsequently, students of the Food Safety and Veterinary Public Health track are taken on visitations of the following EU-approved meat processing plants in Vienna:

- meat processing plants in Vienna (Baumgasse 66, 1030; Laxenburgerstr. 256, 1230), in Lower Austria (3100 St. Pölten, Lagergasse 30), and in Upper Austria (Sparstraße 1, 4614 Marchtrenk),
- one pet food producing company about 30 km east of Vienna (Industriestraße 20, 2460 Bruck an der Leitha) and
- one game carcass processing unit (Alte Poststr. 15, 3341 Ybbsitz) for cutting and deboning of game.

6.1.8. Waste management

In Austria waste management is regulated by law according to § 11 of the Waste Management Act (Abfallwirtschaftsgesetz) of 2002 (Ö-Norm S2100 and Ö-Norm S2104).

Waste disposal is managed by the technical services of the University under the supervision of a technically qualified waste manager who closely monitors compliance with the Waste Management Act (including enactment, official injunction and notices). The waste manager has to notify the responsible staff in case of deficiencies. Furthermore, the waste management department has to develop solution-oriented plans to eliminate any problems. Moreover, the waste management team is responsible for reducing waste and organising the implementation of provisions regarding waste separation/recycling and waste control. Thus, waste is disposed of economically and poses no threat to the environment, meaning that it presents no risk for humans, animals, plants, water, soil and air. Precautions and sustainability are the fundamental principles for waste handling, i.e., avoiding waste, recycling and waste disposal. Thus, the amount of waste and its toxic by-products are reduced to a minimum.

There are 221 pages of detailed SOPs for waste management. Major points are:

- Non-infectious and non-hazardous waste is collected separately from plastic, glass, paper and residual waste. The community waste management provider transports these kinds of waste.

- Special items like batteries or fluid waste are collected separately, labelled accordingly and disposed of by a company specialising in these items.
- Dangerous or toxic biological waste is disposed of in special black bins. These bins are moved to a central collection point on campus.
- Genetically modified organisms (GMO's) are autoclaved before disposal according to the relevant Standard Operating Procedure.
- The rest of the biological waste is disposed of in orange bags for hospital waste. These bags are discarded in special containers for hospital waste.
- Non-hazardous stable manure is collected in containers from 23 to 35 m³, removed and used as fertiliser.
- Cadavers and carcasses are collected in cadaver bins. Once a day these bins are removed to the central collecting point for cadavers on campus (Pathology).
- At the unit of Pathology, special waste thermo disinfection equipment is shared with the Virology unit in buildings AC and AD. Cadavers, organs and all other biological material remaining from work in the autopsy room, as well as from all other units on campus, are disposed of in a large container situated in a cold-storage house. The container is taken to an animal carcass disposal plant (Tierkörperverwertungsanlage) once a week.
- Wastewater is pre-cleaned by an in-house sewage treatment plant and then fed into the municipal sewage system for further processing.

6.1.9. Future changes

6.2. Comments

Generally speaking, the maintenance of the buildings and equipment is adequate and the campus facilities are considered satisfactory.

■ Lack of rooms for groupwork

Despite the excellent campus facilities, however, there is a lack of smaller rooms for group work, in particular for clinical case presentations. Therefore the University for Veterinary Medicine, Vienna successfully applied for extraordinary financial support from the Federal Ministry for Science and Research to establish tutorial rooms. Since 2012 a discussion corner and a tutorial room equipped with multimedia devices have been in use for supervised clinical training in the VetSIM.

■ Patient management at the Clinic for Small Animals

The Clinic for Small Animals combines many disciplines and specialised subunits, which are situated in three different buildings. However, a centralised outpatient Clinic for Small Animals is still needed. To ensure excellent treatment of the patients and optimal supervision of the students, the clinical training within the Clinic for Small Animals must be organised in a discipline-oriented manner. The current situation means that it is rarely possible for students to follow a patient from intake to discharge, including communication with clients along the way.

■ Prevention of spread of infection

Because there are MRSA infections occurring at the Equine Clinic, measures for prevention focus on improvement of hygiene and increased awareness among staff and students. Patients at risk have to be kept in isolation in separate horse boxes to avoid the spread of infection. These adjustments are in the works.

6.3. Suggestions

The highest priority has to be given in identifying specific needs with regard to sufficient lecture halls and laboratory space. Furthermore, the pertinent analyses should consider not only the current situation, but assess future requirements and organisational issues (i.e. increased e-learning/blended learning).

7. Animals and Teaching

7.1. Factual information

The University of Veterinary Medicine, Vienna provides comprehensive yet specialised services distinguished by a high level of expertise and professional consulting. The research based and innovative treatment, prevention and diagnostic services are facilitated by state-of-the-art equipment and infrastructure.

The Animal Hospital with its clinics, including an emergency out-patient clinic, ensures 24-hour emergency service. It serves to fulfil teaching duties and support young academics in undergraduate, graduate and postgraduate programmes.

Clinical services are provided by the following clinics:

- Clinic for Small Animals
- Equine Clinic
- Clinic for Avian, Reptile and Fish Medicine
- Clinic for Swine
- Clinic for Ruminants

The clinics of the Animal Hospital of the University for Veterinary Medicine, Vienna see their obligation as providing clinical education and continuing education to veterinarians and stockmen, thus ensuring responsible care of animal patients and providing excellent emergency care around the clock. Furthermore the clinics of the University for Veterinary Medicine, Vienna make an active contribution to animal health, animal husbandry, animal welfare and public health. The clinics are responsible for offering services and advice based on recent research findings on all issues relating to individual animals as well as livestock.

7.1.1. Anatomy

For the hands-on training of students the curriculum requires a dissection course based on the preserved specimens of cats, dogs, pigs, small and large ruminants and horses supplemented with fresh poultry carcasses. The cadavers are collected either from the Pathology facilities (the central unit of the University for cadaver collection) or provided by private clinics surrounding the University. Carcasses from the Pathology unit are usually fresh and first stored in refrigerators, while those of external origin are usually frozen. All of them are perfused with preservation fluid and afterwards stored in the same liquid for approximately one year at the departmental facilities. In addition to complete cadavers body parts and organs are also used for the practical training of students. Specimens not needed for the dissection courses are used for the preparation of exhibition material for the anatomy museum, also for self-study purposes. These specimens are preserved by a variety of methods, including perfusion with preservation fluid, impregnation with PEG (semi-dry specimens) or plastination.

These specimens are available for students in the anatomical museum and in the self-study facilities. Waste material is disposed on a regular basis through the Pathology facilities.

The number of animals used per year is approximately 25 cats, 50 dogs, 5 pigs, 10 cattle, 5 sheep, 10 horses, and 35 poultry.

The University's anatomy curriculum includes a course on situs viscerum where students are taught topographic anatomy on live animals (preferably cattle and horses).

Table 7.1: Material used in practical anatomical training

	dog		ruminant		equine		poultry		cats	
	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010
live animals ¹⁾	10	10	2	2	2	2	0	0		
cadavers ¹⁾	18	15	5	5	5	5	30	25	15	25
specimen ¹⁾	30	25	10	8	5	5	10	5	5	5
other ²⁾										
x-rays	yes	yes	yes	yes	yes	yes			yes	yes
video films, online available	yes	yes								
elearning modules	yes	yes	yes	yes	yes	yes				

1) give figures

2) indicate

7.1.2. Pathology

Table 7.2: Number of necropsies over the past 3 years

	Species	Number of necropsies			Average
		2011	2010	2009	
Food producing animals	cattle	189	161	181	177
	small ruminants	94	67	76	79
	pigs	90	144	266	423
Equine		118	107	129	118
Poultry		1,816	1,395	1,286	1,499
Rabbits		98	159	91	116
Companion animals/ exotic animals	dogs	228	246	288	254
	cats	321	298	308	563
other**	rodents	302	67	76	148
	reptiles	135	140	118	131
	zoo animals	267	236	136	213

native non-domestic animals	144	141	82	122
wild birds	50	26	6	27
red deer	41	39	8	29
deer, mouflon, ibex	181	94	64	113
wild boar	23	36	14	24
small predator	30	18	15	21
hare	298	143	27	156
	4,425	3,517	3,171	

7.1.3. Animal production

For teaching animal breeding, reproduction and biotechnology of reproduction of all species including animals used in food production, the following animals are available:

- On the premises of the institution including the TRF:
 - obstetrical cases presented to the clinic on the Vienna campus (cattle, small ruminants): approx. 50 animals
 - cows used for introductory demonstrations at the department: 2–3 animals
 - dairy cows at the TRF: approx. 80 cows
 - beef cows at the TRF: approx. 40 cows
 - small ruminants at the TRF: approx. 50 animals
 - for demonstration purposes and for training in surgical operations, organs (e.g., uteruses, ovaries etc.) are taken fresh from slaughterhouses and retailers
- On other sites to which the institution has access:

Training in herd health management is available on private farms through cooperation agreements with practising veterinarians.

- Farrow-to-finish pig farms are supplied by the pig practice veterinarians. Herd visits with students are carried out approximately 49 times a year.
- Dairy herds are supplied by cattle practices in cooperation with the animal health services of Lower Austria, Styria and Upper Austria. Herd visits with students are carried out approximately 40 times a year.

In total, about 1,500 **cattle** per year are seen outside of classroom teaching during the course of veterinary education (Table 7.2a).

Table 7.2a: Cattle seen during off-site teaching

Training courses on cattle	Farm	Number of visits
Examination course in small groups (propädeutics)	Dairy cows on visits to TRF	approx. 35 visits per year
Clinical training	Dairy farm visits (including visits to TRF)	approx. 35 farm visits per year
Ruminant Medicine Track	Dairy farm visits (including visits to TRF)	approx. 30 farm visits per year
	Bovine artificial insemination course at TRF	approx. 24 visits per year
Reproduction/Reproductive Biotechnology Track	One week intensive course for two groups of students (40 contact hours) in bovine artificial insemination at the Mecklenburg-Vorpommern Centre for Bovine Semen Collection and Artificial Insemination in Woldegk, Germany *	approx. 90 approved bulls
Ruminant Medicine Track	Starting this year, students will visit the Bull AI station in Wieselburg, Lower Austria, for training in semen collection, breeding ultra-sound examination, semen evaluation and semen processing (one whole day per group).	
Ruminant Medicine Track	Udder health visits to different farms in Lower Austria, Styria, and Upper Austria	approx. 15 per year

* Course includes semen collection, analysis and preservation, biosafety regulations, on-site inseminations and herd health management visits.

In total, approx. 500 **horses** per year are seen outside of classroom teaching during the course of veterinary education (Table 7.2b).

Table 7.2b: Horses seen during off-site teaching

Training courses on horses	Farm	Number of visits
Reproduction/Reproductive Biotechnology Track	One week intensive course for two groups of students (40 contact hours) in equine artificial insemination at Graf Lehndorff Institute for Equine Science and the Brandenburg State Stud Farm in Neustadt (Dosse), Germany*	approx. 20 stallions for artificial insemination, 20 stallions for natural breeding, 40 own broodmares, 150 guest mares on site, 1,200 guest mares bred with shipped semen
Equine Medicine Track	Voluntary internships at Graf Lehndorff Institute for Equine Science for veterinary students with special interest in horse breeding and equine reproduction	approx. 20 stallions for artificial insemination, 20 stallions for natural breeding, 40 own broodmares, 150 guest mares on site, 1,200 guest mares bred with shipped semen

* Course includes semen collection, analysis and preservation, biosafety regulations, on-site inseminations and herd health management visits.

Teaching is done by experienced veterinarians from the partner institutions together with animal reproduction specialists from Vienna. Long-term contracts for external clinical teaching of students exist with the following institutions:

- Bull AI station, Wieselburg, Lower Austria
- Rinderzucht Mecklenburg-Vorpommern GmbH; Besamungsstation Woldegk, Am Bullenberg, 17348 Woldegk, Germany
- Graf Lehndorff Institute for Equine Science, Hauptgestüt 10, 16845 Neustadt (Dosse), Germany

7.1.4. Food hygiene and public health

Ante-mortem and post-mortem inspection is done during the slaughterhouse units (see Section 6.1.6). As consumer food, meat (muscle tissue), organ samples and meat products for microbiological and sensory analyses are bought in retail shops; some products are also provided by the food industry on an ad hoc basis.

7.1.5. Consultations and patient flow services

The University has a legal obligation – not least for the purposes of practical teaching – to offer the services of an Animal Hospital.

The clinics of the University of Veterinary Medicine, Vienna which form the Animal Hospital are referral clinics offering 24-hour emergency service and an emergency out patient clinic.

To ensure an optimal and practice-oriented education in veterinary medicine it is essential to maintain a representative pool of animals from all relevant species. The cornerstones are a top-level education, the vouchsafing of clinical research and the optimisation of clinical services. The clinics actively shape their services through their high degree of innovation and specialisation.

At the University Animal Hospital, students are encouraged to participate in emergency/after-hours services, which will be accredited as free electives. Furthermore, students are strongly encouraged to do their practical work in private practices and abroad.

Consultation

The species-specific clinics are open throughout the year. Regular consultation hours for the entire Animal Hospital are offered from Monday to Friday. During these hours consultations are provided to out-patients with appointments. Students are actively involved in consultations during their clinical training.

■ Small animals

For companion animals regular consultations are available between 9 a.m. and 1 p.m. on weekdays (Monday to Friday). For students the clinical consultations and rotations consist of in-house training in the out-patient clinic and specialised training on hospitalized patients. Students have to take care of at least one hospitalized patient with a daily written progress report (SOAP).

All emergency patients are serviced in the out-patient emergency clinic. The emergency service is available 24 hours each day. A veterinarian in charge takes care of all emergency patients. A senior clinician is on duty during the day from 8 a.m. to 7 p.m. Interns are on duty from 7 p.m. to 8 a.m.; they are supported by two senior assistants specialising in surgery or internal medicine, one of whom is on site at the Animal Hospital and one of whom is on call. Students support the out-patient emergency clinic during their clinical training and clinical rotations.

■ Ruminants

Clinical services for emergency and routine farm animals cases are provided during the day from 8 a.m. to 4 p.m. From 4 p.m. to 9 p.m. the services are limited to emergency cases. After 9 p.m. the emergency service is run in the form of an on-call rota staffed by students and stockmen at the clinic and veterinarians on call. The students' training consists of in-house hospital activities on referral patients (ruminants and South American Camelids), farm visits, laboratory work (blood, milk, faeces) and off-site visits with a mobile clinic operated in cooperation with local practitioners.

■ Swine

The Clinic for Swine offers fellow veterinarians support in the areas of herd health management, in-depth diagnostic analysis and individual examinations of farm animals as well as pigs kept as hobby animals. By appointment, pigs can be visited at their farm or transferred to the Clinic for Swine for in-depth diagnostics.

Referral patients are hospitalized either at the clinics or in the isolation box at the Pathology unit. Except for pigs from hobby animal husbandry, no referred pig is sent back to the farms after diagnosis.

■ Horses

Clinical services for emergency and routine cases are provided during the day from 8 a.m. to 4 p.m. From 4 p.m. to 9 p.m. the services are limited to emergency cases (see Section 7.1.7). In many cases, horse owners or referring practitioners of non emergency cases make appointments for the examination of a horse. This ensures the presence of the relevant specialists.

A constant number of production animals are seen in the teaching hospital. However, the bulk of the clinical work is done on farms as part of herd visits.

The number of small animal patients seen at the clinic has been increasing during the past 5 years. Since 2004, the number of canine patients has increased by 20% and the number of feline patients has increased by 11%.

In the Equine Clinic, the number of patients has been generally stable. While the weak economic situation has led to decreasing numbers of horses held in Austria and the number of patients has decreased (e.g., in internal medicine), increasing numbers of horses were seen in some special services, for example in dentistry and reproductive services. Beginning in 2012 the trend once again reflects a general increase in the number of horses treated at the hospital.

Patient flow

Table 7.3: Number of cases: a) received for consultation, and b) hospitalised in the University clinics, in the past three years.

Species	Number of cases						Average per year			
	2011		2010		2009		a	b	Total	
	a	b	a	b	a	b				
Food producing animals	bovine	18	643	52	650	66	768	45	687	732
	ovine, caprine	23	198	12	145	13	149	16	164	180
	porcine	50	111	62	93	34	168	49	124	173
	Camelidae	8	53	11	59	1	32	7	48	55
Equine	834	2,237	889	2,323	863	2,245	862	2,268	3,130	
Poultry	3	1			3	9	2	3	5	
Rabbits	492	470	552	513	559	396	534	460	994	
Companion animals/ exotic animals	canine	17,556	6,747	15,642	6,021	15,482	5,339	16,227	6,036	22,262
	feline	4,518	4,170	4,417	3,511	4,506	3,693	4,480	3,791	8,272
	rodents	521	355	571	274	567	263	553	297	850
	wild animals	99	89	119	116	130	115	116	107	223
	exotic animals	273	311	377	377	224	289	291	326	617
	cage birds	392	437	284	431	240	408	305	425	731
	wild birds	49	535	27	352	21	227	32	371	404
	wolves, hedgehogs, etc.	24	22	15	25	19	18	19	22	41
	24,860	16,379	23,030	14,890	22,728	14,119				

7.1.6. Vehicles for animal transport

One special emergency truck is available for transporting farm animals to the University clinics from an area within a 250-km radius around the University of Veterinary Medicine, Vienna. For one-way transportation clients pay 20 euros for cattle and about 10 euros for small ruminants and calves.

In general, owners are expected to arrange transportation for their animals. This is particularly recommended for obstetrical cases, which are always emergencies requiring that the animal be transported without delay. For horses and small animals there are also commercial transport companies, which offer emergency transportation 24 hours a day and usually provide excellent service.

7.1.7. On-call emergency service

Emergency services are offered at the Animal Hospital of the University of Veterinary Medicine, Vienna. Students of the Small Animal Medicine and Equine Medicine tracks are involved in emergency services; they must complete 8 compulsory night shifts during their clinical rotations. For hands-on training at the clinics, students are encouraged to spend extra time at the emergency services. This engagement is rewarded, for instance 21 voluntary emergency services within the course "Emergency Service" can be counted as free electives or as practicals and are worth 6 ECTS.

■ Small Animals

The Clinic for Small Animals runs a 24-hour emergency service. A veterinarian in charge takes care of all emergency patients. A senior clinician is on duty during the day from 8 a.m. to 7 p.m. Interns are on duty from 7 p.m. to 8 a.m. in the morning, supported by two senior assistants specialising in surgery or internal medicine, one of whom one is on campus and one of whom is on call.

Critical care patients are under 24-hour surveillance at the perioperative intensive care unit (PICU). Depending on the severity of a patient's clinical status a senior clinician is on site from 8 a.m. to 4 p.m. with a specialist on call during the remaining hours, thus providing round-the-clock care.

Students support the emergency service and PICU during their clinical training and clinical rotations. Furthermore, students have the opportunity to gain experience in the emergency service of the PICU before they begin the clinical part of their education. This engagement is awarded with 3.5 ECTS credits, if students complete 24 night shifts within 6 months.

This clinic provides full treatment of small animal emergency cases, including surgery, reanimation, laboratory examinations, intensive care and medical imaging.

■ Horses

The Equine Clinic runs a 24-hour emergency service. During the week (Monday to Friday) from 8 a.m. to 8.30 p.m. a specialist from internal medicine or from surgery is responsible for the emergency cases. During the night, one intern on rotation from a horse internship and one senior clinician are on duty from 8 p.m. to 8 a.m. If needed the service is rounded out with a senior clinician from a complementary discipline, who is on call.

During the weekend a second senior clinician is available from 8 a.m. to 1 p.m.

Additionally students from the track of specialisation are actively involved in the emergency service during their compulsory night shifts. They have to complete eight night shifts in the course of clinical rotations.

■ Ruminants

The Clinic for Ruminants provides emergency service 24 hours a day. During the week from 4 p.m. to 9 p.m. specialised veterinarians are on duty and take care of the patients together with students. Between 9 p.m. and 8 a.m. students and stockmen are at the clinic and a veterinarian is on call. During the weekends and holidays two veterinarians are on duty from 8 a.m. to noon, and one veterinarian is on call between noon and 8 a.m. During their clinical training and rotation students have to take care of patients at least for one night.

■ Swine

The Clinic for Swine operates on-call from 4.00 p.m. to 8.00 p.m. during the week, and during the weekend and on holidays from 8.00 a.m. to 12.00 p.m. Within 30 minutes a veterinarian can be at the clinic to treat cases of emergency (mostly minipigs from private owners). Stockmen are on duty around the clock in order to house animals until the diagnostics can be done together with students.

■ Clinical Unit for Obstetrics, Gynaecology and Andrology and Centre for Artificial Insemination and Embryo Transfer:

Emergencies and hospitalised animals are treated 24-hours a day, 7 days a week. One senior student or intern and one stockman/nurse are always present at the clinic. The clinician in charge can be called in by the student or intern at any time and can be present at the clinic within 20 minutes. A senior clinician who is board certified in Animal Reproduction is always available as backup. These units take care of all animal species.

7.1.8. On farm teaching and outside patient care

■ Herd Health Management in Cattle

The clinical unit for Herd Health Management with a full professorship completed the Clinic for Ruminants in 2010. Since June 2010 the Herd Health Management unit with its 3 senior scientists plus postgraduate students has been located at the TRF. One additional senior scientist is present on campus. The TRF functions as a flagship for modern herd health management services. Students are trained at the farm and accompany senior scientists on farm visits during clinical training and rotations. Farm visits are carried out in cooperation with local veterinarians and regional animal health services. All visits of the herd health management unit are charged according to the national fee schedule for veterinarians. For consultancy visits to farms or for scientific projects, the unit has two cars (VW Golf Variants).

The laboratory at the TRF is used for preparation and analysis of samples taken by students or scientists on the TRF or on commercial farms (blood, urine, faeces, swabs). During clinical training, the students stay at the TRF for one week, and cover at least one night shift. During clinical rotations staying at the TRF is optional and depends on other courses on campus. All students have the opportunity for doing self-study and volunteer work at the TRF.

■ Ambulatory (Mobile) Clinic

Established in 2006, now a subunit of the Herd Health Management unit, the mobile clinic provides on-site services to farms. One Nissan Primastar Kombi with the seating capacity of 9 is used for the mobile clinic.

To avoid competition and conflict with local veterinarians, all visits and activities related to work with farms are done in cooperation with the local veterinarians in charge. Since July 2011 the mobile clinic is operated on a commercial basis, meaning that it charges for examinations and treatments. On some cooperating dairy farms, drugs are provided by the local veterinarians, who also charge for them. The vision for the future is to intensify herd health management services by offering visits on a regular basis (including consultancy based on detailed data analyses of cooperating dairy farms) in order to improve the training of the students on the Ruminant Medicine track.

Currently the mobile clinic runs at least 2 days a week for scheduled farm visits (on average 16 hours per week) with students in clinical training and clinical rotations taking part.

Currently there are 13 cooperating dairy farms participating in regular herd visits, with herd sizes ranging from 20 to 250 dairy cows for a total of 810 cows (Table 7.4a).

The main activities conducted by students on the farms are pregnancy diagnoses by hand and by ultrasound, breeding soundness evaluations, determination of body condition and/or back fat thickness by ultrasound, dehorning of calves and analyses of farm data. The students have to write a report about the farm visits.

Table 7.4a: Number of cases seen by the Ambulatory (mobile clinics) in the past three years.

Species		Number of patients			Average
		2011	2010	2009	
Food producing animals	cattle	536	554	602	564
Herd visits	cattle	58	52	59	56

Other on-site farm services and off-site teaching

On-site farm services and herd visits are always carried out at the request of practitioners; these visits are for teaching purposes in routine health management as well as for diagnostic purposes (Table 7.4b). The only costs paid by the farmer are for the diagnostics, while travel and other expenses are covered out of teaching funds. Students in clinical training or clinical rotations take part in these farm visits whenever possible. For these visits the clinic uses University-owned mini-buses or rental cars. Supervised by teachers, students have to write a site evaluation protocol, including a diagnosis, a proposed therapy and/or measures of prophylaxis.

■ Clinic for Swine

In 2011, 49 visits to external sites (problem cases of herd health management) were performed, with 2-3 students (from elective courses or from a track of specialisation) attending.

Students are supposed to visit at least one farm during their clinical training. Students of the Pig and Poultry Medicine track are trained in herd health management and Day-one skills at the TRF, at cooperating pig and poultry farms and during requested farm visits.

■ **Clinic for Ruminants**

Complementary to the mobile clinic, the Clinic for Ruminants performs approximately 130 visits annually to cattle herds, small ruminants or South American camelids in cooperation with local practitioners.

■ **Clinic for Avian, Reptile and Fish Medicine**

The Clinic for Avian, Reptile and Fish Medicine conducts approximately 35 visits per year to 1 or 2 external poultry production facilities at a time (hatchery, turkey flocks, broiler flocks, layer flocks, breeder flocks). Between 5 and 7 students from the clinical training course and 3 to 4 students from the Pig and Poultry Medicine track take part in the visits.

Table 7.4b: Number of patients seen during off-site teaching in the past three years.

Species		Number of patients [farm visits]			Average
		2011	2010	2009	
Food producing animals	cattle	2,500 [100]	2,660 [95]	1,860 [93]	2,340 [96]
	small ruminants	1,200 [30]	1,120 [28]	1,000 [25]	1,106 [28]
	pigs	476 [49]	437 [38]	350 [101]	421 [63]
	poultry	[33]	[31]	[31]	[32]

7.1.9. Other Information

7.1.9.1. Animals available for intramural clinical training

The Equine Clinic maintains a total of 40 horses for teaching purposes. These horses are used for training students in clinical examinations, including gynaecological and andrological examinations.

Students of the Equine Medicine track are intensively exposed to hands-on experience with respect to management of broodmares (herd size of approximately 15 research animals), including repeated training in transrectal palpation and ultrasound as well as semen collection, processing and insemination.

The caseload of referred equine patients stems not only from the environs of Vienna but also from the whole of Austria plus neighbouring states like the Czech Republic, Slovakia and Hungary. The service for referrals includes internal medicine, soft tissue surgery, orthopaedics, reproduction, ophthalmology and diagnostic imaging.

At present the Equine Clinic can meet the need for equine cases for both undergraduate as well as postgraduate veterinary education.

The Clinic for Ruminants owns 8 cows for teaching purposes, with individual cows being replaced as necessary. The cows are used for training in clinical examinations.

Additionally at the TRF a group of ten cows is kept for teaching purposes. The cows are used for rectal palpation and intensive clinical examinations.

Diseased cows and calves are referred to the Clinic for Ruminants, especially for surgery, orthopaedic intervention and intensive treatment. These referral patients guarantee the requisite number of clinical cases needed to fulfil the requirements of both the core curriculum and the tracks of specialisation.

Pigs are housed on campus for basic clinical training (fixation, clinical examination). Track students also visit pig farms to gain access to large numbers of healthy (and also clinically diseased) animals. Hands-on training in routine surgery (castration) is performed at a cooperating farm.

The Clinic for Avian, Reptile and Fish Medicine keeps a small flock of approximately 30 laying hens to give students opportunities for practice in the course of propaedeutics and clinical rotations (handling of birds, palpation, blood samples). The birds are housed on campus in different holding facilities and are replaced as necessary.

The Clinic for Small Animals keeps healthy dogs to help students practise basic non-invasive physical examination skills. The caseload of healthy and clinically diseased patients at the Clinic for Small Animals is generated by its walk-in clients as well as from its referral and emergency services. The services include:

- Internal Medicine with special services:
 - cardiology, dermatology, endocrinology, gastroenterology, neurology, medical oncology, radiation oncology and small mammal medicine;
- Surgery and ophthalmology,
- Anaesthesiology,
- Diagnostic imaging
- Obstetrics, gynaecology and andrology

Currently the Clinic for Small Animals can fulfil the need for patients and clinical cases for both undergraduate as well as the postgraduate veterinary education.

7.1.9.2. During the curriculum, students are in contact with animals and patients in the following phases of study

- **First tier:** In free elective courses students learn basic knowledge as well as skills of behaviour and handling of companion and farm animals in a safe and secure way.
- **Second tier:** For the first time students experience problem-solving lectures and are introduced to clinical cases. Additionally they begin visiting livestock farms and food processing companies.
- **Third tier:** Students are in the midst of their clinical education.

Propaedeutics, training in orthopaedics, pathology and diagnostic imaging

Interdisciplinary courses provide students with profound practical knowledge of the clinical examination of horses, cows, calves, small ruminants, pigs, dogs, cats and exotic animals. Additionally students acquire knowledge by gaining and training basic skills in different specific disciplines. They have to perform necropsies and interpret the results.

Clinical training

The University employs a unique approach for teaching clinical and surgical skills: the use of e-learning, video demonstrations and models enriches the students' learning experience and thereby increases their confidence and clinical skills as they begin their clinical training at the Animal Hospital. One main focus is teaching students to monitor a patient during

anaesthesia, to work within the rules of aseptic working conditions and to gain knowledge of haemostasis, tissue handling, suture techniques and materials.

Students are on 12-weeks rotating training during which they are involved in the daily clinical routine. They participate in all aspects of handling the animals and are responsible for the diagnosis, treatment and care of the patients at the clinics. During their surgery rotation they are responsible for the preoperative work-up of surgical patients and can participate in selected surgical procedures. During the anaesthetic training students are responsible for inducing and maintaining anaesthesia in surgical patients. The clinical training in farm animals includes individual patient management and herd health management. For the individual patient management training, students carry out the daily treatments and diagnosis of the farm animals at the Animal Hospital and participate in visits involving small ruminants, dairy herds and pig and poultry farms. Herd health training focuses on herd-related problems at cattle farms, pig farms and poultry farms.

Clinical rotations and special trainings

The tracks of specialisation ensure that students gain advanced skills and knowledge for a selected species or field.

Students are encouraged to involve themselves in the emergency services. This engagement is rewarded, for instance 21 voluntary emergency services within the course "Emergency Service" can be counted as free electives or as practicals and are worth 6 ECTS.

7.1.9.3. Animals available for farm and veterinary field training

■ Herd health based teaching in dairy cattle:

In addition to the knowledge gained in the mobile clinic, further herd health based teaching is provided through approximately 60 visits per year to herds of dairy cattle. Farm visits focus on the examination of all animals at risk, which are freshly calved cows, cows before dry-off and new-born calves.

■ Herd health based teaching in pigs:

The number of farm visits during the last three years averaged 63 visits per year, with an average number of 421 producing sows per farm. Two to three students from elective courses or from the track of specialisation participate in these farm visits and are actively involved in diagnostic procedures, routine surgery, and the elaboration of preventive and therapeutic approaches. On average, 112 necropsies per year are performed on pigs to teach necropsies and pathological anatomy.

■ Herd health based teaching in poultry:

Instruction on poultry diseases during the veterinary core curriculum is based on theoretical lectures and 3 days of clinical training. This training includes necropsies on poultry received from all kinds of production systems (e.g., broilers, layers and turkeys). Each student performs her/his own necropsy which also includes the collection of samples for further investigation. Students learn the theoretical outline of sample processing, i.e., the principle introduction to bacteriology, virology, parasitology and serology performed to diagnose poultry diseases. Students also spend a day visiting a poultry farm, which can be either a turkey or a chicken farm.

Additionally, groups of 3-4 students on the Pig and Poultry Medicine track spend 10 days at the clinic, where they are involved in all routine procedures. They visit a total of three farms, including a hatchery. At the end of the first half year period all students of the tracking programme go on a two-day excursion which includes additional farm visits. At each farm, students are presented with production and economic data as well as information on feed, herd health, animal welfare and biosecurity. Furthermore, students perform clinical examinations and take samples (blood samples or swabs) to be processed later on at the clinic. The information collected on these visits is subsequently evaluated and discussed with teachers and farmers.

14 cases of diseased birds are brought to the clinic for a first examination done by students. After that, the birds are killed and necropsies are performed which include all the sampling procedures. Each student takes responsibility for a given case which s/he will follow from start to finish. At the end of the course, each student presents her/his case to the teachers and other students and takes questions from the whole audience.

7.1.9.4. Diagnostic support

The Central Laboratory and the Imaging Service are closely linked to all of the species clinics. Necropsies of relevant cases from the students' clinical training and rotations are demonstrated in collaboration with the Pathology unit. At the Clinic for Poultry the diagnostic support is done by the Clinic itself.

7.1.9.5. Data retrieval system (TIS)

The patient files are administered by an electronic data system (TIS aka Animal Hospital Information System). The system allows the registration and retrieval of patient records across all hospital clinics. Results from microbiology, cytology and the central clinical pathology laboratory as well as from pathology and external diagnostic services are entered online. Diagnostic images are archived in the PACS picture archiving and communication system, which is linked to the electronic patient records. The system supports the generation of discharge letters and collation of information for the owners and allows for fully paperless transmission via e-mail or fax.

Diagnosis, treatment and prognosis as well as further treatment plans are communicated to the referring veterinarian, so that he or she can take over care of the animal.

Supporting more than 470 users in all clinics and Animal Hospital facilities, the TIS handles not only the medical documentation, but also the complete billing procedure. Since 2001, 140,742 animals have been entered into the system. In 2011, the software handled 26,174 cases and generated 35,273 bills amounting to over 6.9 million euros.

In addition to patient administration, the TIS also began handling sample administration for the diagnostic facilities several years ago. In 2011, a total of 11,644 samples were documented.

The cost of the services available at the Animal Hospital is defined by an official scale. This scale is updated once a year by Animal Hospital administration in cooperation with the clinics, and is published in the newsletter of the University of Veterinary Medicine, Vienna. Services and tariffs are regularly reviewed to make sure they that they closely correlate with actual costs. The inflation index gets adjusted as well.

7.1.9.6. Cooperation with veterinary practitioners

Besides cooperating with veterinary practitioners in terms of referrals, the University also works together with local veterinarians within the framework of clinical training. Thus, more than 100 local veterinarians volunteer as instructors (without payment by the University) to train students who choose to do their clinical practicals extramurally.

If they want to be involved in extramural training veterinarians can apply to become instructors. The Vice-Rector for Study Affairs and Clinical Veterinary Medicine nominates instructors after receiving the application and hearing statements given by the respective departmental representative and the Veterinary Chamber. The guidelines for approval are published and can be looked up on the University web site under

- Annex 7.1 – [Richtlinien zur Bestellung von Instuktorinnen](#)

The instructors are appointed for terms of 3 years which can be extended for three more years, provided the instructor still fulfils the requirements.

7.1.10. Ratios

Table 7.5: Animals available for clinical training (in the clinics of the Faculty or seen through the Ambulatory clinic) as ratio to the number of students graduating in 2011 (Ratios R11 – R17)

R11	173	no. of students graduating annually
	1,043	no. of food-producing animals seen at the University
Denominator	6.03	
EAEVE Guidelines	2.47 – 1.73	

R12	173	no. of students graduating annually
	4,176	no. individual food-animal consultations seen outside the University
Denominator	24.14	
EAEVE Guidelines	0.51 – 7.87	

R13	173	no. of students graduating annually
	179	no. of herd health visits
Denominator	1.03	
EAEVE Guidelines	0.20 – 0.09	

R14	173	no. of students graduating annually
	3,071	no. of equine cases
Denominator	17.75	
EAEVE Guidelines	1.78 – 0.92	

R15	173	no. of students graduating annually
	966	no. of poultry/rabbit cases
Denominator	5.58	
EAEVE Guidelines	0.58 – 0.37	

R16	173	no. of students graduating annually
	32,991	no. of companion animals seen at the University
Denominator	190.7	
EAEVE Guidelines	48.74 – 37.94	

R17	173	no. of students graduating annually
	33	no. of poultry flocks seen in herd health teaching
Denominator	0.19	
EAEVE Guidelines	none	

Table 7.6: Animals available for necropsy as ratio to the number of students graduating in 2011 (Ratios R18 – R20)

R18	173	no. of students graduating annually
	491	No. necropsies food producing animals + equine
Denominator	2.84	
EAEVE Guidelines	0.75 – 0.46	

R19	173	no. of students graduating annually
	1,914	No. necropsies poultry/rabbits
Denominator	11.06	
EAEVE Guidelines	0.26 – 0.12	

R20	173	no. of students graduating annually
	549	No. necropsies companion animals
Denominator	3.17	
EAEVE Guidelines	1.26 – 0.89	

7.1.11. Other species

The Clinic for Avian, Reptile and Fish Medicine is involved in clinical training and offers free electives. Students are taught via compulsory lectures as well as case demonstrations and clinical training. Interested students visit fish aquaculture enterprises to acquire basic knowledge about the issues pertaining to farmed fish; this is considered a specialised part of herd health management training.

7.2. Comments

The services offered and patient numbers are expected to remain stable at the Clinic for Small Animals and the Equine Clinic for the foreseeable future.

There are less and less farm animals in the surroundings of Vienna. Therefore, in order to ensure a representative case load, the farm animal clinics have to intensify cooperation with local practitioners and local animal health services.

The Clinic for Swine works cooperatively with Austrian practitioners and pig farms to ensure a high standard of education with a representative caseload. The Clinic for Ruminants increases the frequency of farm visits during clinical training to provide students with experience in everyday cases.

The Clinic for Avian, Reptile and Fish Medicine has started a research and teaching cooperative with the Georgikon Faculty at the University of Pannonia in Keszthely, Hungary. The three-year project is called CEPO, the Centre of Excellence for Poultry. Students and experts from the Clinic for Avian, Reptile and Fish Medicine regularly visit the Georgikon Faculty. The aim of the visits is to give students, experts and researchers of poultry health the opportunity to gain insight into the everyday practices of poultry breeding. By leveraging the contacts of experts and poultry producers of the region, they can get acquainted with the practical aspects, as well as with the potential and existing problems, of farming poultry.

Workplace assessment at the clinics

Workplace assessment was started at the Equine Clinic with the two main goals of improving the efficiency and effectiveness of patient services and better integrating students into the daily routine at the clinic. Questions were generated based on the results of a SWOT analysis done by the management team. All employees of the Equine Clinic were asked questions about work-life balance, commitment to the University, satisfaction with the workplace (and especially with the teaching environment) and the workload with regard to research, clinical services and teaching. The total response rate was about 65%. The results are now under discussion within the Equine Clinic so that measures for improvement can be worked out.

This workplace assessment will be rolled out to the other species clinics as well.

7.3. Suggestions

The University wants to increase the accessibility of instructional opportunities, especially at its teaching and research farm (TRF). By offering students a way to view the daily routine demonstrations at the TRF remotely via the intranet or Vetucation®, the University would enable students to participate in teaching using a computer at home or in groups. Such a “virtual teaching farm” could provide insight into the daily life of a farmer and allow students to monitor the care of one or two cows throughout the year.

The implementation of an integrated study and teaching environment is planned, where the emphasis will be on online transmission of necropsies to problem-oriented seminars and availability of lectures via the intranet.

8. Library and Learning Resources

8.1. Factual information

The library of the University of Veterinary Medicine, Vienna is a central service provider of the University. Equipped with access to online and print media, learning facilities and modern computers and staffed with well-educated personnel, the library is a main attraction for researchers and students.

The library is part of the administration department of the University of Veterinary Medicine, Vienna. It is managed by a head librarian and an assistant head librarian.

The library system consists of the main library and 54 satellite libraries located at different units and departments of the University; these small library units are managed by the main library.

8.1.1. Library and other information technology services

Main library

The main library is dedicated to the veterinary training establishment. The library's collection focuses on veterinary medicine. It is the only library in Austria that collects and catalogues books, magazines and other materials specific to the field of veterinary medicine. The library offers 158 places to sit and read, 4 conference rooms (some furnished with multimedia equipment) and 6 student carrels. A multimedia room is equipped for watching DVDs or VHS tapes. A book scanner and an A3 flatbed scanner are also available.

Throughout the building library users have access to the Eduroam wireless network. In addition, 19 computer workstations (all less than 2 years old) offer internet access. A book drop and a self-service checkout machine provide additional customer value.

Full-text versions of printed materials are available electronically via an SFX link resolver. Furthermore, the library offers access to the Electronic Journals Library (EZB) and the Database Information System (DBIS). VPN-authorized users have access to licenced journals and databases from any point outside of the University's IP range.

In cooperation with the executive committee of the Students Union the library offers access to microscopes to aid students in their laboratory courses. These microscopes can be used in the library rooms.

The library currently employs 14.5 full-time equivalent staff members. These are:

- 3 professional librarians with academic degrees (1 with veterinary medicine and information sciences degrees and 2 with degrees in information sciences),
- 6 professional librarians with undergraduate degrees,
- 2 library assistants,
- 3 support staff.

All the staff members contribute to user services – the professional librarians at the information desk and the others in the lending department.

In 2010 the library received 811 hard copy journals and 4,635 full access electronic journals.

Since 1990 the library is connected to the library automation system of the Austrian Academic Library Network. All acquisitions (including issues of periodicals) are placed online in this system.

To augment the existing online public access catalogue, in 2010 the library implemented the search engine vetmed:seeker based on the discovery and delivery software Primo. Today the library has upgraded Primo with access to Primo Central, a central index with millions of full texts and bibliographic records.

In 2010 the textbook collection of the library contained 10,230 books.

Currently the library of the University of Veterinary Medicine, Vienna offers 158 reading places. During the summer students have access to a rooftop garden with 40 open-air reading places.

While a term is in session, the library is open from Monday through Friday from 8:30 a.m. until 10 p.m.

Outside of terms, opening times vary as follows:

Christmas until the beginning of the New Year:

- Monday until Thursday: 8.30 a.m. – 5.00 p.m.
- Friday 8.30 a.m. – 4.00 p.m.

August

- Monday until Friday: 8:30 a.m. – 8.00 p.m.

Table 8.1: Performance benchmarks (numbers of visits 2010)

Benchmarks	Number of Visits
Number of library visitors (physically)	81,836
Number of library visitors (virtually)	95,545
Number of current borrowers	2,254
Number of loans	30,639

(These numbers include students and non-students)

Subsidiary libraries

The main library also manages the small satellite libraries based at different units and departments of the University. Typically, these libraries comprise 30 m² each and have a capacity of approximately 1,500 volumes. All books in these libraries are listed in the library catalogue and in vetmed:seeker. Students have access to these libraries according to the opening times defined by the unit or department to which the library belongs.

8.2. Comments

Satisfying user needs is the highest goal of the library; this is confirmed by the users. The library is a modern and well-equipped service provider. User feedback is necessary to improve library services, thus a library committee is planned for the interpretation of the feedback results and for strategic decision-making.

Library IT services should be developed further.

8.3. Suggestions

In an effort to offer access to even more users, in 2012 a new barrier-free library homepage will be designed, taking into consideration portable terminals like smartphones.

9. Student admission and Enrolment

As a result of restricted admission and a selective admission procedure since 2005, the University of Veterinary Medicine, Vienna is able to recruit its students in a quality-based and objective manner and thus ensure a high quality education with instruction in small groups.

9.1. Undergraduate courses

9.1.1. Undergraduate student numbers

The Diploma Programme in Veterinary Medicine takes a minimum of 6.0 years.

Table 9.1: Undergraduate student composition in year prior to visitation (as of 30th September 2011)

Undergraduate Students	n
Total number of undergraduate students	1,410
Total number of male students	243
Total number of female students	1,167
Foreign students	512
- from EU countries	457
- from non-EU countries	55

9.1.2. Student admission

Currently the University offers 203 places for the Diploma Programme in Veterinary Medicine per year. To get a university place at the University of Veterinary Medicine, Vienna, students have to go through an admission procedure before they get approved. The legal obligations for this procedure were defined in §124b of UG 2002 in 2005 and remain valid at least until 2015.

In general, as laid out by law, the admission process is based on relative, rather than on absolute performance. There is no predefined passing point that applicants have to meet to be admitted. Applicants get ranked and the highest ranked receive a university place. The applicant must accept the place personally and formally within a determined time period. Otherwise, the place will be given to the next in line.

The formal act of accepting the place at the university is called admission (Zulassung). Hereby, all formal requirements and documents have to be verified. Those are the following:

- General requirements

All applicants must fulfill the general requirements, the achievement of general and special university entrance qualifications as defined by the UG 2002.

The secondary school completion certificate (Abitur, Matura) entitles students to admission to the universities. Furthermore admission is granted after passing a special examination for entrance qualification (Berufsreifeprüfung).

For applicants without a secondary school completion certificate there is an alternative way of fulfilling the requirements. If they have completed apprenticeship or training as a nurse or medical-technician and passed a special examination, they are allowed to apply for admission to medical as well as veterinary schools (Studienberechtigungsprüfung).

An additional legal requirement is a sufficient command of the German language.

■ Specific requirements

In addition to the general admission requirements, all applicants must successfully complete an admissions procedure as defined in § 124 (b) of UG 2002. The Rectorate, in consultation with the Senate and the University Council, issues a decree regarding the admission restrictions to be applied to the programmes offered by the University of Veterinary Medicine, Vienna for a particular academic year.

Admissions procedure

■ Online application

Participation in the admissions procedure starts with the application for a university place, with only one application per applicant being admissible. Students may apply online between February and March for the placement in the academic year beginning in September.

■ Aptitude Test

After online application all applicants are invited to take an aptitude test, which consists of two parts.

Part I deals with requirements in studies and professional life of veterinary medicine. Part II is a multiple choice examination consisting of 60 questions, 20 each for Biology, Chemistry and Physics. Applicants can achieve a maximum of 32 credits for part I and 60 credits for part II.

■ Evaluation of grades and previous academic or vocational qualifications

Applicants receive credits based on the grades achieved in the following subjects German, physics, chemistry, biology and mathematics – up to a maximum of 35 credits. Previous academic or vocational qualifications are noted and summarized, yielding up to 21 additional credits.

■ Admission of 75 % of the places

At the end of the admissions procedure, the tally of credits accumulated at various stages result in a ranking list, with 75 % of the places are granted to the best-ranked applicants.

■ Interview of applicants for admission to the remaining 25 % of available places

For the remaining 25% of available places candidates must participate in an on-campus interview with an interview panel appointed by the Vice Rector for Study Affairs and Clinical Veterinary Medicine that consists of one senior academic staff member, one veterinarian and one veterinary student representative appointed by the Students Union. Candidates are invited in descending order according to their place on the ranking list. At a

minimum, two times as many candidates as available spaces are invited for personal interviews. Applicants are asked about their personal motivation for wanting to enter the veterinary field, their understanding of the veterinary profession, also their experience with animals, social abilities, study habits, knowledge of animal welfare and more.

■ Final ranking list of applicants

The combination of the results of the interview with the credits previously achieved leads to the final ranking list of applicants. Assignment of the remaining available places is done in descending order to this ranking list until enrolment capacity is reached.

Admission number

Since 2011, the number is limited to 203 students admitted for Diploma Programme in Veterinary Medicine per academic year. From 2005 to 2011 the number was limited with 187 students admitted for Diploma Veterinary Medicine.

Each year a small number of additional applicants are admitted in order to match the anticipated early drop-outs among admitted applicants.

Table 9.2: Intake of veterinary students in the past five years

Year	number applying for admission	number admitted	
		'standard' intake	other entry mode (describe)
2011	1,422	222	-
2010	1,346	188	-
2009*	1,153	175	-
2008	976	201	-
2007	982	192	-
Average	1,176	196	

*) Track of specialisation had to be chosen prior to admission and a quota of 75 % Austrian, of 20 % EU and 5 % non EU citizens had to be fulfilled

9.1.3. Student flow

Table 9.3: Students flow and total number of undergraduate veterinary students calculated on years

Years of the programme	Number of students
1 st year	328
2 nd year	169
3 rd year	251
4 th year	142
5 th year	231
6 th year 1)	269
>6 th year	20
number undergraduate veterinary students	1,410

1) mark year matching MNY

In addition, the student flow is calculated according to the tiers of the curriculum, because there are no compulsory examinations in the second study year (table 9.3a).

Table 9.3a: Student flow and total number of undergraduate veterinary students listed in the three tiers of the Diploma Programme in Veterinary Medicine

Phases of the curriculum	Number of students
Tier 1	328
Tier 2	420
Tier 3 (incl. track of specialisation)	541
Diplomawork	121
Undergraduate Students	1,410
Graduated Students	365
Total	1,775

Table 9.4: Number of students graduating annually over the past five years

Year	Number graduating
2010/11	173
2009/10	118
2008/09	79
2007/08	125
2006/07	189
Average	137

Table 9.5: Average duration of studies (distribution of students in years)*

Academic year of graduation	Number of semesters
2010/11	13.3
2009/10	13.3
2008/09	13.5
2007/08	13.2
2006/07	13.5
2005/06	15.2
2004/05	15.0

Requirements (in terms of completing subjects and examinations) for progression to a subsequent year of the course.

The curriculum is structured in years (except the 2nd tier). Continuing the programme is only possible with all exams from the prior year successfully and completely passed. To step into the next tier, the preceding tier of the Diploma Programme has to be completed successfully.

9.2. Comments

Knowledge base of the applicants and admitted students as regards scientific disciplines

Whereas the applicants have acquired entirely different levels of knowledge from their secondary school education, it is to be assumed that the admissions procedure can differentiate between those students who have a solid foundation in the basic sciences and those who don't. In actual fact, the aptitude test is very important for assessing aptitude in the subjects of natural science, but it also clearly shows that there are deficiencies in applicable knowledge. Although nearly 80 % of first-year students

graduated from secondary schools offering general education, students seem to graduate at very different levels of aptitude, especially in the subjects of natural science. To identify and to fill these gaps, the University asks students to fill out self-assessments about their knowledge of physics and chemistry immediately after beginning of the first semester. Based on the results, the University strives to bring every student up to the basic level of knowledge necessary for the study of veterinary medicine.

Number of students the University can accept

The University has to increase its enrolment by 250 students per year, as defined in UG 2002 §13. However, when capacity, caseload and academic resources are weighed according to the mandates of the EAEVE it becomes clear that an increase of 250 students is not possible. Thus, in its current Performance Agreement the University has to reach agreement with the Federal Ministry for Science and Research to limit the number of additional students to 220 per year. This number is based on the specifications of the EAEVE and the German Decree of Capacities, which determines teaching capacity by taking into account existing teaching positions and calculating a curricular norm value.

9.3. Suggestions

The drop-out percentage and reasons, if known

There is a drop-out rate during the first semester because many students go back to their home country after getting a place at their university of choice.

The average duration of studies

Students can start their diploma thesis at any time during the programme. In actuality, many students start work on their thesis in their 3rd year. Although the 12th semester is reserved for their thesis work, many of the students need more time to finish their diploma thesis. These facts are considered in the new curriculum, where a block at least 12 weeks in length is designed into the programme so students can focus on their scientific work.

10. Academic and Support Staff

10.1. Factual information

Table 10.1: Personnel in the establishment provided for veterinary training (reference date 30.09.2011)

	Budgeted posts (FTE)		Non-budgeted posts (FTE)		Total (FTE)	
	VS	NVS	VS	NVS	VS	NVS
1. Academic staff						
.	84.39	47.77	6.68	0.65	91.07	48.42
Research staff (total FTE) 2)	40.19	30.04	21.65	72.88	61.84	102.92
Others (please specify) (FTE) 3)	53.04	35.89	4.01	0.39	57.05	36.28
Total FTE	177.62	113.70	32.34	73.92	209.96	187.62
Total FTE (VS + NVS)	291.32		106.26		397.58	
FTE providing last year teaching					397.58	
2. Support staff						
a. responsible for clinical work and support 4)	101.56		13.34		114.9	
b. responsible for medical / technical support	17.37		1.82		19.19	
c. responsible for central administration, general services, maintenance 5)	110.23		0.18		110.41	
d. engaged in research work 6)	20.03		22.21		42.24	
e. responsible for support in non-clinical units 7)	126.81		2.13		128.94	
f. responsible for work at teaching and research farm	21.38		0		21.38	
Total FTE	397.38		39.68		437.06	
3. Total staff	688.70		145.94		834.64	

Personnel in the University provided for veterinary training is calculated as a proportion of the total staff in relation to veterinary teaching load, student numbers and –graduations. VS = veterinary surgeons. NVS = non-veterinary surgeons.

1) teaching staff is calculated as the proportion of employment dedicated explicitly to teaching based on staff category

2) research staff is calculated as the proportion of employment dedicated explicitly to research based on staff category and contains non-budgeted staff from research projects

0. Introduction | 1. Objectives | 2. Organisation | 3. Finances | 4. Curriculum | 5. Teaching and Learning | 6. Facilities and Equipment | 7. Animals and Teaching | 8. Library and Learning Resources | 9. Student admission and Enrolment | **10. Academic and Support Staff** | 11. Continuing Education | 12. Postgraduate Education | 13. Research

3) includes external lecturers, tutors, interns, veterinary students in training as well as the respective proportions of employment dedicated to other activities besides teaching and research (e.g. Clinical work) based on staff category

4) contains all support staff in clinical units (except medical/technical assistants and project support staff)

5) contains all support staff in central services and management (except project support staff)

6) contains project support staff, support staff of research institutes (Dept. 5 and Messerli-Research-Institute) and support staff of research groups

7) contains all support staff in non-clinical units (except medical/technical assistants and project support staff)

Table 10.2: Allocation of academic (veterinary surgeon and non veterinary surgeon) teaching staff – expressed as FTE – and support staff to the various departments (reference date 30.09.2011)

Department name	Academic teaching staff										Support staff 4) (see table 10.1)		
	Full Prof.		Associate Prof.		Assistant Prof.		Academic assistants		Others1)		Technical/ medical and support in non-clinical units	Support in clinical units 5)	Central admin.
	VS 2)	NVS 3)	VS	NVS	VS	NVS	VS	NVS	VS	NVS	(b + d + e)	(a + f)	(c)
1. Biological Sciences	2.03	2.70	3.78	3.78	0.68	0.90	4.22	9.52	0.18	1.17	55.98	0.00	110.41
2. Pathobiology	1.35	1.62	3.78	1.08	3.88	0.45	5.66	5.02	0.36	0.90	56.52	0.00	
3. Farm Animals and Veterinary Public Health	3.75	1.62	3.56	2.16	2.25	0.45	12.50	2.59	0.18	1.26	35.74	29.93	
4. Companion Animals and Horses	2.73	0.00	5.40	0.54	4.05	0.00	24.19	1.35	2.16	0.00	1.35	84.98	
5. Integrative Biology and Evolution	0.54	0.54	0.00	1.08	0.34	0.45	0.45	4.19	0.18	0.18	19.23	0.00	
Others 6)	0.00	0.54	1.08	0.54	0.00	0.00	1.80	3.26	0.00	0.54	21.54	21.38	
Total	10.40	7.02	17.60	9.18	11.20	2.25	48.82	25.93	3.06	4.05	190.36	136.29	110.41
Total (VS+NVS)	17.42		26.78		13.45		74.75		7.11		437.06		
TOTAL	139.51												

1) contains the categories: "Qualification positions" and "young researchers" (i.e. PhD, Residents, Postdocs); 2) veterinary surgeon; 3) non veterinary surgeon

4) support staff provided for veterinary training is calculated as a proportion of the total support staff;

5) contains all support staff in clinical units (animal carers and others)

6) contains platforms, research groups, central administration and central services and the teaching- and research farm.

Contains

Full Prof.

Univ Prof (§§ 98 and 99)

Associate Prof

Public Sector employees (BeamtInnen) who are Univ.Do.

Assistant Prof

Public Sector employees (BeamtInnen) who are Univ.Ass.

Academic Assistants

Contractual employees (KV Angestellte) who are Univ.Ass

Others

Categories: "Qualification positions" and "young researchers" (i.e. PhD, Residents, Postdocs)

Allocation of staff to the University

The University receives a lump sum every year from the Federal Ministry for Science and Research to cover all its expenses. The budget is negotiated triennially (see Chapter 3). As such, the University is free to decide on the types and distribution of staff positions.

Allocation of staff to the departments (or other units) within the University

The amount, the distribution and the types of budgeted staff positions per unit (i.e. Institute or clinic) are historically grown but depend also on long term strategic staff planning in line with the University's Development Plan as well as annual financial planning discussions and negotiations of individual units with the Rectorate, in the course of which resources may also be redistributed if deemed necessary and reasonable by the Rectorate. This also includes the reallocation of staff members and their flexible deployment. Due to budget cuts, the University has been forced to closely review staff allocation. One of the consequences is that positions which become vacant may not be filled automatically on the unit's own accord but must be cleared with the Rectorate first. On this account, a well-founded restaffing application must be filled, which in turn must be reviewed and approved by the Rectorate. Restaffing may take place overlappingly to allow knowledge transfer or it may be delayed by several months if necessary due to budgetary measures and in cases where knowledge transfer is not imperative.

Difficulties in recruiting or retaining staff

Retaining of senior staff is generally successful. However, it is generally difficult to recruit qualified staff for professorships, especially what regards clinical vacancies and vacancies requiring special professional skills such as Diplomates. Suitable applicants from Austria are sparse, even from the European Union.

Recruitment and permanency of professorships are largely defined by the University Act (UG 2002) and are augmented by the University's internal regulations.

Concurrently, the University defines its own rules concerning employment procedures of other academic positions.

Academic positions are divided into several categories:

- Professorship
 - Full tenured professorships according to § 98 University Act (UG 2002)
 - Professorships limited to 5 years according to § 99 (1) University Act (UG 2002)
 - Professorships reserved for in-house lecturers according to § 99 (3) University Act (UG 2002), limited to 6 years. The total number of these positions must be defined one time only by the Rectorate and may not exceed 20% of the total number of lecturers.
- Senior lecturers and researchers
 - Associate professors
 - Assistant professors
- Academic assistantship
 - Academic assistants
- Qualification positions
 - Postdocs, Residents
 - Young researchers
- Junior staff

- PhD students

All staff is hired by a regulated procedure:

- Approval of the advertisement of a position by the Rectorate
- Job description
- Assessment and interview (performed in various specific committees)
- Approval of short-list of candidates by the Equal Opportunities Committee
- Final approval by the Rectorate

During the recruitment of academic staff, founded scientific and didactic qualifications are criteria of utmost importance. In the case of full professorships, close attention is additionally paid to scientific merit and social- as well as managerial competence.

The Senate and Rectorate have defined separate stringent directives for the appointment of professorships according to § 98 and 99 University Act. Among other aspects, these directives regulate the mandatory international advertisement of full professor positions as well as the international peer review of applications.

Relevant trends or changes in staff levels or the ability to fill vacancies over the past

Changes and trends in staff levels have been both quantitative and qualitative, though the two are strongly interrelated. The increasing degree of specialisation and the constant expansion of for instance research fields and clinical services have caused a gradual increase of staff levels. In addition, the veterinary curriculum has been increasingly directed towards intensified teaching in small groups, making an adequate number of well trained academic staff vital.

What concerns the ability to fill vacancies, no relevant trends or changes have occurred, though it seems that increasing internationalisation has made staff recruitment easier, especially what concerns young researchers.

Employment of additional staff from service income (e.g. from revenues of clinical or diagnostic work)

Revenues from service income remain at the disposal of respective institutes and clinics after deduction of overheads. As such, each unit is free to employ additional staff. The recruitment process is regulated by the procedure described above.

Regulations governing outside work, including consultation and private practice, by staff working at the establishment

On the one hand, the Public Sector Employment Law, the Contractual Employee Act and the Collective Agreement govern outside work. On the other hand, there are stringent directives of the University regulating additional occupations and secondary employment. This includes consulting activities, excursions, private practice, lecturing etc. An exact distinction is made between whether activities are performed and services are offered on behalf of the University or by order of a third party. Every additional occupation and secondary employment must be reported to and approved by the Rectorate. In this respect, decision criteria include the assessment of possible conflicts of interest and time exposure. The University governs the remuneration of all additional occupations.

Possibilities and financial provisions for the academic staff to:

- attend scientific meetings;

The budget every institute and clinic receives by ways of full dotation, publication bonuses and return flow of overheads is earmarked for continuing education of the respective unit's staff. As such, each unit possesses sufficient financial provisions for continuing education of their staff.

- go on a sabbatical leave

There are ample possibilities for academic staff to go on sabbatical leaves. Depending on the legal basis of the respective staff member's employment contract, sabbatical leaves are limited to 6 months or one year. In any case, the approval of the Rectorate is required. Sabbatical leaves are generally organised on an individual basis. Depending on the nature of the sabbatical leave, academic staff members may continue to receive their salary, though at a reduced rate.

The right for public sector- and contractual employees to go on a leave of up to 10 years for the purpose of performing other activities outside the University is regulated by the Public Sector Employment Law and the Contractual Employee Act.

10.1.1. Ratios

R1	397.59	total academic FTE in veterinary training
	1,410	no. of veterinary undergraduate students*
Denominator	3.55	
EAEVE Guidelines	8.85– 10.42	

*Table. 9.3.

R1a	139.49	total academic teaching FTE in veterinary training
	1,410	no. of veterinary undergraduate students
Denominator	10.11	
EAEVE Guidelines		

R2	411.11	total academic FTE
	1,658	no. of undergraduate students
Denominator	4.03	
EAEVE Guidelines	8.75 – 12.54	

R3	209,97	total VS FTE in veterinary training
	1,410	no. of veterinary undergraduate students
Denominator	6.72	
EAEVE Guidelines	10.62 – 12.62	

R4	209.97	total VS FTE in veterinary training
	173	no. of veterinary students graduating annually
Denominator	0.82	
EAEVE Guidelines	4.91 – 7.21	

R5	397,59	total FTE academic staff in veterinary training
	437.06	total FTE support staff in veterinary training
Denominator	1.10	
EAEVE Guidelines	0.53 – 2.20	

R5a	397.59	total FTE academic staff in veterinary training
	326.65	FTE support staff in veterinary training excluding category c)
Denominator	0.82	
EAEVE Guidelines		

10.2. Comments

The amount and qualification of both academic and support staff are sufficient to provide high quality veterinary training in small groups, though recruitment of full professors is difficult, especially in highly specialised and clinical disciplines. 53% of the entire academic staff for veterinary training and 65% of the academic teaching staff for veterinary training have a veterinary degree. This results from several vacant key professorships in veterinary medicine, such as equine surgery, physiology and diagnostic imaging as well as from the relative overrepresentation of non-clinical, basic science units. Since the University of Veterinary Medicine, Vienna is an independent university, it must provide teaching in basic science subjects of its own accord. As a result, over 50% of teaching staff for veterinary training stems from non-clinical departments (Departments 1, 2, partially 3 and 5), where the percentage of staff with a veterinary degree is, on average, relatively low. In the clinical departments 3 and 4, however, the percentage of teaching staff with a veterinary degree amounts to 73 and 95%, respectively.

Filling the aforementioned vacant professorial positions is bound to alter these ratios in favour of staff with a veterinary degree, as will the current reformation of the veterinary curriculum, especially since the new curriculum will take place in a multi-disciplinary context, which is deemed more relevant for the future of the veterinary profession.

Research staff, too, is ample, though largely (57%) non-budgeted staff. The high number of researchers without veterinary degree (62%) can be attributed to the University's research institutes and its strong research groups in the basic sciences.

Strategic planning of staff and staff flows as well as systematic, differentiated career models for clinical and non-clinical, academic and support staff are major elements of the University's development plan and staff policy. The university is especially committed to the advancement of its junior scientific staff; in this respect, qualification positions for

young researchers are stepping stones, which may lead to a tenured professorship. In addition, structured PhD-, Postdoc- and Residency Programmes and the mentoring of junior staff in the framework of a special mentoring programme are amongst the University's main priorities.

The University furthermore prides itself on the wide variety of continuing education it offers to its employees, such as for example in didactic training, scientific work and publishing, international competence, special qualifications and personal skills as well as management and leadership. For professors and group leaders special emphasis is laid on the modular leadership programme „Leading Vet“ and the initiative „360° Leadership Feedback“ as well as individual coaching.

Pertaining to staff development, structured annual performance reviews for all employees are the most valuable tools. These interviews between an employee and his/her immediate supervisor encourage the individual advancement of every employee, while offering important feedback mechanisms for supervisors and guaranteeing employee development that is in line with the unit's and the University's strategic goals.

In Austria, employability, of veterinarians is generally good, especially in the farm animal and public health sector. Salaries in the private sector are usually subject to rather big fluctuations; especially young clinicians are not very well paid. The University, on the other hand, offers regular, predictable income, since the Collective Agreement regulates salary levels of all staff members for all Austrian Universities uniformly. Salaries are based on category of use, qualifications and periods of prior employment, though individual solutions may be found for staff with exceptional qualifications.

What will remain a challenge, largely due to the lack of qualified applicants interested in science and research, is the recruitment of professors. To combat these difficulties, the University of Veterinary Medicine, Vienna strives to increase young scientist's enthusiasm for science and research.

10.3. Suggestions

11. Continuing Education

11.1. Factual information

Legal requirements and regulations

As defined by § 20 (3) Veterinary Act, Continuing Professional Education (CPE) is mandatory for all practitioners, state veterinarians, specialists, production animal/herd health veterinarians, small animal veterinarians and veterinarians responsible for food and meat inspection. The legal foundation further encompasses:

- the guidelines for continuing education, as laid down by the Austrian Veterinary Chamber, regulating the documentary proof of CPE and the accumulation of at least 20 continuing education credits per year ;
- § 14 b of the Veterinary Act, defining that additional mandatory CPE is needed for specialist certification;
- the bylaw of the Federal Ministry of Health, defining the extent of CPE needed for specialist certification;
- § 29 Food Safety and Consumer Protection Act (LMSVG), defining the extent of CPE needed for assignment of veterinarians for food and meat inspection
- § 10 of the Veterinary Health Service Bylaw (“Tiergesundheitsdienst-Verordnung”), regulating the mandatory CPE of its members; and
- § 56 of UG 2002, regulating university courses

Cooperations with other professional organisations and competent authorities

The University plays a fundamental role in the propagation of knowledge by offering a wide range of options for CPE. It offers structured CPE university courses as well as lectures, seminars and workshops that are primarily – though not exclusively – directed at postgraduate veterinarians. As the only academic institution for veterinary medicine in Austria, the Vetmeduni Vienna has a duty to offer CPE – especially in practical veterinary medicine – by organising CPE courses and/or seminars, lectures and workshops of its own or by providing its expert staff and diplomates for CPE offered by third parties, such as federal ministries or veterinary associations. Offering high-quality CPE is strongly encouraged by the Rectorate as a means to strengthen the standing of the university clinics and organizational units as centres of excellence, thus CPE is one of the main issues addressed in the University’s Development Plan. At all CPE training events, the University acts in close collaboration with the Austrian Veterinary Chamber. The Austrian specialist certification is a good example of this. Though the specialist certification is awarded by the Austrian Veterinary Chamber, the specialist examination committee must – as defined in § 14 c (1) of the Veterinary Act – consist of at least two delegates of the Austrian Veterinary Chamber and one University lecturer.

The University is an important partner of the Austrian Society of Veterinary Medicine (Österreichische Gesellschaft der Tierärzte, ÖGT), one of the main purveyors for veterinary CPE in Austria. Although it is an independent organisation, the ÖGT has a tradition of strong ties to the University: One of its proclaimed aims is to disseminate knowledge generated by the University’s researchers. Both its president and vice president are academic staff members of the Vetmeduni Vienna. Together with the

0. Introduction | 1. Objectives | 2. Organisation | 3. Finances | 4. Curriculum | 5. Teaching and Learning | 6. Facilities and Equipment | 7. Animals and Teaching | 8. Library and Learning Resources | 9. Student admission and Enrolment | 10. Academic and Support Staff | **11. Continuing Education** | 12. Postgraduate Education | 13. Research

University the ÖGT publishes a scientific peer-reviewed journal, the „Veterinary Medicine Austria“ (Wiener Tierärztliche Monatsschrift, WTM), six times a year.

The University's commitment to Life Long Learning: strategy, structure, categories and target groups

Beyond these participations in CPE, the University is strongly dedicated to Life Long Learning (LLL) and has defined its own LLL concept, which comprises 7 LLL categories for continuing professional education and postgraduate education (Table 11.1):

In the spheres of farm animals and horses, the Vetmeduni Vienna has implemented CPE in cooperation with partners. Additionally, it is currently putting into effect an entirely new concept in the field of oncology, where the Veterinary Oncology Network Austria – a joint effort of the Vetmeduni Vienna, a pharmaceutical company (Richter Pharma AG) and the Austrian Veterinary Chamber – was founded to impart practical knowledge to veterinarians on the safe and efficient delivery of state-of-the-art therapies to veterinary cancer patients. It is an innovative project in which courses are structured as modules and may lead to the award of a CPE diploma.

A complete list of CPE offers for 2011 can be found in Annex 11.1: Weiterbildungsveranstaltungen im Jahr 2011.

Table 11.1: LLL Categories at the University of Veterinary Medicine, Vienna

LLL category	LLL category description	education programmes offered
1	Continuing education targeted at the further development of individual competencies for all University staff	Staff development programme including the leadership programme “Leading Vet”, didactic training programme, coaching programme, mentoring programme for junior researchers etc.
2	Structured postgraduate education programmes with emphasis on research	PhD, Doctoral and Postdoc Programmes
3	Structured postgraduate education programmes exclusively for postgraduate veterinarians with an emphasis on clinics (EBVS clinical specialty training)	14 Residency Programmes
4	Structured international postgraduate master’s programmes	Biomedicine and Biotechnology, European Master of Advanced Safety Sciences, European Master of Comparative Morphology (EUCOMOR), Master of Wildlife Management (in cooperation with the University of Natural Resources and Life Sciences), Interdisciplinary Master of Animal-Human-Interaction (IMHAI)
5	Structured postgraduate university courses, exclusively for postgraduate veterinarians	Internships in Small Animal Medicine, Equine Medicine as well as Reproductive Medicine and Ruminant Medicine
6	Structured CPE university courses, primarily (though not exclusively) for postgraduate veterinarians	Introduction to Laboratory Animal Medicine (FELASA / GV-SOLAS Category B); Animal-assisted Therapy and Animal-assisted Supportive Measures; Animal Physical therapy, Rehabilitation and Physical therapy; Functional Claw Maintenance; Hoof and Claw Fittings; Applied Cynology
7	CPE lectures, seminars and workshops	CPE offers for 2011 can be found in Annex 11.1: Weiterbildungsveranstaltungen im Jahr 2011.

Financial basis of Continuing Professional Education

As an integral part of its Performance Agreement with the Federal Ministry for Science and Research, the University allocates a certain amount of its budget each year to CPE. In addition, individual units receive a budget, which is earmarked for continuing education of its staff (see Chapter 10). What concerns LLL categories 2-6, the University (either on central or on unit level) defines the number of positions available in each year.

University courses (LLL category 6) are financed by their respective course fees, which are determined with the help of a finance plan, drawn up before the launch of every course. According to the recommendations of the Austrian Court of Audit these university courses have to be cost-covering.

Events in LLL category 7 are financed by their respective organiser – either through central and/or unit funds, usually with the support of external sponsors, or by third parties, in which case the University may supply infrastructure and/or lecturers.

The financial basis of postgraduate education (ie. LLL categories 2 to 5) is described in Chapter 12.

11.2. Comments

It has long been recognized that in a time of increasing specialisation and rapid development, high-quality CPE is imperative for a successful, state-of-the-art veterinary practice. The University takes seriously its role as a provider of CPE, as there is great demand among veterinarians for CPE based on the University's specialised expertise and/or resources. To this end, the University closely cooperates with veterinary organisations as well as the Austrian Veterinary Chamber in the planning and teaching of CPE courses and other avenues for learning. Concerted efforts are made to harmonize existing CPE offers as much as possible. Two-way evaluations as a means of quality assurance have proven to be extremely useful.

11.3. Suggestions

Due to the strategic importance of LLL to the University, continuing education will play an increasingly important role in the coming years. The University strives to offer a coherent CPE programme. Developed in close collaboration with its stakeholders (including ministries, the Austrian Veterinary Chamber and alumni), the vision is to establish an LLL school in which all the administrative and organizational activities necessary to support business processes are centralized.

12. Postgraduate Education

12.1. Factual information

As stated in Chapter 11, the University is strongly dedicated to Life Long Learning (LLL) and has defined its own LLL concept, which comprises seven categories for continuing professional education as well as postgraduate education (Table 11.1).

Overview of postgraduate education programmes offered at the University of Veterinary Medicine, Vienna:

- Internships
- Residency Programmes (14)
- PhD, Doctorate and Postdoc Programmes
- Structured international postgraduate Master's Programmes

12.1.1. Clinical specialty training (Interns and residents)

Internship

Clinical specialty training is offered in the form of rotating internships in small animal medicine, equine medicine as well as subject-specific non-rotating internships in reproductive medicine and ruminant medicine, all with a duration of one year. Internship positions are advertised and applications are reviewed by the respective internship committees (consisting of all teachers responsible for supervision of interns), whose tasks also include the interviewing and selection of candidates, as well as performing regular evaluations during the course of the internship.

Completion of an internship is a requirement for entering specialisation programmes at European colleges.

Residency Programmes

Residency Programmes are supervised by the respective colleges, which belong to the „European Board of Veterinary Specialisation“ (EBVS). Some of the Residency Programmes are also approved by the respective colleges of the „American Board of Veterinary Specialties“ (ABVS). Furthermore, there is an internal Residency Advisory Board (RAB) at the Vetmeduni Vienna that provides additional supervision of residency positions. The internal RAB is responsible for the number of resident positions per year, and safeguards the interests of the university and the residents and keeps track of all programmes. Each year residents fill out a questionnaire evaluating their training and the supervisor gives feedback to his/her resident. If the evaluation reveals that the resident or supervisor is not satisfied or that performance is not up to par, the RAB invites both for a personal interview. In cases of unsatisfactory performance the RAB recommends cancellation of the contract.

The application and admission procedure for residencies is regulated by the University's Residency Statute (see Annex 12.1: [Resident-Ausbildung](#)). The residency positions are announced internationally. Based on the suggestions of the supervisor eligible candidates are employed.

The number of positions available for clinical specialty training each year is defined by the RAB together with the Rectorate and is based on capacity and patient load.

Table 12.1: Clinical specialty training

Discipline	Nr. interns	Nr. residents ²	Nr. diplomates ³
Equine medicine (rotating internship)	5		
Small animal medicine (rotating internship)	10		
Reproductive medicine (subject-specific, non-rotating internship)	2		
European College of Animal Reproduction (ECAR)		2	7
European College of Bovine Health Management (ECBHM)		0	5
European College of Equine Internal Medicine (ECEIM)			2
European College of Laboratory Animal Medicine (ECLAM)			1
European College of Porcine Health Management (ECPHM)			4
European College of Poultry Veterinary Science (ECPVS)			2
European College of Small Ruminant Health Management (ECSRHM)			1
European College of Veterinary Anaesthesia and Analgesia (ECVAA)		2	2
European College of Veterinary Comparative Nutrition (ECVCN)			2
European College of Veterinary Clinical Pathology (ECVCP)		1	2
European College of Veterinary Dermatology (ECVD)			1
European College of Veterinary Internal Medicine- Companion Animals (ECVIM-CA)		2	2
European College of Veterinary Internal Medicine- Companion Animals; Cardiology (ECVIM – CA Cardiology)			1
European College of Veterinary Internal Medicine-Companion Animals; Oncology (ECVIM-CA Oncology)		1	1
European College of Veterinary Neurology (ECVN)			1
European College of Veterinary Ophthalmologists (ECVO)		1	1
European College of Veterinary Pathology (ECVP)			3
European College of Veterinary Public Health- Food Science (ECVPH – Food Science)			4
European College of Veterinary Pharmacology and Toxicology (ECVPT)			1

0. Introduction | 1. Objectives | 2. Organisation | 3. Finances | 4. Curriculum | 5. Teaching and Learning | 6. Facilities and Equipment | 7. Animals and Teaching | 8. Library and Learning Resources | 9. Student admission and Enrolment | 10. Academic and Support Staff | 11. Continuing Education | **12. Postgraduate Education** | 13. Research

Discipline	Nr. interns	Nr. residents ²	Nr. diplomates ³
European College of Veterinary Surgery- large animal (ECVS – large animal surgery)		1	1
European College of Veterinary Surgery- small animal (ECVS –small animal surgery)		2	4
European College of Zoological Medicine - Herpetology (ECZM – herpetology)			1
European College of Zoological Medicine – small mammals (ECZM – small mammals)			1
European College of Zoological Medicine – wildlife population health (ECZM - wildlife population health)			1
European Veterinary Parasitology College (EVPC)		0	1
American College of Veterinary Anesthesiologists (ACVA)			2
American College of Veterinary Internal Medicine – Companion animals (ACVIM – CA)			1
American College of Veterinary Pharmacists (ACVP)			1
American College of Veterinary Radiology (ACVR-RO)			1

Reference date: 31.12.2011

¹ Residency Programme in place

² Numbers refer to formal resident positions jointly funded by global budget and income of the respective units

³ The sum of the diplomates in the individual disciplines is 58, while the overall number of diplomates (headcount) is 53, This is due to five diplomates, who are boarded specialists at two different colleges.

12.1.2. Research education programmes

Postgraduate education programmes with emphasis on research predominantly include PhD, Doctorate and Postdoc Programmes (Table 11.1).

Table 12.2: Number of research students in different programmes

Type of degree	Fulltime	Part time	Duration
PhD ²	20	21	3 years
Doctorate in Veterinary Medicine	38	20	3 years
Doctorate in Natural Sciences**	4		2 years

²The number of PhD students refers to students employed by the University

** ceased in 2010

■ PhD Programme

The international PhD Programme of the University of Veterinary Medicine, Vienna aims at providing PhD students with the opportunity to develop into successful young scientists. It is designed for graduates with at least 300 ECTS of undergraduate training; exceptions can be made at the discretion of the Curricular Committee.

The operational language of the PhD Programme is English. The minimum duration is 3 years. After successful completion of the PhD studies the University of Veterinary Medicine, Vienna awards the academic degree "Doctor of Philosophy" (PhD). The University of Veterinary Medicine, Vienna offers the following Initiative Doctoral Programmes within the PhD Programme:

- HIP: Modulation of the porcine immune system by host-specific infections
- BIOREC: Biological responses to environmental challenges
- PopGen Vienna: Population and Evolutionary Genetics
- VetMed PhD: Research linked to veterinary medicine with a broader scope of research subjects

Each programme offers specific training to the student cohort. The training is individually tailored for each PhD student. While each Doctoral Programme has its specific research focus, the training modules are designed to provide the PhD students with the required subject-specific training as well as training meeting the individual needs of the students (soft skills). The PhD requires two first-author publications, with one of them being in the upper 30% quantile of the field. In order to ensure that the PhD project holds up to these expectations, prior to beginning all PhD projects undergo external peer review and only positively reviewed PhD projects are admitted.

PhD students dedicate most of their time (155 of 180 ECTS) to their research work, though they are obliged to teach and attend courses as well. The progress of each PhD student is monitored continuously by the thesis supervisor. This is complemented by annual reviews by the Curricular Committee in charge, interims evaluations and ultimately the public

defence. Currently, 54 students are enrolled in the PhD Programme, of which 41 are employed by the University.

■ Doctorate in Veterinary Medicine

This Doctorate provides the opportunity for students with a veterinary degree to develop the skills needed for independent scientific work in the field of veterinary medicine and associated professions. The students are awarded the title of „doctor medicinae veterinariae”. Similar to the PhD, the Doctorate offers a structured training programme distributed over 3 years. However, expectations concerning the success in research are lower as compared to the PhD Programme. This is reflected in the prerequisites defined for the successful completion of the programmes. One peer reviewed first author publication is sufficient for the doctorate.

■ Postdoc Programme

The first stage of postdoctoral career development is the junior phase, which lasts for up to four years and is accompanied by two mentors. After this postdoc phase scientists are offered the opportunity to continue as independent group leaders provided they have successfully applied for external research funding. After six years an independent group leader can apply for a position as senior researcher. The tenure position will start not earlier than after eight years of independent funding.

To enable swift adaptation to emerging scientific needs and current trends the University of Veterinary Medicine, Vienna will provide qualifying positions (“Qualifizierungsstellen”). The selection of scientific areas to which these positions are assigned will be developed strategically, giving the holder of such a position the opportunity to qualify for tenure.

12.1.3. Master Programmes

The University of Veterinary Medicine, Vienna offers five postgraduate Master’s Programmes with strong international orientation. They are embedded in European networks or national cooperations.

- Biomedicine and Biotechnology
- European Master of Advanced Safety Sciences (part of a European network)
- European Master Comparative Morphology (part of a European network, scheduled as a pilot project to begin in the academic year 2012/13)
- Master Wildlife Management (in cooperation with the University of Natural Resources and Life Sciences)
- Interdisciplinary Master Human-Animal-Interaction (in cooperation with the Messerli-Research-Institute; scheduled to begin in the academic year 2012/13)

Each of the Master’s Programmes has a well-defined training curriculum, which consists of course work and a Master thesis.

12.1.4. Financial basis of Postgraduate Education

Enhancing clinical and research careers is one of the University’s major goals. As such, it is an integral part of the Performance Agreement with the Federal Ministry (see Chapter 3), which means that a certain amount of the University’s global budget is earmarked especially for furthering PhD, Postdoc and Residency Programmes.

Furthermore, based on an agreement with the Austrian Science Fund (FWF), the University adds up to as many PhD positions as financed by the FWF within the FWF-Doctoral Programmes (“FWF-Doktoratskollegs”) from the University’s global budget.

Initiative Doctoral Programmes (“Initiativkollegs”) and postdocs in the postdoc programme are entirely financed by the University’s global budget.

Internships are partly financed by their course fees and partly by the clinical income. Concurrently, interns are employed part-time (20 hours a week) by the University for the duration of their internship to allow their full integration into the clinical daily routine under the supervision of a resident, diplomate and/or adept assistant.

Financing of resident positions is jointly ensured by global budget and income (e.g. from services or clinic work) of the respective units. The distribution of financial shares is dynamic: 75% of a resident’s salary in his/her first year is paid from the global budget, the unit, which the resident is assigned to, pays 25%. In the second, third and (optional) fourth year, these shares develop into first 50:50, then 25:75 and finally 0:100, respectively. A few resident positions, especially those in “non-clinical” Residency Programmes, may be funded by industry or partly through grants.

12.2. Comments

In the academic year 2010/11 60 doctoral diplomas, 4 PhD diplomas and 14 Master’s degrees were awarded. The PhD Programme is relatively new therefore the number of PhD graduates is rather low. The traditional doctorate is the predominant postgraduate degree awarded. In the future, the University of Veterinary Medicine, Vienna plans to increase the proportion of PhD graduates by increasing the number of enrolled PhD students.

What concerns the Doctorate, 94% of students are veterinarians. Only 6% of the Doctorate students are non-veterinarians, opting for a Doctorate in natural sciences at the University of Veterinary Medicine, Vienna ¹.

In the PhD Programme, 68% of students are non-veterinarians. This is largely due to the fact that Doctoral Programmes within the PhD Programme are strongly oriented towards basic science. However, the University of Veterinary Medicine, Vienna expects to increase the number of veterinarians among PhD students.

12.3. Suggestions

The University of Veterinary Medicine, Vienna facilitates development of its clinical profile through specific and international recruiting and support of young academics. In particular the number of diplomats is to be increased to strengthen existing clinical expertise and further develop Residency Programmes.

In an attempt to strengthen clinical and interdisciplinary research, the University of Veterinary Medicine, Vienna should strive to adopt a veterinary specific, clinical and/or interdisciplinary Doctoral Programme within the PhD Programme. The aims should be to

¹ The Doctorate in natural sciences was discontinued 2010/11

0. Introduction | 1. Objectives | 2. Organisation | 3. Finances | 4. Curriculum | 5. Teaching and Learning | 6. Facilities and Equipment | 7. Animals and Teaching | 8. Library and Learning Resources | 9. Student admission and Enrolment | 10. Academic and Support Staff | 11. Continuing Education | **12. Postgraduate Education** | 13. Research

increase the number of veterinarians in research and academic careers and to broaden the professional fields available.

The University of Veterinary Medicine, Vienna supports especially the clinical researchers. A proposal for the doctoral college “Pig and Poultry Infections” is already submitted. Assessment and hearings gained very positive feedback.

13. Research

Research at the University of Veterinary Medicine, Vienna aims at excellence in veterinary science and comprehensive basic life sciences as well as applied and clinical research.

The University of Veterinary Medicine, Vienna focuses on the systematic support of young academics as a cornerstone of its profile. Special emphasis is placed on expanding funding and training for young scientists, to optimise tried-and tested methods from the beginning of studies to the postdoc phase.

13.1. Factual information

Research commitment and concepts

Research conducted by the University of Veterinary Medicine, Vienna is not only the cornerstone of research based academic education, but it also addresses highly relevant societal issues such as animal health, preventive veterinary medicine, veterinary public health, food safety as well as the scientific basis of animal welfare and its implications for animal husbandry, animal protection and animal ethics.

Is there sufficient use of existing research to introduce undergraduates to the concepts

Involving students in research and honing their academic and scientific skills while preparing them for their professional careers belong to the main concerns of the University of Veterinary Medicine, Vienna. In this context, since 2002, it is an obligatory part of the curriculum that students write a diploma thesis. In the framework of their thesis, students must alternatively either work on well defined research projects, submit clinical case reports, experimental studies (clinical or non-clinical) or small literature reviews. Diploma thesis projects may be conducted jointly by several students at the same time. In this case, the individual contributions must be clearly identifiable. Although it is possible to start with the diploma thesis at any stage during the curriculum, most students begin with their thesis in the second half of their studies. For the thesis, 20 ECTS are allocated. Each project must adhere to the requirements of Good Scientific Practice (see page 25). and is not only graded by the supervisor but is also peer-reviewed by a second researcher in the respective field. Furthermore, each thesis is checked for plagiarism.

The thesis supervisor must be an employee of the University of Veterinary Medicine, Vienna and must have the permission to teach (“*venia docendi*”) or must at least be at the level of senior assistant professor (nominated by the Vice-Rector for Study Affairs and Clinical Veterinary Medicine).

Supervision is based on a mutual agreement and on students’ individual needs. The supervisor primarily provides guidance with respect to project design and structure, method of analysis, important sources to be used etc. The supervisor must approve the subject area, the problem formulation and the provisional outline of the project, including a brief calculation of costs before it can be submitted to the head of the respective department and ultimately to the Vice-Rector for Study Affairs and Clinical Veterinary Medicine for approval.

A written contract (Annex 13.1 – Bekanntgabe des Themas) is concluded between the student, the principle supervisor, the head of the department and the Vice-Rector for Study Affairs and Clinical Veterinary Medicine. This contract includes the project title, the name of supervisor, project plan and hypothesis.

On completion of his/her diploma thesis a student has gained a significant amount of scientific knowledge, scientific skills and academic competencies. He/she is able to

- identify scientific problems;
- use an appropriate set of methods for the problem at hand;
- base his/her theories and hypotheses on international research findings;
- assume critical stance towards theories and methods;
- discuss matters of relevance raised by the thesis;
- process data with correct methods of scientific analysis and present results objectively and in a concise manner;
- draw clear and scientific, evidence - based conclusions;
- assess the scientific and social impact of the thesis from an ethical point of view;

■ Cohesiveness of research effort and Research strategy within the establishment

The University of Veterinary Medicine, Vienna has focused its research efforts on veterinary core competencies directed towards significant main research areas and on increased visibility to foster participation in national and European research activities. Emphasizing these main research areas further allows enhanced collaboration between basic research and applied clinical research and improves the successful acquisition of third party funding. Effective steering processes have been established and will continuously be improved by regular evaluation of performance indicators and international peer reviews.

To counteract fragmentation of research efforts, internal research advancement programmes provide a coherent concept to integrate research emphasis alongside the University's "Research Profile Areas" (Profillinien) These "Research Profile Areas" are a direct result of the University's societal mandate and of the specific expertise on campus and within national and international cooperation projects.

The main areas of research are embedded in the following University's "Research Profile Areas":

- Physiological processes
- Infection and prevention, focus on farm animals
- Animal models and veterinary biotechnology
- Food safety and risk analysis
- Animal behavior and human-animal interactions

The University of Veterinary Medicine, Vienna has established a unique internal system to support the strategic development of the University's research profile while furthering young scientists and lever third party funding. According to the "Research Profile Areas" several types of competitive funding are provided.

- „Young investigators programme“ – Proposals that have been evaluated positively by the internal board receive seed funding for about two years to enable successful application for third party funding.

- „Umbrella projects“ - aim to cross-link research activities of individual projects. They are evaluated by international peer review and result in qualified PhD Programmes and Postdoc Programmes.

In addition, an internal bonification system has been established to leverage third party funded projects.

These research profile areas represent an adequate steering instrument to cross-link expertise, technologies and research efforts and make use of synergies by means of internal and external cooperation.

In their strategic dimension, the “Research Profile Areas” allow for the interaction of basic and applied clinical research fields and support the coherence of research efforts as well as international visibility throughout the scientific community and stakeholders.

Furthermore, they offer an overall cohesive structure for the mapping of individual research profiles and defined research potentials.

The main research fields have evolved around prominent and internationally visible individual researchers and research groups. Additionally to these established research fields the university strives to strengthen emerging research areas. The tables below provide an overview of most prominent and internationally visible established research fields and the identified emerging research areas. The tables also match these research areas against the universities’ “Research Profile Areas”.

Classification of internationally visible main areas of research according to the Research Profile Areas

Main areas of research	Research Profile Area 1 Physiological processes	Research Profile Area 2 Infection and prevention, focus on farm animals	Research Profile Area 3 Animal models and veterinary biotechnology	Research Profile Area 4 Food safety and risk analysis	Research Profile Area 5 Animal behaviour and human-animal interactions
Endocrinology	■		■		■
Infectious medicine, fish		■		■	
Infectious medicine, poultry		■		■	
Infectious medicine, swine		■		■	
Wildlife medicine		■		■	
Cognition	■				■
Food microbiology		■		■	
Population genomics			■		
Reproductive medicine and reproductive biotechnology	■		■		
Risk assessment for animal-based foods		■		■	
Signal transduction, especially Jak-Stat signalling pathway and transport processes	■		■		
Transgenic mouse models	■		■		
Behavioural mechanism and behavioural ecology	■				■
Wildlife ecology	■				

Legend

- Primary allocation
- Secondary allocation

Figure 13.1: Classification of internationally visible main areas of research according to the Research Profile Areas

Classification of additional research potentials according to the Research Profile Areas

Research potentials	Research Profile Area 1 Physiological processes	Research Profile Area 2 Infection and prevention, focus on farm animals	Research Profile Area 3 Animal models and veterinary biotechnology	Research Profile Area 4 Food safety and risk analysis	Research Profile Area 5 Animal behaviour and human-animal interactions
Motion analysis and regenerative medicine	■				
Nutritional physiology	■	■			
Laboratory animal medicine	■		■		
Animal welfare and animal ethics					■
Translation of population genomics (farm animals, small animals and horses)			■		
Comparative medicine for small animals and horses with a focus on oncology and allergology	■		■		

Legend

- Primary allocation
- Secondary allocation

Figure 13.2: Classification of additional research potentials according to the Research Profile Areas

The University of Veterinary Medicine, Vienna provides a series of special research structures, off-campus facilities and branches and has established numerous scientific cooperations to support its research activities, all of which directly benefit research based education and allow active student participation.

In this context, internal research structures such as the University's core facility „VetCore“ – a central technology platform for biobanking, genomics, proteomics, transcriptomics and imaging aiming at efficient resource management and structured transfer of know-how and technology – are complemented by off-campus facilities such as the Teaching and Research Farm, the Research Institute of Wildlife Ecology and the Konrad Lorenz Institute of Ethology.

In addition, the Reproduction Centre in Wieselburg, the interuniversity Research Centre for Agrobiotechnology (IFA) in Tulln and the Graf-Lehndorff Institute for Equine Science in

Neustadt (Dosse), Germany, represent international interdisciplinary research centres in the field of animal production, reproduction and reproductive biotechnology.

The University of Veterinary Medicine, Vienna also provides a number of central services such as the Research Support and Innovation (FFI) to support young researchers. The FFI offers courses and individual support to improve the quality of funding proposal thereby increasing the number of successful grant-applications, publication support and information dissemination support. The FFI also provides tailored information on-line and through seminars relating to grant opportunities, networking opportunities for researchers, research project management and accounting.

Improved access to potential industrial cooperation partners and transfer of know-how is provided by a specialised unit at the University of Veterinary Medicine, Vienna, the VetWidi GmbH. VetWidi constitutes a platform and matchmaker for industrial partners, intellectual property management and legal support within and beyond scientific cooperation projects.

■ Degree of research funding

The global university budget is negotiated with the Federal Ministry for Science and Research triennially. The global budget only allows for very limited research to be conducted. The major part of research funding must be acquired by the university's researchers through third party funding. Sources for such third party funding are either, national or international public funding agencies or industrial research partners. A limited amount of the university's income generated through scientific services and clinical services is also used to fund campus research activities.

The budget dedicated to research projects and the extent of research funding are steadily increasing. In 2011, the third party funding rate amounted to 10 % of the total budget (compared to 8 % in 2010).

■ Income from research projects 2011

The following table lists third party funding of research projects (for further details please refer also to Chapter 3)

Table 13.1: Third party funding of research projects 2009-2011

Contractor / Funding-Organization	2011	2010	2009
EU	964,163.98	292,508.24	627,025.82
Government (Ministries)	1,820,064.93	2,195,728.92	1,731,404.19
Federal Country	377,611.39	218,258.70	214,178.02
Communal Sector	100.00	20,888.11	23,279.80
Austrian Science Fund (FWF)	2,491,373.36	2,228,969.28	2,113,386.33
Other funding agencies covered by governmental budgets	-	904,108.46	945,625.23
Industry	1,171,278.41	887,552.69	835,570.34
Legal interest groups	-	0.00	11,970.00
Foundations/Funds/other funding agencies	-	448,722.36	198,429.85
others	1,909.41	221,999.18	465,870.38
Austrian Research Promotion Agency (FFG)	636,313.74	-	-
Austrian Academy of Science (ÖAW)	99,400.00	-	-
Anniversary funds of the Austrian National Bank (ÖNB)	48,000.00	-	-
Other institutions regulated by public law	408,497.74	-	-
Private (foundations, associations)	978,785.73	-	-
Total	8,997,498.69	7,418,735.93	7,166,739.96

■ PhD Programme, Doctorate, Postdoc Programme and Qualifying Positions

The University of Veterinary Medicine, Vienna is aware that systematic support and education of young academics as well as their personal and career development are imperative to the profile development of the University. In this context, PhD, Doctorate and Postdoc Programmes as well as qualification positions are key elements of success (see Chapter 12).

■ International research collaboration

Internationalisation and mobility are of utmost importance, as the University of Veterinary Medicine, Vienna is the only veterinary higher education institution in Austria.

The presence of experts from the University of Veterinary Medicine, Vienna in international task forces has been enhanced in order to contribute significantly to the design of international research programmes.

Cluster activities to enforce strategically important research areas have been established and represent an effective contribution towards networking and visibility on European and national level.

Table 13.2: Number of partner institutions in the framework of active cooperations (2011)

Partner institutions / Industrial Partners	Country of Origin			Total
	national	EU	Third Country	
Higher Education Institutions (HEI)	6	62	41	109
Public R&D Institutions (Non-University)	11	19	5	35
Industrial Partners	8	7	1	16
Schools	1	-	-	1
Others	2	1	1	4
Total	28	89	48	165

13.2. Comments

The opportunities for students to participate in active research work are very good, and all departments are available for the students to choose between when selecting their subject area.

In many cases, involvement of students in scientific research at the diploma thesis level requires intensive supervision and mentoring, due to the fact that students will be acquiring broader scientific skills during this period. In general, the standard of results obtained by scientific research conducted by students during their diploma thesis is of a quality that provides a solid basis for further research.

The allocation of diploma projects depends greatly on the students' dedication, as students are required to approach their potential supervisors of their own accord. In this context, it may be beneficial to provide a complete overview of all current diploma theses with the aid of an electronic database.

13.3. Suggestions

The University of Veterinary Medicine, Vienna plans to increase the involvement of students in research activities, especially by reforming its veterinary curriculum to meet the demands of „student-centred learning”. According to the principles of “student-centred learning”, the University of Veterinary Medicine, Vienna strives to design the teaching and learning process so as to actively engage students. According to the Bologna commitment at least 12 weeks en bloc during their programme are addressed to pay attention on their scientific work. Students will be encouraged to conduct their diploma thesis via international cooperations.

To foster scientific understanding, students in the reformed veterinary curriculum will be increasingly encouraged to prepare scientifically sound papers and attend introductory courses on scientific working. In addition, they will be offered individual scientific guidance. Through the interactive teaching roster, students are supported to realize their full potential and to take responsibility.

Annex: Overview EAEVE-Suggestions and current status of measures (2006)

EAEVE Suggestion (Numbers in the boxes are referring to the accordant chapters in the SER and Final Report, respectively)	Measure	Status
1.1 The VUW should continue implementing its planned reforms, in particular streamlining and integrating its organisational structure to maximise the efficiency and effectiveness with which it uses resources.	Implementation of a Quality Management	Since 2009 and in progress
2.1 The persons selected as University Council members should have the knowledge and experience to provide an informed view of the veterinary and VUW role in society, and aim to establish effective and concordant collaboration with the Rectorate.	Three veterinarians are members of the University Council and one additional as a consulting member	Done: 2008 (and in progress)
2.2 Representatives of the practising professional should have a structured involvement in and input to VUW activities, for instance through participation in the University Council.	An official of the Austrian Veterinary Chamber was coopted to the University Council	Done: 2008
2.3 The role of the University Council should be redefined to be one of guidance and oversight as regards the general policies and activities of the VUW, and providing an interface with society, and not involvement in the internal operational details of management.	The role of the University Council was redefined through the new University Council members	Done: 2008
2.4 The VUW should fully implement (organisationally and physically) a compact, logical and efficient departmental structure, reviewing the current organisation of clinical activities (see also Suggestion 6.4) and eliminating duplications and overlaps that arise for historical and/or personal reasons.	The University of Veterinary Medicine, Vienna reorganised its departmental structure by reducing the number of departments to four.	Done: 2008

2.5 The VUW should seek to build up true departmental structures, with strategic and authoritative leadership and common, streamlined administration.	The University of Veterinary Medicine, Vienna reorganised its departmental structure by reducing the number of departments to four.	Done: 2008 and in progress
2.6 The University should consider professional appointments or advice regarding the management of key resources, such as running the Hospital and the overall utilisation of buildings.	Vice-Rector for Resources with high expertise in this field was announced	Done: 2009
3.1 There should be a clearly-defined basis, and constraints on, the amortisation charge, including the possibility of buying out all or part of the underlying residual capital debt to transfer this to a normal commercial rate.	All commercial debts have been paid off. There is no need for debt financing in the foreseeable future.	Done
3.2 The historical budget allocation of the VUW should be adjusted to account for major cost increases that are beyond the University's control, but which will otherwise have a major impact on its operational activities.	Budget allocation takes place based on triennial performance agreements between the University of Veterinary Medicine, Vienna and the Ministry for Science and Research. In the framework of these agreements, predictable, major cost increases are negotiated and the budget is adjusted accordingly. During the performance agreement period 2010-2012, the University of Veterinary Medicine, Vienna has been able to finance maintenance requirements and replacement investments by way of its own cash flow.	Since 2007
3.3 In its further development if the performance-based funding system, the Ministry of Education should take note of some of the specificities of veterinary training (e.g. the already very high female representation), and seek to incorporate other balancing or more equitable factors.	Specificities of veterinary training are basic parts of the new Performance Agreement	In progress
3.4 The VUW should plan how best it might minimise or offset the effect of an operational budget deficit, for instance looking in particular		

at: - rationalising the use of buildings, so that 'spare' capacity could be rented out; - looking to reduce expenditure on administrative staff; - seeking to increase revenues and funding from research activities.	Operating income has been positive throughout the performance agreement period 2010-2012	In progress
4.1 The time spent on several of the basic sciences should be reduced to lighten the curriculum and leave more time for applied material.	New Curriculum	In progress
4.2 The Vetmeduni Vienna should continue its development and improvement of the curriculum and teaching, in particular aiming to improve the 'vertical' integration of the material taught.	New Curriculum	In progress
4.3 The curricular time allocated to the disciplines of physics, chemistry/biochemistry, anatomy/ histology/embryology, and to some extent physiology, should be reduced.	New Curriculum	In progress
4.4 The relevant veterinary components of zoology and botany should be integrated into other disciplines, and these subjects discontinued as independent courses.	New Curriculum, Reorganisation of the Institute of Botany and Pharmacognosy	In progress In progress
4.5 The efforts to integrate the disciplines and their teaching/learning should be continued, at both structured and informal levels.	New Curriculum Implementation of the OSCE format Interdisciplinary review of examination questions in Zoology/Animal Science	In progress Done: 2007 Done: 2011
4.6 The Vetmeduni Vienna should make efforts to improve the amount of small group work in the animal production disciplines.	Increase of courses and trainings in small groups at TRF Implementation of tracks of specialisation at the end of the Diploma Programme to ensure hands on training in small groups among the students and species	Done: 2007
4.7 The coverage of applied agronomical aspects and applied economics in the teaching should be improved, including by orienting	Increased offer of economics education (Praxismanagement)	Done: 2007

teaching on botany towards toxic and feed plants.

4.8 The Vetmeduni Vienna should make full and 'equalised' use of the animals and facilities on the Teaching and Research Farm for the training of undergraduates.	Renovation of the cattle farm at TRF	Done: 2009
	Cooperation agreement with Reproduction Centre Wieselburg	Done: 2009
	Start of building a new pig facility	Start: 2012
	Courses and trainings at TRF as part of the compulsory education	Done: 2008
4.9 The differentiated elective tracks in the clinical fields should have less theory and more applied elements.	Implementation of tracks of specialisation according to the Curriculum 2002	Done: 2007
	No theoretical lectures during the tracks of specialisation	Done: 2007
	Clinical students have unlimited access to TIS on the campus	Done: 2007
	Implementation of a skills lab	Done: 2012
4.10 There should be greater 'vertical' integration of clinical and pre- and paraclinical disciplines	Trainings and case presentation in physiology/pathophysiology are organised in cooperation with the clinics	Done: 2007
	New Curriculum	In progress
4.11 Integration in both clinical activities and teaching should be increased. There should be fully unified species-based-clinics, as well as clearer development and use of high-standard centralised services, such as diagnostic imaging.	Organisation of species-based-clinics	Done: 2008
	State-of-the-art equipment in diagnostic imaging	Done: 2011
	Involvement of Laboratory Diagnostics Platform in teaching and training	Done: 2007
	Perioperative Intensive Care Unit	Done: 2008
	Emergency service 24 hours in the Clinic for Small Animals	Done: 2011
	Platform for radiation therapy	Done: 2012
4.12 There should be a closer connection between food hygiene and technology and veterinary public health with clinical aspects of farm animals and herd management, also on a structural level to provide a sound understanding of the concept "from farm to fork".	Common basic education on herd health management for the specialisation tracks „Ruminant Medicine, Pig and Poultry Medicine and Food safety and veterinary public health“	Since 2007

	Implementation of the unit Herd Health Management in the Clinic for Ruminants	Done: 2010
4.13 The subject 'Food Hygiene' should be presented concurrently with the clinical teaching programme to provide a sound introduction to the concept of consumer protection and veterinary public health through the food chain.	Opportunity to combine the Farm Animal specialisation tracks and the VPH track New Curriculum	Done: 2007 In progress
4.14 The introductory course 'Food Sciences and public health Services' should be given in the 5 th year, so that students have a better understanding of the paraclinical disciplines on which such teaching has to be based.	New Curriculum	In progress
4.15 There should be closer involvement and liaison with the veterinarians involved in the tutoring and Supervision of veterinary undergraduates during the extramural work in slaughterhouses and processing plants, to ensure quality and consistency in the sites used and training provided. This could be supported by a professorship covering HACCP in the food chain.	Cooperation with regional veterinary authorities Internship under supervision of an instructor in representative slaughterhouses	Done: 2008 Done: 2007
5.1 The VUW should continue to develop its teaching methods in line with curricular change (see also Suggestion 4.2), in particular to reinforce the principle of student self-directed learning, with clear learning objectives and readily accessible pedagogical support.	New Curriculum	In progress
5.2 The examination system should be further developed towards evaluation of the understanding and application of knowledge in an integrated way, rather than the short-term retention of a large volume of factual information.	New Curriculum	In progress
5.3 The VUW should seek to balance intellectual rigour, and the true	Training for academic staff	Done: 2008 and in

testing of interdisciplinary knowledge and understanding, with the need to avoid unjustly penalising or slowing student progress through the course.		progress
5.4 The format of examinations, and the structure and use of multiple-choice questions, should be carefully assessed against the requirement to assess the assimilation and use of information.	Training for academic staff writing MCQs	Done: 2008 and in progress
5.5 The VUW should seek to further regularise the examination periods with the aim of guiding students towards a structured approach to taking and passing examinations. A lecture-free period before the end of semester examinations for all students should be discussed as an element of this.	New Curriculum	In progress
6.1 The VUW should rationalise the use of the buildings, both to bring related services and activities in closer proximity, and to vacate and free up space for other uses.	Restructuring and re-shaping of facilities	Since 2006 and in progress
6.2 The University should continue to plan how it will address and fund the maintenance and upgrading of facilities to ensure the current excellent standard of premises is safeguarded.	Continuing negotiations with the Federal Real Estate Company	In progress
6.3 The TRF should take the advice of the departments involved in animal production, to achieve a functional system complying with modern housing, animal welfare and facilities for handling animals for teaching.	Restructuring TRF	Since 2009
6.4 The VUW should continue efforts to physically and organizationally integrate clinical activities as species-based-clinics supported by specialized services (e.g. imaging, anaesthesiology).	Species-specific clinics	Since 2008 and in progress
6.5 The VUW should aim to systematically support and develop formal	Implementation and strengthening of the Residency programme	Since 2008 and in

clinical specialisation (particularly to European board level) by:

progress

greater acknowledgement and recognition of the value of diplomate status;

- > progressively extending the areas of specialisation covered in the clinics of the VUW, as a component of the development plan;
- > Increasing the 'depth' of coverage of areas (i.e. having a goal of at least two specialists per discipline) to ensure continuity of clinical service.
- > Further support and enhancement of specialised residency training at the University (see Chapter 12).

There were no suggestions concerning chapter 7

8.1 The VUW should review, and perhaps experiment with, extended open hours during the evening and weekend, since the change in curriculum and learning approach should entail greater use of library resources.

Opening hours were extended during course times to 10 p.m.

Done: 2006

8.2 The availability of study rooms should be increased.

Aula in CA was equipped with tables and chairs;
Study rooms were established

Done: 2008 and in progress

8.3 The interactive information technology should be promoted.

Implementation of an audience-response system

Done: 2011

Promotion of the Vetucation® platform and use of the platform as a communication tool

Done: 2006 and in progress

9.1 The restrictions on intake levels have to be maintained, so that the VUW can sensibly organise its teaching, and so that student numbers are clearly linked to the capacity of the VUW to provide training of a good quality.

The University of Veterinary Medicine, Vienna is by law allowed to restrict the number of study places until 2015

Done 2005

9.2 The VUW system of student selection should be maintained and

A regular evaluation of the admissions procedure allows

<p>developed, to choose students who have the best motivation and ability to follow veterinary studies, and to seek a balance between the aspirations of candidates and the potential employment available in the veterinary sector.</p>	<p>adaptation of the procedure and implementation of optimizing measures. the aptitude test (requirements of studies and professional life of veterinary medicine) was completely reworked. Online survey with graduates of the Diploma Programme in Veterinary Medicine</p>	<p>In progress Done: 2010 Done: 2011</p>
<p>9.3 On starting the course, as well as during it, students should be made aware of the employment prospects available in fields such as farm animal practice and food hygiene.</p>	<p>Agreement with Federal Ministry of Health to acknowledge the completion of the track „food hygiene and veterinary public health“ as part of the training for the meat inspection licence.</p>	<p>Done: 2007</p>
<p>9.4 Latin should no longer be a prerequisite and there should no longer be an obligatory examination in this subject for prospective students who have not studied the language at school.</p>	<p>This is a prerequisite given by federal law and can therefore not be changed by the university itself.</p>	
<p>10.1 The relationship with the veterinarians working in practice and the food industry who contribute actively to the teaching and extra-mural work should be reviewed, with the aim of reinforcing and deepening contact and seeking to ensure the continuity and sustainability of their assistance.</p>	<p>Cooperation with regional veterinary authorities</p>	<p>Done: 2008</p>
<p>10.2 The salary levels for junior staff, especially the use of lecture hours as a basis for deciding upon pay, should be reviewed.</p>	<p>New legal frame for salaries (Collective Agreement) was adopted by all Austrian universities including a standardized teaching volume and higher salary levels at the start as well as different career tracks.</p>	<p>Done: 2009</p>
<p>10.3 There should be greater recognition by the University of the specialist standing of Diplomates and its relevance as regards of academic achievement in the clinical and paraclinical areas (see also Suggestion 6.5).</p>	<p>Employment of Diplomates</p>	<p>In progress</p>
<p>10.4 The VUW should seek to avoid having key 'units', particularly</p>	<p>Implementation of species-specific clinics and central support</p>	<p>Since 2008 and in</p>

those with service obligations, that have only one academic staff member, since this unfairly overloads the individual concerned.

services.

progress

The VUW should seek to reinforce the outcome and effectiveness of staff performance reviews.

11.1 The VUW should organize more seminars or continuing teaching to improve the relationship with all practitioners, and perhaps increase the referred cases.

Development of CPE

Since 2009

12.1 The University should implement its proposed graduate school and solid PhD Programme as soon as is feasible.

PhD Programme was implemented

Done: 2009

12.2 Any programme combining a Ph.D. and clinical training should be carefully structured, in particular to ensure that Ph.D.'s in clinical fields are of comparable quality to those in the basic sciences.

PhD Programme combined with clinical research is supported

Since 2009

12.3 The VUW should establish an internal specialisation board/committee to support the various Residency Programmes.

Internal Residency Advisory Board is implemented

Done: 2008

13.1 The University should continue to implement its concept of an overall VUW research plan, to focus the range of ongoing efforts within the different departments and units into larger, interdisciplinary research themes.

To counteract fragmentation of research efforts, internal research advancement programmes provide a coherent concept to integrate research emphasis alongside the University's "Research Profile Areas" (Profillinien).

Done: 2007

13.2 The VUW should systematically ensure that the core research resources of the clinical departments form an effective bridge between the basic sciences and the clinics, and that clinical research is strongly promoted.

In their strategic dimension, the "Research Profile Areas" allow for the interaction of basic and applied clinical research fields and support the coherence of research efforts as well as international visibility throughout the scientific community and stakeholders.

Since 2009

List of Figures

Figure 2.1: Organisational chart of the University of Veterinary Medicine, Vienna	27
Figure 3.1: Overall revenues of the University of Veterinary Medicine, Vienna 2011	33
Figure 3.3: Revenue from the § 27 sector of University of Veterinary Medicine, Vienna 2011	34
Figure 3.4 Overall expenditures of University of Veterinary Medicine, Vienna 2011	34
Figure 3.4: Overall expenditures of University of Veterinary Medicine, Vienna 2011	35
Figure 4.1: Scheme of decision making process and constructive alignment concerning the curriculum	39
Figure 4.2: Structure of the new veterinary curriculum	81
Figure 13.1: Classification of internationally visible main areas of research according to the Research Profile Areas.....	172
Figure 13.2: Classification of additional research potentials according to the Research Profile Areas	173

List of Tables

Table 2.1: Overview of Curricular Committees	24
Table 3.1: Overall revenue 2011	33
Table 3.2: Revenue from global budget allocation by the federal government	34
Table 3.3: Revenue from the §27 sector	34
Table 3.4: Overall expenditures of University of Veterinary Medicine, Vienna 2011	35
Table 4.1a: Overview of the Curriculum (timeline, involvement of students and ECTS)....	38
Table 4.1: General table of curriculum hours taken by all students	43
Table 4.2: Curriculum hours in EU-listed subjects taken by each student	44
Table 4.3: Curriculum hours in EU-listed subjects offered and to be taken as electives....	48
Table 4.4: Curriculum hours in subjects not listed in Table 4.2 to be taken by each student, including Diploma work (final graduation thesis, or final graduation work)	49
Table 4.3a: Curriculum hours in EU-listed subjects offered and to be taken in the "Small Animal Medicine Track"	53
Table 4.3b: Curriculum hours in EU-listed subjects offered and to be taken in the "Equine Medicine Track"	55
Table 4.3c: Curriculum hours in EU-listed subjects offered and to be taken in the "Ruminant Medicine Track"	58
Table 4.3d: Curriculum hours in EU-listed subjects offered and to be taken in the "Pig and Poultry Medicine Track"	60
Table 4.3e: Curriculum hours in EU-listed subjects offered and to be taken in the "Food Safety and Veterinary Public Health Track"	63
Table 4.3f: Curriculum hours in EU-listed subjects offered and to be taken in the "Zoo and Wildlife Medicine Track – Conservation Medicine"	65
Table 4.3g: Curriculum hours in EU-listed subjects offered and to be taken in the "Reproduction/Reproductive Biotechnology Track"	68
Table 4.3h: Curriculum hours in EU-listed subjects offered and to be taken in the "Laboratory Animal Medicine Track"	69
Table 4.4a: Overview of clinical training (9 th semester)	72
Table 4.5: Obligatory extramural work that students must undertake as part of their courses	73
Table 4.5a: 8 weeks extramural work by choice of the students	74
Table 4.6: General indicators of types of training (Ratios R6 – R8)	75
Table 4.7: Indicators of training in food hygiene/public health (Ratios R9, R10)	76

Table 4.8: EAEVE Suggestions	77
Table 5.1: Overview professional examinations	91
Table 6.1: Places available for the hospitalisation of different animals	104
Table 6.2: Premises for clinical work and student training	106
Table 6.3: Premises for lecturing (HS = lecture hall)	107
Table 6.4: Premises for group work (Number of rooms that can be used for supervised group)	107
Table 6.5: Premises for practical work (Number of laboratories for practical work by students)	109
Table 7.1: Material used in practical anatomical training	124
Table 7.2: Number of necropsies over the past 3 years	124
Table 7.2a: Cattle seen during off-site teaching	126
Table 7.2b: Horses seen during off-site teaching	127
Table 7.3: Number of cases: a) received for consultation, and b) hospitalised in the University clinics, in the past three years	130
Table 7.4a: Number of cases seen by the Ambulatory (mobile clinics) in the past three years	133
Table 7.4b: Number of patients seen during off-site teaching in the past three years.	134
Table 7.5: Animals available for clinical training (in the clinics of the Faculty or seen through the Ambulatory clinic) as ratio to the number of students graduating in 2011 (Ratios R11 – R17)	138
Table 7.6: Animals available for necropsy as ratio to the number of students graduating in 2011 (Ratios R18 – R20)	139
Table 8.1: Performance benchmarks (numbers of visits 2010)	142
Table 9.1: Undergraduate student composition in year prior to visitation (as of 30 th September 2011)	144
Table 9.2: Intake of veterinary students in the past five years	146
Table 9.3: Students flow and total number of undergraduate veterinary students calculated on years	147
Table 9.3a: Student flow and total number of undergraduate veterinary students listed in the three tiers of the Diploma Programme in Veterinary Medicine	147
Table 9.4: Number of students graduating annually over the past five years	148
Table 9.5: Average duration of studies (distribution of students in years)*	148
Table 10.1: Personnel in the establishment provided for veterinary training (reference date 30.09.2011)	150

Table 10.2: Allocation of academic (veterinary surgeon and non veterinary surgeon) teaching staff – expressed as FTE – and support staff to the various departments (reference date 30.09.2011).....	152
Table 11.1: LLL Categories at the University of Veterinary Medicine, Vienna	160
Table 12.1: Clinical specialty training	163
Table 12.2: Number of research students in different programmes	165
Table 13.1: Third party funding of research projects 2009-2011	175
Table 13.2: Number of partner institutions in the framework of active cooperations (2011)	176
Annex: Overview EAEVE-Suggestions and current status of measures (2006)	177